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CHAPTER

3

The Project Manager

In the last chapter, we described how projects are evaluated and selected for development. Before more progress can be made, a project manager (PM) must be appointed. This person will take responsibility for planning, implementing, and completing the project, beginning with the job of getting things started. Actually, the way to get things started is to hold a meeting. We will delay discussion of the initial project meeting, however, until Chapter 5 because it is the first step in the process of planning the project.

The PM can be chosen and installed as soon as the project is selected for funding or at any earlier point that seems desirable to senior management. If the PM is appointed prior to project selection or if the PM originated the project, several of the usual start-up tasks are simplified. On occasion, a PM is chosen late in the project life cycle, usually to replace another PM who is leaving the project for other work. For example, a large agricultural products firm regularly uses a senior scientist as PM until the project's technical problems are solved and the product has been tested. Then it replaces the scientist with a middle manager from the marketing side of the firm as marketing becomes the focal point of the project. (The transition is difficult and, according to firm spokespeople, the results are sometimes unsatisfactory.)

Usually, a senior manager briefs the PM on the project so that the PM can understand where it fits in the general scheme of things in the parent organization, and its priority relative to other projects in the system and to the routine work of the organization. The PM's first set of tasks is typically to prepare a preliminary budget and schedule, to help select people to serve on the project team, to get to know the client, to make sure that the proper facilities are available, to ensure that any supplies required early in the project life are available when needed, and to take care of the routine details necessary to get the project moving.

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As people are added to the project, plans and schedules are refined. The details of managing the project through its entire life cycle are spelled out, even to the point of planning for project termination when the work is finally completed.

Mechanisms are developed to facilitate communication between the PM and top management, the functional areas, and the client. As plans develop still further, the PM holds meetings and briefings to ensure that all those who will affect or be affected by the project are prepared in advance for the demands they will have to meet as the project is implemented.

In this chapter we discuss the unique nature of project management and some of the ways project management differs from *functional* management. Our emphasis is on the role and responsibilities of the PM. We concentrate on the demands placed on the PM, particularly on those unique to project management. For example, consider the differences in the challenges faced by the project manager who must add a security/privacy segment in a software program and those faced by the PM who must design and implement a global database for an international chemical firm. We then identify the skills required by the project manager and link them to the nature of the task faced by the PM.

It is best to describe the PM's job relative to some assumptions about the nature of projects and the organization within which the project must function. We assume that the parent firm is functionally organized and is conducting many projects simultaneously with its ongoing, routine operations. We also assume a fairly large firm, a project that has some technical components, with an output to be delivered to an "arms-length" customer. Clearly, not all, and possibly even not most, projects operate under these circumstances, but these are the most demanding and we address the most difficult problems a PM might have to face. Smaller, simpler projects may not require the tools we will present here, but the PM for these projects should be aware that such tools exist. The term *technical components* as we apply it includes more than hardware. Any firm with a well-defined methodology of carrying out its mission has a technical component, as we use the phrase. For example, a systems analysis and functional requirements are among the technical components in most information systems projects, as is the due diligence document in a security offering.

Thus far, we have had in mind a PM with reasonably normal skills, and operating under reasonably normal circumstances. In the last three sections of this chapter, we will discuss a major complication for project managers—managing a project being carried out in a *multicultural* environment. We emphasize the word multicultural, a word that is not synonymous with (but includes) projects whose member organizations and geographical locations may transcend national boundaries. In fact, it is not the differences in national boundaries that matter; it is differences in *cultures*. Moreover, it is not merely the differences in cultures that matter, it is also differences between the *environments* within which the projects are conducted—economic, political, legal, and sociotechnical environments. Multicultural projects present major challenges for the PM. They also have the potential for yielding great satisfaction and, one hopes, great rewards. In the interest of clarity, we will delay a discussion of these problems until Section 3.4.

In this chapter, two conditions receive special attention. Both have a profound effect on the outcome of the project, and neither is under the complete control of the

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PM—though the PM can greatly influence both by dealing with the conditions early in the project life. The first of these concerns the degree to which the project has the support of top management. If that support is strong and reasonably unqualified, the project has a much better chance of success (Pinto and Slevin, 1989; Zimmerer and Yasin, 1998).

The second condition concerns the general orientation of the project team members. If they are highly oriented toward their individual, functional disciplines, as opposed to the project itself, project success is threatened. If, on the other hand, they tend to be oriented toward the project (that is, problem-oriented rather than discipline-oriented), the likelihood of success is much greater. As Thomas Hughes (1998) writes about the SAGE and Atlas projects,

> Teams of engineers, technicians, and scientists polarized around problems rather than disciplines. As a result, new discipline-transcending organizational forms . . . presided over system-building projects rather than discipline-bound departments. The transdisciplinary team approach is still considered front-edge management almost half a century later.

3.1 PROJECT MANAGEMENT AND THE PROJECT MANAGER

The Functional Manager versus the Project Manager

The best way to explain the unique role of the PM is to contrast it with that of a functional manager in charge of one of a firm's functional departments such as marketing, engineering, or finance (see Figure 3-1). Such department heads are usually specialists in the areas they manage. Being specialists, they are analytically oriented and they know something of the details of each operation for which they are responsible. When a technically difficult task is required of their departments, they know how to analyze and attack it. As functional managers, they are administratively responsible for deciding how something will be done, who will do it, and what resources will be devoted to accomplish the task.

A PM generally starts his or her career as a specialist in some field who is blithely informed by a senior manager that he/she is being promoted to the position of Project Manager on the Whizbang Project. The PM must now metamorphose from technical caterpillar into generalist butterfly. (For an excellent set of instructions for the transformation see Matson (1998).) The PM, new or experienced, must oversee many functional areas, each with its own specialists (see Figure 3-2). Therefore, what

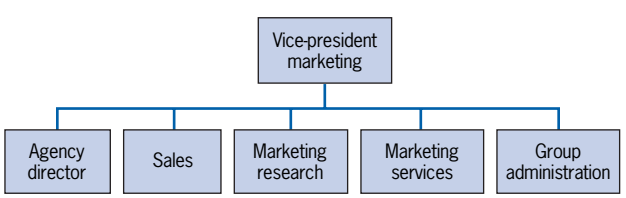

Figure 3-1 Functional management organization chart: marketing department of an insurance company.

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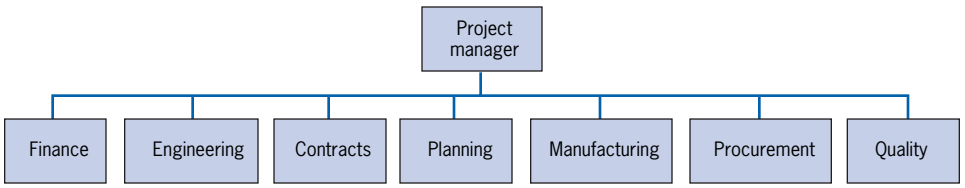

Figure 3-2 Project management organization showing typical responsibilities of a project manager.

is required is an ability to put many pieces of a task together to form a coherent whole—that is, the project manager should be more skilled at synthesis, whereas the functional manager should be more skilled at analysis. The functional manager uses the *analytic approach* and the PM uses the *systems approach*.

The phrase "systems approach" requires a short digression describing briefly what is meant by those words. A system can be defined as a set of interrelated components that accepts inputs and produces outputs in a purposeful manner. This simple statement is a bit more complicated than it appears. First, the word "purposeful" restricts our attention to systems that involve humans in some way. Machines are not purposeful, people are. Second, the notion of "inputs" and "outputs" implies some boundary across which the system's inputs arrive and outputs depart. This boundary differentiates the system from its "environment." Third, the nature of the interrelationships between the components defines the "structure" of the system.

The analytic method focuses on breaking the components of a system into smaller and smaller elements. We are not saying that this is wrong, it is merely inadequate for understanding a complex system. Regardless of the dissector's skill or the degree to which, say, a frog is dissected, the dissection allows only a partial understanding of the total animal "frog." The systems approach maintains that to understand a component, we must understand the system of which the component is a part. And to understand the system, we must understand the environment (or larger system) of which it is a part. At the beginning of his excellent book on the systems approach, John van Gigch (1978) quotes Blaise Pascal: "I find as impossible to know the parts without knowing the whole, as to know the whole without specifically knowing the parts."

Adoption of the systems approach is crucial for the project manager. One cannot understand and, thus, cannot manage a project without understanding the organizational program of which the project is a part, and the organization in which the program exists, as well as the environment of the organization. Consider, if you will, the problem of managing a project devoted to the development of software that will create and maintain a database, and to undertake this task without knowing anything about the decision support system in which the database will be used, or the operating system of the computers that will contain the DSS, or the purposes for which the information in the database will be used, and so forth. The literature on the systems approach is extensive, but Boulding (1956), Churchman (1979), van Gigch (1978), and Sir Stafford Beer's works (see, e.g., Beer, 1985) are classics in the field.

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Our comparison between the PM and the functional manager reveals another crucial difference between the two. The functional manager is a direct, technical supervisor. The project manager is a facilitator and generalist. These simple statements, while true, are misleading. Both require specialized technical knowledge. The functional manager's knowledge must be in the technology of the process being managed. The PM should be competent in the science of project management (Sahlin, 1998; Zimmerer and Yasin, 1998), but this is not sufficient. The PM must also have technical competence in some aspects of the work being performed on the project. It appears, however, that there is considerable disagreement between researchers on the issue of how much technical knowledge is required. For a review of much of the relevant research on this problem, see Grant, Baumgardener, and Stone (1997). None of this lessens the importance of the PM's role as facilitator. In our opinion, there is strong evidence that the PM should be both generalist/facilitator and have a reasonably high level of technical competence in the science of the project. We will revisit the issue below when we discuss the need for the PM to have technical credibility.

Three major questions face the PM in this task of synthesis: What needs to be done, when must it be done (if the project is not to be late), and how are the resources required to do the job to be obtained. In spite of the fact that the PM is responsible for the project, and depending on how the project is organized, the functional managers will probably make some of the fundamental and critical project decisions. For example, they usually select the people who will actually do the work required to carry out the project. They may also develop the technological design detailing how the project will be accomplished. And they frequently influence the precise deployment of the project's resources. Once again, depending on how the project is organized, the functional managers have little or no direct responsibility for the results. As presented later (and in Chapter 4, "Project Organization"), this separation of powers between functional and project managers, which may aid in the successful completion of the project, is also a source of considerable "discomfort" for both.

Note here that the PM is responsible for organizing, staffing, budgeting, directing, planning, and controlling the project. In other words, the PM "manages" it, but the functional managers may affect the choice of technology to be used by the project and the specific individuals who will do the work. (It is not uncommon, however, for the PM to negotiate with functional managers about the assignment of special individuals to carry out certain project work.) Arguments about the logic or illogic of such an arrangement will fall on deaf ears. The PM cannot allow the functional manager to usurp control of the project. If this happens, work on the project is likely to become secondary to the work of the functional group and the project will suffer. But the functional manager cannot allow the PM to take over authority for technical decisions in the functional area or to control the assignment of functional area personnel.

At times, a senior manager (often the PM's immediate superior) will, in effect, take over the PM's job by exercising extremely close supervision over every action the PM takes, or will actually tell the PM precisely what to do. All of the powers normally delegated to the PM are withdrawn and the PM's boss runs the project. This condition is known as *micromanagement*. It stamps out any creativity or initiative from the PM or project workers, frustrates almost everyone connected with the project, and generally ensures mediocre performance, if not failure. The senior rational-

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izes the need for control with such statements as: "After all, the project is my responsibility," or "You must understand how important this project is to the firm," or "Superboss expects me to keep my eye on everything that goes on around here." Such nonsense sounds logical until subjected to analysis. The first comment denies the virtue of delegation. The second assumes that everyone except the speaker is stupid. The third is a paean to "self-importance." To be frank, we do not know how to cure or prevent micromanagement. It is practiced by individuals who have so little trust in their co-workers that they must control everything. Micromanagers are rarely likable enough for anyone to try to help them. Our considered advice to PMs who are micromanaged is to request a transfer.

At the other end of the spectrum, the relationship between the PM, the functional managers, the project team, and the PM's superior may be characterized as "collegial," and the organization may be populated by talented people. In such organizations conflict is minimized, cooperation is the norm, no one is terribly concerned with who gets the credit, and the likelihood of success is high. We will have more to say later in this chapter and in other chapters about building and maintaining teams. Effective teams tend to operate in a collegial mode. It is worth noting, however, that collegiality without talent leads to failure—even if the project team smiles a lot while failing.

Project Responsibilities

The PM's responsibilities are broad and fall primarily into three separate areas: responsibility to the parent organization, responsibility to the project and the client, and responsibility to the members of the project team. Responsibilities to the firm itself include proper conservation of resources, timely and accurate project communications, and the careful, competent management of the project. Many formal aspects of the communications role will be covered in Chapter 10 when the Project Management Information System is discussed, but one matter must be emphasized here. It is very important to keep senior management of the parent organization fully informed about the project's status, cost, timing, and prospects. Senior managers should be warned about likely future problems. The PM should note the chances of running over budget or being late, as well as methods available to reduce the likelihood of these dread events. Reports must be accurate and timely if the PM is to maintain credibility, protect the parent firm from high risk, and allow senior management to intercede where needed. ***Above all, the PM must never allow senior management to be surprised!***

The PM's responsibility to the project and client is met by ensuring that the integrity of the project is preserved in spite of the conflicting demands made by the many parties who have legitimate interests in the project. The manager must deal with the engineering department when it resists a change advised by marketing, which is responding to a suggestion that emanated from the client. In the meantime, contract administration says the client has no right to request changes without the submission of a formal Request for Change order. Manufacturing says that the argument is irrelevant because marketing's suggestion cannot be incorporated into the project without a complete redesign.

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The PM is in the middle of this turmoil. The PM must sort out understanding from misunderstanding, soothe ruffled feathers, balance petty rivalries, and cater to the demands of the client. One should, of course, remember that none of these strenuous activities relieves the PM of the responsibility of keeping the project on time, within budget, and up to specifications.

In Chapter 4 it will become evident that it is very common for the PM to have no direct subordinates in spite of the fact that several, perhaps many, people "work for him/her" on the project. These people form what we have been referring to as the "project team." In spite of the strange circumstance where people are said to work for someone who is not their boss, the PM's relationship to the team may be considerably closer than one might expect, particularly when individuals are assigned to spend much or all of their time working on the project.

The project manager's responsibilities to members of the project team are dictated by the finite nature of the project itself and the specialized nature of the team. Because the project is, by definition, a temporary entity and must come to an end, the PM must be concerned with the future of the people who serve on the team. If the PM does not get involved in helping project workers with the transition back to their functional homes or to new projects, then as the project nears completion, project workers will pay more and more attention to protecting their own future careers and less to completing the project on time. These matters are discussed in more detail in Chapter 13, "Project Termination."

Some years ago, it was suggested that highly educated researchers required a "special type" of managing. In one large, research-oriented firm, when a scientist came up with a promising idea, the scientist was appointed project manager. Senior management in the firm decided that the scientist/PM should not be bothered with the mundane details of managing schedules and budgets. As a result, all such information was kept away from him or her and an outside person, with no formal connection to the project and little or no knowledge of the substance of the project, maintained all cost and time data. This type of arrangement became known as "tweed coat management." The notion is based on two interesting assumptions; first that all research scientists wear tweed jackets (presumably with leather patches on the elbows), and second that the higher the level of formal education, the lower the level of "street smarts." To the best of our knowledge, there is no evidence supporting these odd assumptions. Like most people, scientists seem to respond positively to a caring, supportive managerial style. They also seem to be able to keep such records as are required by a reasonable senior management.

PM Career Paths

Many firms have a wide variety of types and sizes of projects in progress simultaneously. Of these, it is typical to find that most are not large enough or sufficiently complex to require a full-time manager. Quite a few project managers are in charge of several projects simultaneously. For example, it is not unusual to find that when a medium or large firm undertakes a program to computerize written records, several hundred projects result. In order to ensure consistency and easy intergroup transfer of

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data, the program is commonly managed by the division or department housing the computer software group rather than being spread out in the units developing or using particular records. The entire process is apt to take several years.

At the same time that the computerization program is going on, the firm may be planning and building a new factory (three years), undertaking several dozen R & D projects (one to seven years), improving the landscape surrounding its factory in Mussent Point (two months), considering the acquisition of another firm (six months), upgrading the equipment in its thiotimolene plant (two years), buying art works produced by artists in each city in which the firm operates for display in corporate offices (one year), planning the annual stockholders' meeting (three months), and doing a large number of other things, many of which are organized as projects.

Who manages these projects? Where does the company find people competent to manage such a wide variety of projects? In Chapter 1, we referred to the professionalization and rapid growth of project management, to PMBOK (the project management body of knowledge), as well as to the development of college and university-level courses and degree programs available in the field. Although the percentage of PMs who are academically trained is increasing, many of the current group of project managers have no college-level training in the field. By far, the largest group got their training in one or more of three ways: on-the-job, project management seminars and workshops lasting from one-half day to two weeks, or active participation in the programs of the local chapters attached to the Project Management Institute. A rapidly growing number of private consulting firms offer instruction in project management as well as programs preparing individuals for the PMI's examination for certification as Project Management Professionals (PMPs).

The great number of fairly small, short-term projects being carried out, when managed by an experienced PM, serve a purpose beyond the output of the projects themselves. They provide an excellent training ground for new project managers who frequently begin their preparation with involvement in some major aspect of a small project. A number of firms, Procter & Gamble for one, often take management trainees and give them some project-management responsibility; for instance, the guidance of a new cosmetic through test procedures to ensure that it is not toxic to users. Such experience serves to teach trainees many things, not the least of which are the importance of an organized plan for reaching an objective, of "follow-through," of negotiation with one's coworkers, and of sensitivity to the political realities of organizational life. The skills and experiences gained from managing a project, even a small one, are a scaled-down version of what it is like to run a full-sized organization. Thus, projects provide an excellent growth environment for future executives and for developing managerial skills.

One final note on this subject. If we have made the process of project management seem orderly and rational, we apologize. If any single descriptor could be used to characterize project management, the adjective would be "messy." In an excellent article that should be read by anyone interested in understanding the reality of management, Kotter (1982) has shown that general managers are less organized, less formal, and less structured than college students are led to believe. The same is undoubtedly true of project managers. This fundamental lack of organization and structure makes it all the more important that PMs implement good planning and organizational skills where possible, or the chaos becomes unmanageable.

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Project Management in Practice

The Project Management Career Path at AT&T

In 1988, as a result of the deregulation of the phone industry, AT&T announced that it was going to split itself into 19 separate Strategic Business Units. One of these, Business Communications Systems (BCS), is primarily focused on the customer PBX market. Following divestiture, the executives at BCS realized that the old ways of doing business would not be competitive in the new, open market they now faced and decided to reengineer their whole process of providing PBXs to the market. They decided that organizing by project management would give them better control over their business and bring a competitive advantage to BCS. Thus, they set the goal of becoming the leader in project management in the industry.

AT&T had previously used project managers in many of its activities but in a significantly different way. For instance, it was more a project coordination responsibility that could be successfully completed through achieving the activities on a task list. However, the position was of low status and seen as only a temporary activity serving to carry someone on to a better functional position. Thus, the reward for doing a good job was to move into a functional position and get out of project management.

BCS realized it would have to change the whole nature of the project management role, and the entire structure of the organization as well, if it were to be successful in this strategy. They needed to develop professional project managers, plus a support system to maintain their abilities and careers in project management. The managerial mentality of two or three years on a project and then moving on to a functional job had to be changed to an attitude of professional pride in project management and staying in the field for the remainder of their careers. Equally important, the organizational mentality of admiring heroic rescues of projects in trouble had to be replaced with admiration for doing a competent job from the beginning and time after time. The challenge was to survive during the years it would take to evolve into a professional project management organization.

The reorganization for project management was a major project in itself, including the areas of candidate selection, education and training, compensation, career development, organizational restructuring, and methods development. In terms of organizational structure, a National Project Management (NPM) organization was created at the corporate level, reporting to the service operating vice-president. Reporting to the director of NPM were three project directors spread across the United States, a systems support organization, and a methods and support staff. Program managers, project managers, and their subordinates reported to the project directors. This structure provided an integrated, self-contained project management group.

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The project management career path now consists of:

- Trainee: a six-month position to learn about project management.
- Cost Analysis/Schedule Engineer: a 6–18 month team position reporting to a project manager.
- Site Manager: a 6–12 month position responsible for a large site and reporting to a program manager.
- Small Project Manager: sole responsibility for a $1M to $3M revenue project.
- Project Manager: responsible for $3M to $25M projects.
- Program Manager: responsible for multi-year projects and programs over $25M.

Candidates for the project manager career track are selected from BCS's Leadership Continuity Plan, a program to identify the people with the most potential to progress to middle and senior management levels of responsibility, as well as from career people within the organization. Particular skills sought are interpersonal leadership skills; oral and written communication skills; a presidential, big-picture perspective; political sensitivity; delegating, problem-solver orientation; optimistic, can-do attitude; planner mentality; kaizen (continuous improvement) spirit; and administrative, in-charge credibility.

BCS's Project Management organization now includes a staff in Denver and groups of project managers in Los Angeles, San Francisco, Atlanta, Chicago, Washington, D.C., and New York City. These groups now manage over $500 million in projects, ranging in size from $1M to $92M. The project management approach is deemed the most capable in the field, setting the pace for AT&T's competitors.

Source: D. Ono, "Implementing Project Management in AT&T's Business Communications System," *PM Network*, October 1990.

The career path of a PM often starts with participation in small projects, and later in larger projects, until the person is given command over small and then larger projects. For example, the path could be tooling manager for small Project U, project engineer for larger Project V, manufacturing manager for large Project W, deputy project manager for large Project X, project manager for small Project Y, and project manager for large Project Z.

The actual establishment of multiple career paths to the top of organizations is more talked about than acted on. Wishful thinking aside, with a very few notable exceptions,* we know of no *specific* career paths that can take project managers to CEO positions. In a great many firms, however, experience as a PM is seen as a mandatory or desirable step on the way up the corporate ladder. The logic of such a view is obvious. The capability of a PM to meet the demands of senior management positions is clearly evidenced by the PM's ability to achieve the project's goals without the need for de jure authority while operating in an environment typified by uncertainty, if not chaos.

*For example, Eli Lilly and Co., the pharmaceutical firm, finds that projects involving new drugs often last 8–12 years. No PM would be willing to manage a project that long without the opportunity for promotion. Lilly, therefore, has established a career path for their PMs that potentially leads to the top of the firm. They already had career paths progressing through "administration" or "R & D" to the top and have clearly demonstrated the reality of both paths.

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3.2 SPECIAL DEMANDS ON THE PROJECT MANAGER

A number of demands are unique to the management of projects, and the success of the PM depends to a large extent on how capably they are handled. These special demands can be categorized under the following headings.

Acquiring Adequate Resources

It was noted earlier that the resources initially budgeted for a project are frequently insufficient to the task. In part, this is due to the natural optimism of the project proposers about how much can be accomplished with relatively few resources. Sometimes, it is caused by purposeful understatement of resource requirements to ensure that a project is accepted for funding. At times it is caused by the great uncertainty associated with a project. Many details of resource purchase and usage are deferred until the project manager knows specifically what resources will be required and when. For instance, there is no point in purchasing a centrifuge now if in nine months we will know exactly what type of centrifuge will be most useful.

The good PM knows there are resource trade-offs that need to be taken into consideration. A skilled machinist can make do with unsophisticated machinery to construct needed parts, but a beginning machinist cannot. Subcontracting can make up for an inadequate number of computer programmers, but subcontractors will have to be carefully instructed in the needs of the contractor, which is costly and may cause delays. Crises occur that require special resources not usually provided to the project manager. All these problems produce glitches in the otherwise smooth progress of the project. To deal with these glitches, the PM must scramble, elicit aid, work late, wheedle, threaten, or do whatever seems necessary to keep the project on schedule. On occasion, the additional required resources simply alter the project's cost-benefit ratio to the point that the project is no longer cost-effective. Obviously, the PM attempts to avoid these situations, but some of what happens is beyond the PM's control. This issue will be dealt with in detail in Chapter 13.

The problems of time and budget are aggravated in the presence of a phenomenon that has been long suspected but only proved in the mid-1980s (Gagnon, 1982; Gagnon and Mantel, 1987). The individual who has the responsibility for performing and completing a task sometimes overestimates the time and cost required. That individual's immediate supervisor often discounts the worker's pessimism but, in so doing, may underestimate the time and cost. Moving up the management hierarchy, each successive level frequently lowers the time and cost estimates again, becoming more optimistic about the ability of those working for them to do with less—or, perhaps, more forgetful about what things were like when they worked at such jobs. The authors have informally observed—and listened to complaints about—such doings in a variety of organizations. We suspect they reflect the superior's natural tendency to provide challenging work for subordinates and the desire to have it completed efficiently. The mere recognition of this phenomenon does not prevent it. Complaints to upper-level managers are usually met with a hearty laugh, a pat on the back, and a verbal comment such as, "I know you can do it. You're my best project manager, and you can . . . ."

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Another issue may complicate the problem of resource acquisition for the PM. Project and functional managers alike perceive the availability of resources to be strictly limited and thus a strict "win-lose" proposition. Under these conditions, the "winners" may be those managers who have solid political connections with top management. Often, there are times in the life of any project when success or survival may depend on the PM's "friendship" with a champion high in the parent organization (Pinto and Slevin, 1989).

In an interesting book, Pinto (1996) makes clear the importance for the PM of understanding and cultivating "appropriate" political tactics. Occasionally, research on project management concludes that politics is unimportant or a hindrance to success for project managers. Our experience leads us to believe that such research findings are suspect, possibly because of bias in the test instrument or possibly because the test subjects are inexperienced. "Politics" should be viewed as the mechanism by which the people in organizations make decisions. Those mechanisms may be used "appropriately" or "inappropriately," to use Pinto's terms. To use the political system for personal gain is inappropriate. To shun the political system simply because it might be used inappropriately is unwise. More will be said about this important subject in Chapter 6.

Acquiring and Motivating Personnel

A major problem for the PM is the fact that most of the people needed for a project must be "borrowed." With few exceptions, they are borrowed from the functional departments. The PM must negotiate with the functional department managers for the desired personnel, and then, if successful, negotiate with the people themselves to convince them to take on these challenging temporary project assignments.

Most functional managers cooperate when the PM comes seeking good people for the project, but the cooperative spirit has its limits. The PM will be asking for the services of the two types of people most needed and prized by the functional manager: first, individuals with scarce but necessary skills and, second, top producers. Both the PM and functional manager are fully aware that the PM does not want a "has-been," a "never-was," or a "never-will-be." Perceptions about the capabilities of individuals may differ, but the PM is usually trying to borrow precisely those people the functional manager would most like to keep.

A second issue may reduce the willingness of the functional manager to cooperate with the PM's quest for quality people. At times, the functional manager may perceive the project as more glamorous than his or her function and hence a potent source of managerial glory. The functional manager may thus be a bit jealous or suspicious of the PM, a person who may have little interest in the routine work of the functional area even if it is the bread and butter of the organization.

On its surface, the task of motivating good people to join the project does not appear to be difficult, because the kind of people who are most desired as members of a project team are those naturally attracted by the challenge and variety inherent in project work. Indeed, it would not be difficult except for the fact that the functional manager is trying to keep the same people that the PM is trying to attract. The subordinate who is being seduced to leave the steady life of the functional area for the glamour of a

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project can be gently reminded that the functional manager retains control of personnel evaluation, salary, and promotion for those people lent out to projects. (A few exceptions to these general rules will be discussed in Chapter 4.) There may even be comments about how easy it is to lose favor or be forgotten when one is "out of sight."

Unless the PM can hire outsiders with proven ability, it is not easy to gather competent people; but having gathered them, they must be motivated to work. Because the functional manager controls pay and promotion, the PM cannot promise much beyond the challenge of the work itself. Fortunately, as Herzberg (1968) has argued, that is often sufficient (also see Pinto and Slevin, 1989). Many of the project personnel are professionals and experts in their respective specialties. Given this, and the voluntary nature of their commitment to the project, there is the assumption that they must be managed "delicately."

It has long been assumed that in order to ensure creativity, professionals require minimal supervision, maximum freedom, and little control. As a matter of fact, William Souder (1974) has shown that the output of R & D laboratories is actually not correlated with the level of freedom in the lab. This finding is significant. The most likely explanation is that individual scientists have unique requirements for freedom and control. Some want considerable direction in their work, whereas others find that a lack of freedom inhibits creativity. Those who need freedom thus tend to work in organizations where they are allowed considerable latitude, and those who desire direction gravitate to organizations that provide it.

Motivation problems are often less severe for routine, repeated projects such as those in construction and maintenance, or for projects carried out as the sole activity of an organization (even if it is part of a larger organization). In such cases, the PM probably has considerable de facto influence over salary and promotion. Frequently, the cadre of these projects see themselves as engaged in similar projects for the long term. If the project is perceived as temporary, risky, and important, about all the PM can offer people is the chance to work on a challenging, high-visibility assignment, to be "needed," and to operate in a supportive climate. For most, this is sufficient incentive to join the project.

A story has it that when asked "How do you motivate astronauts?" a representative of NASA responded, "We don't motivate them, but, boy, are we careful about whom we select." The issue of motivating people to join and work creatively for a project is closely related to the kind of people who are invited to join. The most effective team members have some common characteristics. A list of the most important of these follows, but only the first is typically considered during the usual selection process.

1. *High-quality technical skills* Team members should be able to solve most of the technical problems of a project without recourse to outside assistance. Even if the relevant functional department has furnished technical specialists to the project, the exact way technology is applied usually requires adaptation by the project team. In addition, a great many minor technical difficulties occur, always at inconvenient times, and need to be handled rapidly. In such cases, project schedules will suffer if these difficulties must be referred back to the functional departments where they will have to stand in line for a solution along with (or behind) the department's own problems.

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2. *Political sensitivity* It is obvious that the PM requires political skills of a high order. Although it is less obvious, senior project members also need to be politically skilled and sensitive to organizational politics. As we have noted several times, project success is dependent on support from senior management in the parent organization. This support depends on the preservation of a delicate balance of power between projects and functional units, and between the projects themselves. The balance can be upset by individuals who are politically inept.

3. *Strong problem orientation* Research conducted by Pill (1971), more than 25 years before Hughes's (1998) work, has shown that the chances for successful completion of a multidisciplinary project are greatly increased if project team members are *problem-oriented* rather than *discipline-oriented*. Pill indicates that problem-oriented people tend to learn and adopt whatever problem-solving techniques appear helpful, but discipline-oriented individuals tend to view the problem through the eyes of their discipline, ignoring aspects of the problem that do not lie within the narrow confines of their educational expertise. This is, of course, consistent with our insistence earlier in this chapter that the PM should adopt a systems approach to project management.

4. *Strong goal orientation* Projects do not provide a comfortable work environment for individuals whose focus is on activity rather than on results. Work flow is rarely even, and for the professionals a 60-hour week is common, as are periods when there seems to be little to do. "Clock watchers" will not be successful team members.

5. *High self-esteem* As we noted earlier, a prime law for projects (and one that applies equally well to the entire organization) is: *Never surprise the boss*. Projects can rapidly get into deep trouble if team members hide their failures, or even a significant risk of failure, from the PM. Individuals on the team should have sufficient self-esteem that they are not threatened by acknowledgment of their own errors, or by pointing out possible problems caused by the work of others. Egos should be strong enough that all can freely share credit and blame. We trust that the PM is aware that "shooting the messenger who brings bad news" will immediately stop the flow of any negative information from below—though negative surprises from above will probably be more frequent.

Dealing with Obstacles

> "What I need is a list of specific unknown problems that we will encounter."*
>
> Anonymous manager

*In mid-1988, the author received this and several other "Management Quotes" in an e-mail communication. They were reported to be entries in a magazine contest and supposedly came from "real-life managers." They have been set in a distinctive type so they will be easy to recognize. We list other such quotes in the same typeface, but without credit and without repeating this footnote.

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One characteristic of any project is its uniqueness, and this characteristic means that the PM will have to face and overcome a series of crises. From the beginning of the project to its termination, crises appear without warning. The better the planning, the fewer the crises, but no amount of planning can take account of the myriad of changes that can and do occur in the project's environment. The successful PM is a fire fighter by avocation.

At the inception of the project, the "fires" tend to be associated with resources. The technical plans to accomplish the project have been translated into a budget and schedule and forwarded up the managerial hierarchy or sent to the client for approval. In an earlier section we noted that some of the budget and schedule is pared away at each successive step up the hierarchy. Each time this happens, the budget and schedule cuts must be translated into changes in the technical plans. Test procedures may be shortened, suppliers' lead times may be cut. The required cost and schedule adjustments are made, a nip here and a tuck there. To the people affected, these may well be crises. As we will note in Chapter 7, an obvious cure for these crises is to "pad" the budget when it is originally submitted. This is a bad idea and generally creates more serious problems than it solves.

The PM learns by experience; the wise PM learns from the experiences of others. Every project on which the PM has worked, whether as the project manager or not, is a source of learning. The war stories and horror tales of other PMs are vicarious experiences to be integrated with direct personal experience into a body of lore that will provide early-warning signals of trouble on the way. The lore will also serve as a bank of pretested remedies for trouble already at hand.

To be useful, experience must be generalized and organized. Managing a project is much like managing a business. Business firms often develop special routines for dealing with various types of fires. Expediters, order entry clerks, purchasing agents, dispatchers, shippers, and similar individuals keep the physical work of the system moving along from order to shipment. Human resource departments help put out "people fires" just as engineering helps deal with "mechanical fires." Fire fighting, to be optimally effective, should be organized so that fires are detected and recognized as early as possible. This allows the fires to be assigned to project team members who specialize in dealing with specific types of fires. Although this procedure does not eliminate crises, it does reduce the pain of dealing with them.

As the project nears completion, obstacles tend to be clustered around two issues: first, last-minute schedule and technical changes, and second, a series of problems that have as their source the uncertainty surrounding what happens to members of the project team when the project is completed. These two types of problems are very different from one another, as well as from the problems that faced the PM earlier in the life cycle of the project. The way to deal with last-minute schedule and technical changes is "the best you can." Beyond knowing that such changes will occur and will be disruptive to the project, there is little the PM can do except be prepared to "scramble."

Coping with the uncertainty surrounding what happens at the end of a project is a different matter. The issue will be covered at greater length in Chapter 13, but it deserves mention here because it is certainly an obstacle that the PM must overcome. The key to solving such problems is communication. The PM should make open com-

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munications between the PM and team members first priority. The notion of "open communications" requires that emotions, feelings, worries, and anxieties be communicated, as well as factual messages.

Making Project Goal Trade-offs

The PM must make trade-offs between the project goals of cost, time, and performance and, of course, the ancillary goals. The PM must also make trade-offs between project progress and process—that is, between the technical and managerial functions. The first set of trade-offs is required by the need to preserve some balance between the project time, cost, and performance goals. Conventional wisdom had it that the precise nature of the trade-offs varied depending on the stage of the project life cycle. At the beginning of the life cycle, when the project is being planned, performance was felt to be the most important of the goals, with cost and schedule sacrificed to the technical requirements of the project. Following the design phase, the project builds momentum, grows, and operates at peak levels. Because it accumulates costs at the maximum rate during this period, cost was felt to take precedence over performance and schedule. Finally, as the project nears completion, schedule becomes the high-priority goal, and cost (and perhaps performance) suffers. Research (Kalu 1993) has shown that these assumptions, sensible as they seem, are not true.

During the design or formation stage of the project life cycle, there is no significant difference in the importance project managers place on the three goals. It appears that the logic of this finding is based on the assumption that the project should be designed to meet all the client-set goals. If compromises must be made, each of the objectives is vulnerable. At times, however, a higher level of technical performance may be possible that, in the client's eyes, merits some softening of the cost or schedule goals. For example, a computer software project required that an information system be able to answer queries within 3 seconds 95 percent of the time. The firm designed such a system by ensuring that it would respond within 1.5 seconds 50 percent of the time. By meeting this additional standard, more stringent than that imposed by the client, it was able to meet the specified standard.

Schedule is the dominant goal during the buildup stage, being significantly more important than performance, which is in turn significantly more important than cost. Kloppenborg and Mantel (1990, p. 127) conjectures that this is so because scheduling commitments are made during the buildup stage. Scheduling and performance are approximately tied for primacy during the main stage of the life cycle when both are significantly more important than cost, though the importance of cost increases somewhat between the buildup and main stages. During the final stage, phaseout, performance is significantly more important than schedule, which is significantly more important than cost. Table 3-1 shows the relative importance of each objective for each stage of the project life cycle.

The second set of trade-offs concerns sacrificing smoothness of running the project team for technical progress. Near the end of the project it may be necessary to insist that various team members work on aspects of the project for which they are not well trained or which they do not enjoy, such as copying or collating the final report. The PM can get a fairly good reading on team morale by paying attention to the re-

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Table 3-1 Relative Importance of Project Objectives during Different Stages of the Project Life Cycle

Life Cycle Stage	*Cost*	*Schedule*	*Performance*
Formation	1	1	1
Buildup	3	1	2
Main	3	1	1
Phaseout	3	2	1

Note: 1 = most important.

Source: Kloppenborg and Mantel, 1990, p. 78.

sponse to such requests. This is, of course, another reason why the PM should select team members who have a strong problem orientation. Discipline-oriented people want to stick to the tasks for which they have been prepared and to which they have been assigned. Problem-oriented people have little hesitation in helping to do whatever is necessary to bring the project in on time, to "spec," and within budget.

The PM also has responsibility for other types of trade-offs, ones rarely discussed in the literature of project management. If the PM directs more than one project, he or she must make trade-offs between the several projects. As noted earlier, it is critical to avoid the appearance of favoritism in such cases. Thus, we strongly recommend that when a project manager is directing two or more projects, care should be taken to ensure that the life cycles of the projects are sufficiently different that the projects will not demand the same constrained resources at the same time, thereby avoiding forced choices between projects.

In addition to the trade-offs between the goals of a project, and in addition to trade-offs between projects, the PM will also be involved in making choices that require balancing the goals of the project with the goals of the firm. Such choices are common. Indeed, the necessity for such choices is inherent in the nature of project management. The PM's enthusiasm about a project—a prime requirement for successful project management—can easily lead him or her to: (1) overstate the benefits of a project, (2) understate the probable costs of project completion, (3) ignore technical difficulties in achieving the required level of performance, and (4) make trade-off decisions that are clearly biased in favor of the project and antithetical to the goals of the parent organization. Similarly, this enthusiasm can lead the PM to take risks not justified by the likely outcomes.

Finally, the PM must make trade-off decisions between the project, the firm, and his or her own career goals. Depending on the PM's attitudes toward risk, career considerations might lead the PM to take inappropriate risks or avoid appropriate ones.

Failure and the Risk and Fear of Failure

In Chapter 13, we will consider some research on characteristics that seem to be associated with project success or failure, but sometimes it is difficult to distinguish between project failure, partial failure, and success. Indeed, what appears to be a failure at one point in the life of a project may look like success at another. If we divide all projects into two general categories according to the degree to which the project is understood,

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we find some interesting differences in the nature and timing of perceived difficulties in carrying out a project. These perceptions have a considerable effect on the PM.

Assume that Type 1 projects are generally well-understood, routine construction projects. Type 2 projects are at the opposite pole; they are not well understood, and there may be considerable uncertainty about specifically what should be done. When they are begun, Type 1 projects appear simple. As they progress, however, the natural flow of events will introduce problems. Mother Nature seems habitually hostile. The later in the life cycle of the project these problems appear, the more difficult it is to keep the project on its time and cost schedule. Contingency allowances for the time and cost to overcome such problems are often built into the budgets and schedules for type 1 projects. But unless the project has considerable slack in both budget and schedule, an unlikely condition, little can be done about the problems that occur late in the project life cycle. As everyone from engineers to interior decorators knows, change orders are always received after the final design is set in concrete. And yet, Type 1 projects rarely fail because they are late or over budget, though they commonly are both. They fail because they are not organized to handle unexpected crises and deviations from plan and/or do not have the appropriate technical expertise to do so (Pinto and Slevin, 1989).

Type 2 projects exhibit a different set of problems. There are many difficulties early in the life of the project, most of which are so-called planning problems. By and large, these problems result from a failure to define the mission carefully and, at times, from a failure to get the client's acceptance on the project mission. Failure to define the mission leads to subsequent problems (e.g., failure to develop a proper schedule/plan, failure to have the proper personnel available to handle the technical problems that will arise, as well as failure to handle the crises that occur somewhat later in the project's life cycle) (Pinto and Mantel, 1990). These failures often appear to result from the inability to solve the project's technical problems. In fact, they result from a failure to define project requirements and specifications well enough to deal with the technical glitches that always occur. (See Chapter 12 for a further discussion of this subject.)

Perhaps more serious are the psychic consequences of such technical snags. The occurrence and solution of technical problems tend to cause waves of pessimism and optimism to sweep over the project staff. There is little doubt that these swings of mood have a destructive effect on performance. The PM must cope with these alternating periods of elation and despair, and the task is not simple. Performance will be strongest when project team members are "turned on," but not so much that they blandly assume that "everything will turn out all right in the end," no matter what. Despair is even worse because the project is permeated with an attitude that says, "Why try when we are destined to fail?"

Maintaining a balanced, positive outlook among team members is a delicate job. Setting budgets and schedules with sufficient slack to allow for Murphy's law, but not sufficient to arouse suspicion in cost and time-conscious senior management, is also a delicate job. But who said the PM's job would be easy?

Breadth of Communication

As is the case with any manager, most of the PM's time is spent communicating with the many groups interested in the project (Mintzberg, 1973). Running a project re-

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quires constant selling, reselling, and explaining the project to outsiders, top management, functional departments, clients, and a number of other such parties-at-interest to the project, as well as to members of the project team itself. The PM is the project's liaison with the outside world, but the manager must also be available for problem solving in the lab, for crises in the field, for threatening or cajoling subcontractors, and for reducing interpersonal conflict between project team members. And all these demands may occur within the span of one day—a typical day, cynics would say.

To some extent, every manager must deal with these special demands; but for a PM such demands are far more frequent and critical. As if this were not enough, there are also certain fundamental issues that the manager must understand and deal with so that the demands noted can be handled successfully. First, the PM must know *why* the project exists; that is, the PM must fully understand the project's intent. The PM must have a clear definition of how *success* or *failure* is to be determined. When making trade-offs, it is easy to get off the track and strive to meet goals that were really never intended by top management.

Second, any PM with extensive experience has managed projects that failed. As is true in every area of business we know, competent managers are rarely ruined by a single failure, but repeated failure is usually interpreted as a sign of incompetence. On occasion a PM is asked to take over an ongoing project that appears to be heading for failure. Whether or not the PM will be able to decline such a doubtful honor depends on a great many things unique to each situation: the PM's relationship with the program manager, the degree of organizational desperation about the project, the PM's seniority and track record in dealing with projects like the one in question, and other matters, not excluding the PM's ability to be engaged elsewhere when the "opportunity" arises. Managing successful projects is difficult enough that the PM is, in general, well advised not to volunteer for undertakings with a high probability of failure.

Third, it is critical to have the support of top management (Pinto and Slevin, 1989). If support is weak, the future of the project is clouded with uncertainty, and if it is a R & D project, it is more likely to be terminated (Green, 1995). Suppose, for example, that the marketing vice-president is not fully in support of the basic project concept. Even after all the engineering and manufacturing work has been completed, sales may not go all out to push the product. In such a case, only the chief executive officer (CEO) can force the issue, and it is very risky for a PM to seek the CEO's assistance to override a lukewarm vice-president. If the VP acquiesces and the product fails (and what are the chances for success in such a case?), the project manager looks like a fool. If the CEO does not force the issue, then the VP has won and the project manager may be out of a job. As noted earlier, political sensitivity and acumen are mandatory attributes for the project manager. The job description for a PM should include the "construction and maintenance of alliances with the leaders of functional areas."

Fourth, the PM should build and maintain a solid information network. It is critical to know what is happening both inside and outside the project. The PM must be aware of customer complaints and department head criticism, who is favorably inclined toward the project, when vendors are planning to change prices, or if a strike is looming in a supplier industry. Inadequate information can blind the PM to an incipient crisis just as excessive information can desensitize the PM to early warnings of trouble.

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Project Management in Practice

The Wreckmaster at a New York Subway Accident

At 12:16 A.M., Wednesday August 28, 1991, a 10-car subway train on the Lexington Line beneath New York City jumped the track and crashed in the subway tunnel. Damage was massive—five cars were derailed, one was cut in half, another bent in two, possibly 150 persons injured, four dead. The train ripped out steel-girder support columns used to hold up the tunnel ceiling, as well as the street above which immediately sunk a half inch. Two tracks and a third rail had been ripped out and two signal sets, two switches, and an air compressor room destroyed.

When such an emergency occurs, the New York City Transit Authority (NYCTA) immediately appoints a project master, called a "Wreckmaster," to oversee the handling of the disaster rescue and repair activities, and make sure that operations are returned to a safe condition as soon as possible. In this case, the goal was to have the subway back to normal operation by Tuesday morning rush hour, September 3, after the three-day holiday weekend. Such disasters are handled in eight phases:

Phase 1: Respond to injury—Get people out of danger, provide needed medical care, remove bodies and ensure that no victims remain in the debris.

Phase 2: Secure the area—Simultaneously with phase 1, eliminate other threats to life and property by disconnecting power, providing emergency lighting and ventilation, stopping other trains from entering the area, keeping nonrelevant pedestrian and vehicular traffic out.

Phase 3: Initiate command facilities—Concurrent with phases 1 and 2, set up and activate command and coordination structure for all emergency activities.

Phase 4: Remove debris—Collect and remove the elements and debris of the accident which would hinder rescue, clean-up, or repair.

Phase 5: Remove damaged equipment—Use cranes, cutting torches, and other equipment to remove the large, major equipment.

Phase 6: Facility repair—Repair the facilities as quickly as possible for continuing and normal use.

Phase 7: Test—Make certain that all facilities are fully operational and safe by testing under the watchful eye of engineering, operations, and safety.

Phase 8: Clean-up—Clean the premises to the best possible state to permit normal operations.

The crash was heard at NYCTA's Union Square District 4 and about 40 transit police officers ran to assist passengers at the smoke-filled scene. Soon, officers from District 2, the Fire Department, and the Office of Emergency Management joined them. The Fire Department brought fans to help clear the smoke and steel cable to rope the wreckage to the support pillars so they could reach people still in the train cars without the roof caving in on them. Buses were dispatched to transport people to hospitals and the Red Cross provided food and drink for the injured. Some rescuers fainted from heat exhaustion as the temperature climbed over 110 degrees in the tunnel and two dozen police and fire workers were treated for injuries and smoke inhalation. Transit police officer Emanuel Bowser was riding the train when it crashed but helped people get off for more than four hours after the crash even though he had a broken arm and fingers himself.

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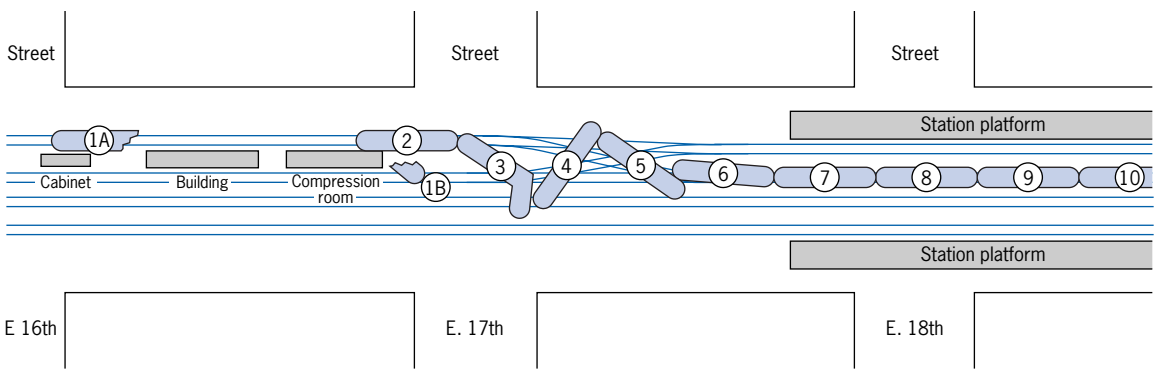
A worker looks at the wreckage of a subway car in the 135th Street Station in New York early Friday, July, 4, 1997, following a Thursday night derailment. Fifteen people were injured, two seriously, when the express train in Harlem derailed, leaving the unoccupied last car crushed and severed in half, according to police. (AP Photo/Emile Wamsteker)



Legend: Placement of derailed trains

1A	Car # 1440	3	Car # 1437	5	Car # 1435	7	Car # 1432	9	Car # 1433
1B	Car # 1440	4	Car # 1436	6	Car # 1434	8	Car # 1431	10	Car # 1438
2	Car # 1439								

14th Street - Union Square Derailment August 28, 1991

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After learning about the crash, NYCTA appointed Larry Gamache, general superintendent of track operations, as Wreckmaster. Larry set up team captains to coordinate activities throughout each phase of the disaster operations. A command center was established at a nearby subway station to direct and coordinate the operations. Gamache formulated a mental flow chart of how work needed to proceed. Each task had to be analyzed to determine what tasks had to precede it and what tasks could be conducted concurrently with it. Gamache also initiated regular meetings for all involved parties. This kept everyone informed of what progress had been made and provided them with estimates of future progress so activities could be coordinated and sequenced.

The plan was to remove the wreckage as quickly as possible from one track to allow worktrains to reach the disaster site, bringing needed materials to the site and removing debris. Since work had to continue throughout the Labor Day weekend on 12-hour shifts, facilities for the workers—food, drink, toilets—also had to be provided. Diesel trains pulled out the five cars that didn't derail, but getting out the other five was a special problem. A new Hoersh hydraulic jacking system was brought in from another district that could lift a 44-ton car, move it sideways, and set it back down on the tracks. Using these jacks reduced by half the labor required to rerail the cars, thereby significantly expediting the recovery. As work progressed through the long weekend, it became apparent that the disaster recovery plan would meet its Tuesday morning completion goal and, in fact, trains began running again by late evening on Monday.

Lawrence Gamache, Wreckmaster

Larry Gamache started at NYCTA 24 years ago as a trackworker and progressed through many managerial positions on his way to general superintendent, track operations. His experience over those years clearly qualified him for the responsibility of this assignment, particularly his involvement as field supervisor of several earlier derailments.

He was also highly involved in a three-year subway reconstruction project that required extensive coordination and negotiation with other city agencies, communities, and political leaders, all the while battling inclement weather and difficult conditions-yet, the project was completed ahead of time and well under budget. This experience, too, was valuable in coordinating the activities of the many groups involved in the disaster recovery.

Source: S. Nacco, "PM in Crisis Management at NYCTA: Recovering from a Major Subway Accident," *PM Network*, February 1992.

Finally, the PM must be flexible in as many ways, with as many people, and about as many activities as possible throughout the entire life of the project. The PM's primary mode of operation is to trade off resources and criteria accomplishment against one another. Every decision the PM makes limits the scope of future decisions, but failure to decide can stop the project in its tracks. Even here, we have a trade-off. In the end, regardless of the pressures, the PM needs the support of the noninvolved middle and upper-middle management.

Negotiation

In order to meet the demands of the job of project manager—acquiring adequate resources, acquiring and motivating personnel, dealing with obstacles, making project goal trade-offs, handling failure and the fear of failure, and maintaining the appropri-

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ate patterns of communication—the project manager must be a highly skilled negotiator. There is almost no aspect of the PM's job that does not depend directly on this skill. We have noted the need for negotiation at several points in the previous pages, and we will note the need again and again in the pages that follow. The subject is so important, Chapter 6 is devoted to a discussion of the matter.

3.3 SELECTING THE PROJECT MANAGER

Selection of the project manager is one of the two or three most important decisions concerning the project. In this section, we note a few of the many skills the PM should possess in order to have a reasonable chance of success.

The following is a list of some of the most popular attributes, skills, and qualities that have been sought when selecting project managers:

- A strong technical background
- A hard-nosed manager
- A mature individual
- Someone who is currently available
- Someone on good terms with senior executives
- A person who can keep the project team happy
- One who has worked in several different departments
- A person who can walk on (or part) the waters

These reasons for choosing a PM are not so much wrong as they are "not right." They miss the key criterion. Above all, the best PM is the one who can get the job done! As any senior manager knows, hard workers are easy to find. What is rare is the individual whose focus is on the completion of a difficult job. Of all the characteristics desirable in a PM, this *drive to complete the task* is the most important.

If we consider the earlier sections of this chapter, we can conclude that there are four major categories of skills that are required of the PM and serve as the key criteria for selection, given that the candidate has a powerful bias toward task completion. Moreover, it is not sufficient for the PM simply to possess these skills; they must also be perceived by others. The fact and the perception are equally important.

Credibility

The PM needs two kinds of credibility. First is *technical credibility*. The PM must be perceived by the client, senior executives, the functional departments, and the project team as possessing sufficient technical knowledge to direct the project. A PM with reasonable technical competence seems to be associated with project success and is seen by project team members to be a "positive" leadership characteristic (Ford and McLaughlin, 1992; Zimmerer and Yasin, 1998). (We remind the reader that "technical credibility" includes technical knowledge in such arcane fields as accounting, law, psychology, anthropology, religion, history, playwriting, Greek, and a host of other nonhard sciences.) The PM does not need to have a high level of expertise, know

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more than any individual team members (or all of them), or be able to stand toe-to-toe and intellectually slug it out with experts in the various functional areas. Quite simply, the PM has to have a reasonable understanding of the base technologies on which the project rests, must be able to explain project technology to senior management, and must be able to interpret the technical needs and wants of the client (and senior management) to the project team. Similarly, the PM must be able to hear the problems of the project team and understand them sufficiently to address them, possibly by communicating them to upper management.

Second, the PM must be *administratively credible*. The PM has several key administrative responsibilities that must be performed with apparently effortless skill. One of these responsibilities is to the client and senior management—to keep the project on schedule and within cost and to make sure that project reports are accurate and timely. This can place the PM in an ethically awkward situation sometimes. Another responsibility is to the project team—to make sure that material, equipment, and labor are available when needed. Still another responsibility is to represent the interests of all parties to the project (team, management, functional departments, and client) to one another. The PM is truly the "person in the middle." Finally, the PM is responsible for making the tough trade-off decisions for the project, and must be perceived as a person who has the mature judgment and courage to do so consistently.

Sensitivity

The preceding pages contain many references to the PM's need for political sensitivity. There is no point in belaboring the issue further. In addition to a good, working set of political antennae, the PM needs to sense interpersonal conflict on the project team or between team members and outsiders. Successful PMs are not conflict avoiders. Quite the opposite, they sense conflict early, then confront and deal with it before the conflict escalates into interdepartmental and intradepartmental warfare.

The PM must keep project team members "cool." This is not easy. As with any group of humans, rivalries, jealousies, friendships, and hostilities are sure to exist. The PM must persuade people to cooperate irrespective of personal feelings, to set aside personal likes and dislikes, and to focus on achieving project goals.

Finally, the PM needs a sensitive set of technical sensors. It is common, unfortunately, for otherwise competent and honest team members to try to hide their failures. Individuals who cannot work under stress would be well advised to avoid project organizations. In the pressure-cooker life of the project, failure is particularly threatening. Remember that we staffed the team with people who are task-oriented. Team members with this orientation may not be able to tolerate their own failures (though they are rarely as intolerant of failure in others), and will hide failure rather than admit to it. The PM must be able to sense when things are being "swept under the rug" and are not progressing properly.

Leadership and Management Style

Leadership has been defined (Tannenbaum and Massarick, 1957) as "interpersonal influence, exercised in situations and directed through the communication process, toward the attainment of a specified goal or goals." Much has been written about how interpersonal influence is generated and the impact of leadership characteristics on

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team performance. Examples are Jiang, Klein, and Margulis (1998); Scott and Bruce (1998); Whitten (1996); and Zimmerer and Yasin (1998).

To all the skills and attributes we have mentioned, add enthusiasm, optimism, energy, tenacity, courage, and personal maturity. It is difficult to explain leadership. We tend to recognize it after the fact, rather than before. We define it anecdotally by saying that this person or that one acted like a leader. The PM should capitalize on people's strengths, cover their weaknesses, know when to take over and when to "give the team its head," know when to punish and when to reward, know when to communicate and when to remain silent. Above all, the PM should know how to get others to share commitment to the project. In a word, the PM must be a leader. (Note: Slevin and Pinto (1991) is an excellent article on leadership for the project manager.)

Another aspect of leadership that is important in a project manager is a strong sense of ethics. There is a considerable amount of attention to this topic in the news media these days, both good and bad. For instance, the unauthorized invasion of a private telephone system by a *Cincinnati Enquirer* reporter while pursuing a story about alleged improper labor practices at Chiquita Brands International, Inc. raises serious ethical issues, as does the tobacco industry's longstanding public denial of the effects of smoking on human health. Nixon (1987) has identified some ethical missteps that are relatively common in business:

- "wired" bids and contracts (the winner has been predetermined)
- "buy-in" (bidding low with the intent of cutting corners or forcing subsequent contract changes)
- kickbacks
- "covering" for team members (group cohesiveness)
- taking "shortcuts" (to meet deadlines or budgets)
- using marginal (substandard) materials
- compromising on safety
- violating standards
- consultant (e.g., auditors) loyalties (to employer or to client or to public)

A project manager, particularly in the public sector, may easily become embroiled in the ethics concerning such issues as pollution, public safety, industrial plant locations, the use of public lands, and so on. A code of ethics for project managers was created at the PMI 1982 symposium on Project Management (Ireland, Pike, and Schrock, 1982), updated and approved in 1989, and again in 1995. The current version of the code is shown in Table 3-2. The issue is receiving an increasing amount of attention. A humorous column on the subject published several years ago in the PMI's magazine *PM Network* (Phillips, 1995) elicited several irate letters from readers who seemed unsure about whether or not to take the article seriously (cf. "From Our Readers," *PM Network*, January 1996).

An "ethics audit" has also been recommended for nonprofit organizations (Schaefer and Zaller, 1998), and we would recommend a similar audit for any firm. The extent of this subject is far beyond what we can cover here, but, fortunately, there are a number of excellent books on the topic (Barry, 1979; Blanchard and Peale, 1988; Pastin, 1986). A concise bibliography on business ethics is included in Robb (1996).

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Table 3-2. Code of Ethics for the Project Management Profession*

PREAMBLE: Project Management Professionals, in the pursuit of the profession, affect the quality of life for all people in our society. Therefore, it is vital that Project Management Professionals conduct their work in an ethical manner to earn and maintain the confidence of team members, colleagues, employees, employers, clients, and the public.

ARTICLE I: Project Management Professionals shall maintain high standards of personal and professional conduct and:

a. Accept responsibility for their actions.
b. Undertake projects and accept responsibility only if qualified by training or experience, or after full disclosure to their employers or clients of pertinent qualifications.
c. Maintain their professional skills at the state of art and recognize the importance of continued personal development and education.
d. Advance the integrity and prestige of the profession by practicing in a dignified manner.
e. Support this code and encourage colleagues and co-workers to act in accordance with this code.
f. Support the professional society by actively participating and encouraging colleagues and co-workers to participate.
g. Obey the laws of the country in which work is being performed.

ARTICLE II: Project Management Professionals shall, in their work:

a. Provide necessary project leadership to promote maximum productivity while striving to minimize cost.
b. Apply state of the art project management tools and techniques to ensure quality, cost and time objectives, as set forth in the project plan, are met.
c. Treat fairly all project team members, colleagues and co-workers, regardless of race, religion, sex, age or national origin.
d. Protect project team members from physical and mental harm.
e. Provide suitable working conditions and opportunities for project team members.
f. Seek, accept and offer honest criticism of work, and properly credit the contribution of others.
g. Assist project team members, colleagues and co-workers in their professional development.

ARTICLE III: Project Management Professionals shall, in their relations with their employers and clients:

a. Act as faithful agents or trustees for their employers and clients in professional business matters.
b. Keep information on the business affairs or technical processes of an employer or client in confidence while employed, and later, until such information is properly released.
c. Inform their employers, clients, professional societies or public agencies of which they are members or to which they may make any presentations, of any circumstances that could lead to a conflict of interest.
d. Neither give nor accept, directly or indirectly, any gift, payment or service of more than nominal value to or from those having business relationships with their employers or clients.
e. Be honest and realistic in reporting project quality, cost and time.

ARTICLE IV: Project Management Professionals shall, in fulfilling their responsibilities to the community:

a. Protect the safety, health and welfare of the public and speak out against abuses in these areas affecting the public interest.
b. Seek and extend public knowledge and appreciation of the project management profession and its achievements.

*Source: Project Management Institute.

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While a great deal has been written about the leadership attributes required or desirable in a project manager, comparatively little has been written about the proper management style for a PM. It has generally been assumed, and we are as guilty as most other writers, that whatever style is good for general managers is also good for project managers. A somewhat informal brand of "participative management" is generally preferred. Of course, each profession (information technology, construction, medicine, research and development in any area of science, ad infinitum) that uses project management is quite certain that its problems are significantly different and more difficult. They argue, therefore, that they require less managerial control.

Shenhar (1998) classifies projects across two dimensions and concludes that management style should be adapted to certain differences in the type of project. His dimensions are: (1) the level of technological uncertainty; and (2) the level of system complexity. As the uncertainty increases from "low tech" to "medium tech" to "high tech" to "very high tech," the appropriate management style progresses from "firm, rigid, and formal" to "moderately firm" to "moderately flexible" to "highly flexible." As the system complexity increases from "assembly" to "system" to "array," the style progresses from "in-house informal" to "formal main/subcontractor relationship" to "remote and highly formal." There are also significant differences in some managerial practices, e.g., the use of project management tools, across the uncertainty and complexity dimensions.

Ability to Handle Stress

Throughout this chapter and elsewhere in this book, we have noted that the life of the project manager is rarely serene. While we know of no scientific research on the issue, casual observation leads us to believe that the basic environment surrounding projects is not fundamentally different from the environment existing in the parent organization within which the projects are being conducted. Life in some organizations is quite hectic and projects in those firms and agencies tend to be equally hectic.

There are a great many factors in life that cause stress and project managers are as subject to them as other humans. There do, however, appear to be four major causes of stress often associated with the management of projects. First, some PMs never develop a reasonably consistent set of procedures and techniques with which to manage their work. Second, many simply have "too much on their plates." Third, some have a high need to achieve that is consistently frustrated. Fourth, the parent organization is in the throes of major change.

This book is primarily devoted to helping the PM deal with the first cause of stress. As for the second cause, we would remind the PM to include him/herself as a "resource" when planning a project. Almost all project management software packages will signal the planner when a project plan calls for a resource to be used beyond its capacity (see Chapters 9 and 10). Such signals, at least, provide PMs with some evidence with which to discuss the work load with the appropriate senior manager.

Concerning the third cause of stress, Slevin (1989) points out that stress results when the demands made on an individual are greater than the person's ability to cope with them, particularly when the person has a high need for achievement. It is axiomatic that senior managers give the toughest projects to their best project managers. It is the

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toughest projects that are most apt to be beset with unsolvable problems. The cure for such stress is obvious, except to the senior managers who continue the practice.

Finally, in this era of restructuring and downsizing, stress from worry about one's future is a common condition in modern organizations. Dealing with and reducing these stresses as well as the stress resulting from everyday life is beyond the scope of this book as well as the expertise of its authors. Fortunately, any bookstore will have entire sections devoted to the subject of stress and its relief. We refer the reader to such works.

3.4 PROBLEMS OF CULTURAL DIFFERENCES

In this and the following two sections, we raise a number of issues that plague certain projects. Sometimes these projects require cooperation by individuals and groups from different countries. Sometimes they require cooperation by individuals or groups in one country, but from different industries or even from different divisions of the same firm. It is not, however, the geographical or organizations differences that matter, it is the differences in *cultures*. Moreover, it is not merely the differences in culture that matter, it is also differences in the *environments* within which projects are conducted, as we mentioned at the start of this chapter, the economic, political, legal, and sociotechnical environments.

We will discuss particulars next, but we must emphasize that the differences in culture and environment are not confined to so-called "international" projects, which should be evident. Different industries have different cultures and environments, as do firms from different regions of a given country, as do different firms from the same geographical area, as do different divisions of a given firm. While the impacts of these dissimilarities are greatest and most visible in the case of international projects, they exist to some extent any time different organizations (including different parts of one organization) are asked to work together on a project.

Inferentially, if a project manager must cope with multiple cultures and different environments, it follows that more than one organization is involved in the project. This fact alone complicates matters. Throughout this book we stress that the PM must manage and reduce conflict between the parties-at-interest or stakeholders in a project: the project team, client, senior management, and the public. One has only to read Hughes (1998, pp. 197 ff.) on the subject of the Boston Central Artery/Tunnel, a chapter aptly titled "Coping with Complexity," to get a good feel for the issues. If the parties-at-interest represent different nations, industries, and firms, the conflicts and problems besetting the project are greater by an order of magnitude. In particular, the conceptually simple issue of maintaining communications between the various parties becomes, in reality, almost impossibly complex.

The term "culture" refers to the entire way of life for a group of people. It encompasses every aspect of living and has four elements that are common to all cultures: technology, institutions, language, and arts (*The World Book*, 1997).

The *technology* of a culture includes such things as the tools used by people, the material things they produce and use, the way they prepare food, their skills, and their attitudes toward work. It embraces all aspects of their material lives.

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The *institutions* of a culture make up the structure of the society. This category contains the organization of the government, the nature of the family, the way in which religion is organized as well as the content of religious doctrine, the division of labor, the kind of economic system adopted, the system of education, and the way in which voluntary associations are formed and maintained.

Language is another ingredient of all cultures. The language of a culture is always unique because it is developed in ways that meet the express needs of the culture of which it is a part. The translation of one culture's language into another's is rarely precise. Words carry connotative meanings as well as denotative meanings. The English word "apple" may denote a fruit, but it also connotes health ("keeps the doctor away"), bribery ("for the teacher"), New York city, a color, a computer, a dance (late 1930s), favoritism ("of my eye"), as well as several other things.

Finally, the *arts* or aesthetic values of a culture are as important to communication as the culture's language. If communication is the glue that binds a culture together, art is the most efficient means of communicating. Aesthetic values dictate what is found beautiful and satisfying. If a society can be said to have "style," it is from the culture's aesthetic values that style has its source.

Culture and the Project

A nation's culture affects projects in many ways. One of the most obvious ways is in how people of different cultures regard time. In the United States and several other Western industrialized nations, time is highly valued as a resource (Smith and Haar, 1993). We say, "Time is money." It isn't, of course, but the expression is one way of expressing impatience with delay and lateness. Latin Americans, on the other hand, hold quite different views of time. The pace of life differs from one culture to another, just as do the values that people place on family or success. The PM conducting a construction project in South America will learn that to be half-an-hour late to a project meeting is to be "on time." In Japan, lateness causes loss of face. In some cultures, the quality of the work is seen to be considerably more important than on-time delivery. The great value placed on time in the United States and the distaste for tardiness leads to a common perception that U.S. managers are "impatient."

The fundamental philosophy of staffing projects varies greatly in different cultures. In Latin America, for example, the *compadre* system leads a manager to give preference to relatives and friends when hiring.* U.S. managers feel that such practices are a major source of inefficiency in Latin American firms. In fact, there appears to be scant evidence that this is so. One private study of several firms in the U.S. and Latin American chemical industries indicates that the differences in management practices between U.S. and Latin American chemical firms were, in general, significantly less than the differences between the U.S. chemical firms and U.S. clothing manufacturers.

A view almost uniformly held by others is that U.S. managers understand everything about technology and nothing about people (e.g., Smith and Haar, 1993). This view apparently originates in the desire to "get down to business," while many foreign

*We are quite aware that the *compadre* system is a system of networks of extended family members, and is far more complex than is implied in this simple example.

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cultures—certainly Asian, Middle Eastern, Latin American, and southern European—value "getting to know you" as a precursor to the trust required to have satisfying business relationships. In many cultures, the manager is expected to take a personal interest in his or her subordinates' lives, to pay calls on them, to take an interest in the successes of family members, and to hold a caring attitude. This flies in the face of the usual (bad) advice given to a U.S. manager to "Keep your nose out of your employees' personal affairs." On the other hand, it is clear that U.S. project managers are being urged to value cultural diversity in ways that are often not shared by their foreign cohorts. The following article appeared in *The Wall Street Journal*.*

Multiculturism Stalls at the National Divide

Valuing diversity is a uniquely American idea that may not travel well.

Asked by AT&T to study race and gender issues in overseas work places, New York consultants Cornelius Grove and Willa Hallowell found "the values that give impetus to diversity issues here don't necessarily exist abroad," says Mr. Grove.

Based on interviews with AT&T managers and executives, the two report that other societies view ethnic differences as an appropriate basis for assigning workplace roles. In Mexico, for example, an American manager shouldn't expect to find indigenous Indians in management positions, which are controlled by European descendants. In Japan, it took an AT&T manager months to get Japanese managers to talk to key East Indian employees, Ms. Hallowell says.

In the newsletter *Cultural Diversity at Work*, the consultants advise American managers abroad to value equality without judging cultural norms. (Wynter, 1994)

Without attesting to the accuracy or fairness of its portrayal of Japanese culture and politics, we would strongly recommend that American project managers read Michael Chrichton's (1992) mystery thriller, *Rising Sun*. This book is a rich source of examples of the subtle and not-so-subtle ways in which cultures collide. It is an excellent illustration of the impact that a nation's culture, its technology, language, institutions, and aesthetic values have on human behavior and communications.

Microcultures and the Project

For some years, management theorists have been writing about "corporate culture." We call these "microcultures" to differentiate them from the broader national or regional cultures about which we have been writing. It is just as true, though less obvious, to observe that microcultures vary from industry to industry and from firm to firm just as cultures do from nation to nation. Sales techniques perfectly permissible in one industry, the wholesale automobile industry, for instance, would cause outrage and lawsuits in the business-machine industry. Promises have very different meanings in different areas of business. No one takes seriously the "promised" date of completion of a software application project, any more than a finish-date promise made by a home-remodeling contractor, or, for that matter, an author's promise made to a publisher for the delivery of a manuscript on or before the deadline.

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The impact of interindustry, interfirm, and intrafirm microcultural diversity on the project manager is significant. Perhaps more than any other type of manager, the PM is dependent on commitments made by people, both inside and outside the parent organization, who owe little allegiance to the project, have little cause for loyalty to the PM, and over whom the PM has little or no de jure authority. Hence, the PM must know whose promises can be relied upon and whose cannot.

The PM cannot even count on a simple acceptance of accountability (Dodson, 1998), or of the concepts of empowerment or a customer-oriented view of quality (de Macedo-Soares and Lucas, 1995). In a major study of 50 transnational projects, Hauptman and Hirji (1996) found that the accomplishment of product development teams depended on the skill with which they handled two-way communication and problem solving, plus their willingness to deal with ambiguous and uncertain information. The team's ability to deal with cultural differences in these areas was critical to success. On the positive side, Levinson and Asahi (1995) spell out several steps that allow "interorganizational learning" for groups that form international alliances (see also, Fedor and Werther, 1996).

Project Management in Practice

Success at Energo by Integrating Two Diverse Cultures

A major project involving some hundreds of millions of dollars was stymied due to the cultural differences between the owner/client, a state-run Middle East developer, and the contractor, a state-run European international designer and builder of industrial and construction projects. As can be imagined, the difference in the cultures is extreme and includes religions, the role of women in society, the difference in power between managers and workers, and the style of management itself. These differences were exacerbated by the conditions surrounding the project: an isolated desert, poor communication, extremely harsh living/working conditions, and a highly unstable legal/political environment (taxes, regulations, restrictions, even client reorganizations) that was changing daily.

The client and contractor came to realize that the two separate organizational systems created an interface, or boundary, between them that was almost impenetrable. They thus decided to try to integrate the two systems into one unified system (see Exhibit 1). This was done methodically, with a plan being drawn up, environmental impacts recognized, restructuring of the overall organization, designing the integration, and then implementing the design.

As perhaps expected, neither side's personnel were able to give up their perspective to see the larger picture. The project managers kept working on this issue, however, watched for problems, did a lot of management-by-walking-around, and gradually, the integration began to occur, gathering speed as it went. At project termination, when all costs and engineering changes were hammered out for final payment by tough external bargaining agents (rather than by principled negotiation, typically), no agreement could be reached. Instead, the project managers were brought back and allowed to terminate the project in their own fashion. They simply continued the integration process they had used earlier and quietly phased out the successful project.

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THE PROJECT STYLE CHARACTERISTICS		Actions
Physical Appearance:	Counterparts working together (teamwork)	Tour the site with counterpart project manager daily
	Project-related pictures, charts, and schedules on office walls	Make your office look like a "war room"
Myths and Stories:	We are one team with two sides	Whenever possible, let the counterparts have a joint office
	Both cultures are interesting	
	Both sides' interests should be satisfied	
	We trust young managers	
	Get the job done	Organize group visits to local historical sites
	Separate yourself from the position and stick to the problem	
	Both project managers are good, and committed to the project	
Ceremonies:	Gather ideas and information from all over the project organization	From time to time, attend lower-level joint project meetings
	Frequent meetings at all levels	Celebrate each key event completion
	Frequent social gatherings and festivities	
Management Style:	Plan, organize, and control with your counterparts	Ask counterparts for joint report on an issue
	Make decisions	Recognize high-performance managers monthly
	No finger pointing for wrong decisions, learn the lesson	
	Quickly execute the decision	
	If you need help, don't hesitate to refer to your boss	

Exhibit 1 Examples of Integrative Actions.

Source: D.Z. Milosevic, "Case Study: Integrating the Owner's and the Contractor's Project Organization," *Project Management Journal*, December 1990.

3.5 IMPACT OF INSTITUTIONAL ENVIRONMENTS

In general systems theory, the *environment* of a system is defined as everything outside the system that receives system outputs from it or delivers inputs to it. A culture's institutions are a part of the environment for every project.

Socioeconomic Environment

Of all the nations in which a project manager might find him- or herself, the need to interact with governments and representatives of governments is probably lower in the United States than almost anywhere else. This is true regardless of whether the government controls industry or industry controls the government in the country involved. On international projects, therefore, the PM (or the PM's senior management)

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can expect to deal with bureaucracy at several different levels (i.e., local, regional, and national government functionaries).

Popular movies and television to the contrary, the intentions of foreign governments and their officials are rarely evil. Foreign governments are usually devoted to ensuring that local citizens are well-treated by invading companies, that national treasures are not disturbed, that employment for their nationals is maximized, that some profits are reinvested in the host country, that safety regulations are not violated, and that other unintended exploitations are prevented. At times, rules and regulations may result from ancient traditions—no consumption of alcoholic beverages in Islamic nations, no consumption of pork products in Israel, and avoiding the "A-OK" hand-sign in several South American countries, though the latter is not a rule or regulation.

The job description of any PM should include responsibility for acquiring a working knowledge of the culture of any country in which he or she is to conduct a project. As far as possible, the project should be conducted in such a way that host-country norms are honored. To do so, however, will often raise problems for management of the parent firm. An unwelcome truth is that the cultures of many countries will not offer a female PM the same level of respect shown a male PM. Thus, senior management is faced with the awkward choice of violating its own policy against sex discrimination or markedly increasing the risk of project failure. The same problem may also exist with the use of a Jewish PM in an Arab country, or an Armenian PM in Turkey.

Legal Environment

The United States is, by far, the most litigious society on this planet. This does not mean that there are fewer disagreements in other societies, but rather that there is less recourse to courts of law, and, therefore, more recourse to negotiation as a means of resolving conflict. Martin (1993) examines the nature of the negotiation process in an international setting. He notes the impact that different cultures have on the process of negotiation, with special attention paid to the society's institutional structure and patterns of communication. He concludes that the failure to understand the culture of a nation in which negotiations are taking place puts the ignorant party at a severe disadvantage. The same conclusion is obviously true for microcultures.

Many authors have noted, as we have above, that trust plays an important role in business relationships (Gogal and Ireland, 1988, for example). The impact of trust on project management, with its dependence on the ability and willingness of others to meet commitments, is clear. The importance of trust is also demonstrated by the critical role played by the *compadre* system in Latin America. Use of a general agreement with the extended family, as trusted suppliers to a project for example, is a substitute for the detailed and highly explicit contracts usually required for dealing with "arms-length" suppliers in the United States.

Finally, it is sometimes forgotten that each nation's laws are a product of its history. Law results from the attempt to reduce conflict by a regularized process. Because the conflicts in a country are, in part, a reflection of its unique culture, it follows that the laws of a nation will also be unique. For instance, in the United States there is a strong tradition condemning conspiracies to restrain trade that is effectuated through regulatory law, but law is constantly changing. In recent years, certain types of collaboration

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between competitors have grown rapidly, even in the United States (Rosegger and Mantel, 1990). In the United States, SEMATECH is a consortium of semiconductor manufacturers conducting joint research projects in the field; and the Automotive Composites Consortium is a collaborative group formed of Chrysler, Ford, and General Motors to study the use of plastic-processing technologies in automobile manufacture. These are merely two of many collaborative efforts allowed by the National Cooperative Research Act passed in 1984. European nations have also backed research consortia; for example, between 1961 and 1983, Japan had more than 60 research consortia, some with more than 40 members (Lynn and McKeown, 1988).

The move to collaborative projects has also been transnational. Airbus Industrie, the British-French-German-Spanish venture, operating with financial support from its several governments, has achieved outstanding success in commercial aircraft development and production. Other examples are CFM International composed of GE (USA) and Snecma (France), and International Aero Engines composed of Pratt & Whitney (USA), Rolls Royce (UK), Japan Aero Engines, MTU (Germany), and Fiat (Italy).

International projects exist in such great numbers because there is some resource required by the project that is not readily available in the host nation. Most commonly, that resource is technological knowledge.* Many firms invited into projects for their proprietary knowledge found, after the project was completed, that their knowledge was no longer proprietary. The world of information technology is replete with cases in which "ownership" of software developed through the joint efforts of two or more firms is strongly disputed. In the United States, such cases are usually settled in the courts. When two or more countries are involved, solution of the problem is not so simple. Patent laws differ from nation to nation, as do national attitudes about the sanctity of patents.

The project manager and senior management should, if proprietary knowledge is valuable, make adequate provision for its protection. How to accomplish that is idiosyncratic to the case at hand. The North American Free Trade Agreement (NAFTA) affords protection of the intellectual property rights of firms to the three signers of the agreement, the United States, Canada, and Mexico. All areas of technology are patentable under NAFTA, and it is the first international agreement to include protection for trade secrets in addition to copyrights and patents (Chopra, 1993).

The upshot of all this is that business laws, and laws that affect businesses, vary widely from nation to nation. For the project manager, there is no substitute for qualified legal assistance.

The Business Cycle as an Environment

The project manager should be aware of the general level of business conditions in the nation hosting the project. While it is common for business cycles in economically developed countries generally to rise and fall together, they rarely match precisely. The depth of the cycle will be greater in one nation than another. The cycle

*Entry into a heretofore closed foreign market is another common reason for initiating international projects. This was certainly a major factor in the formation of both CFM International and International Aero Engines.

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will start or end in one country before it does in another. Occasionally, a cycle downturn may skip a country entirely. Therefore, local perceptions about the level of prosperity or recession will differ from region to region. These different perceptions will be reflected in positive or negative attitudes toward investment, and employment. The risks associated with a project will differ from country to country. Even notions about the proper timeframe for a project will be affected.

In times of relatively high unemployment, most nations will erect institutional barriers in order to slow or prevent projects that might negatively affect their balances of trade. These barriers may take the form of mandated delays, failure to approve investments, unwillingness to allow repatriation of earnings, "inability" to locate necessary scarce resources (human and/or capital), severe "foot-dragging" on the part of local officials to grant required "permissions," lack of needed capital equipment, and a great many other forms. Almost all of the above affected a large construction project in a Middle Eastern nation. The creativity of bureaucrats (and we do *not* use that term in a pejorative sense) can be boundless when attempting to impede a project they see as undesirable or untimely.

When questioned about the U.S. trade deficit with Japan, Robert Solow is reported to have responded that a deficit with any one nation was not important. He noted that he consistently ran a "trade deficit" with his barber—and presumably with his plumber and local grocer. While the Nobel laureate economist is undoubtedly correct about his barber et al., it should be noted that he runs large positive trade balances with his employer, MIT, and with his consulting clients. Further, while Professor Solow's barber and grocer are unlikely customers for his services, Japan is clearly a potential customer for many goods and services produced in the United States. We would not for a moment argue with the notion of "comparative advantage," but that economic concept assumes reasonable freedom for goods and services to cross national boundaries in both directions. That does not appear to be the case with the importation of foreign goods into Japan. Aho (1993) presents an interesting discussion of the American–Japanese trade conflict.

Most nations handle such problems in very much the same way that private firms do. They practice commercial reciprocity. It is illegal, in the United States, to restrain trade by specifying reciprocity, but a great many firms manage to buy some required inputs from those customers that are able to supply them. Project managers can earn valuable goodwill by purchasing goods and services from vendors in the host country, and by employing qualified nationals. Indeed, in some cases the hiring of nationals is a condition placed on the project by the host organization. Above all, PMs should be sensitive to economic problems in the host country and be willing to adapt, as far as possible, to local commercial customs.

Technological Environment

Though the state of a nation's technology is not really an "institutional" environment, it is appropriate to mention the issue at this juncture. The ability to complete a project with success is often dependent on the PM's ability to plan the project in such a way as to be compatible with the technology available in the host nation. This point is made in Graham and Minghe (1988) as well as in the following incident.

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Project Management in Practice

Project Management in Brazil during Unstable Times

The government of Rio de Janeiro, needing a permanent facility for their annual festival, embarked on a unique project. They decided to build a combined school and carnival stadium to house the crowds that come to see the annual Lent parades and festivities for four days every March, just before Lent. The stadium had to seat 70,000 Samba fans, with the whole facility accommodating 200,000 overall for rock concerts and similar events. The rest of the year the structure would operate as a school for 4000 students. Since the annual cost of facilities for the festival was $10 million a year and the project would only cost $15 million, it would pay for itself very quickly. The project had to be done by the following Lent, only four and a half months later.

The challenges of completing such a mammoth task in such a short time were severely exacerbated by the project environment of political uncertainty, rampant inflation, governmental bureaucracy, and local contractor politics. However, the extreme public pressure and strong desire by the project participants to complete the project on time led to a successful project completed not only on time but to high-quality standards and within budget. Moreover, the short time span actually contributed to success in some ways, as described in the problems below.

Political Uncertainty

The project began under a new governor of Brazil who wanted to show results in a short time. In general, new governments often make drastic changes in the economy—freezing assets, freezing prices, changing tax rates, changing the banking system, revaluing the currency (or even replacing it)—to correct the mistakes of previous administrations, set the economy straight, and fend off impending problems. Also, the priority of federal programs can often change abruptly because of domestic problems or dwindling funds. The result of such uncer-

Brazil shuts down for four days for the Carnival.

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Carnival parade in the new stadium in Rio de Janeiro.

tainty is often a "wait and see" attitude in the entire economy, depressing all transactions and projects.

Rampant Inflation

A particularly difficult aspect of economic uncertainty is in judging the "reasonableness" for what things should cost when the inflation spirals upward. Some system is needed to be able to check against price fixing by suppliers and contractors, as well as for simply knowing what items should cost. Thus, sophisticated indexing systems are used to help provide a cost index, but these are imperfect, particularly for individual items that may not have inflated at the same rate as most other goods. Another complication is knowing

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when a payment is coming. At the inflation rate of 25 percent per month during this period, even a week's delay in payment by the government can turn a profitable project into a major loss. Thus, another invoice is commonly sent for "escalation" between the time the first invoice was submitted and the time of payment by the customer. This invoice, of course, is also subject to inflation if payment is not forthcoming by the expected time!

Governmental Bureaucracy

Governmental laws on bidding for public projects are extensive and place a heavy bureaucratic burden on all personnel. In addition, bureaucratic delays and forms, licenses, and other such procedural matters can delay and drive up the costs of any project indefinitely. In the case of this project, special simplified bidding and purchasing procedures were established by special government concession, and bureaucratic barriers were circumvented by access to the highest state and local officials for expediting on a case-by-case basis.

Local Contractor Politics

Even local politics with the contractors added problems in that they refused to participate, stating that the project deadline was impossible. Thus, two out-of-state contractors were engaged to conduct the project, after which the local contractors reconsidered and thus obtained contracts for about 30 percent of the project work.

Source: P. C. Dinsmore and J. O. Brizola, "PM Under Rampant Inflation," *PM Network*, December 1993.

Operations research pioneer, Russell Ackoff, tells the story of being invited to India as a consultant to the government and being taken on a sight-seeing "inspection" tour in the nearby countryside. He observed several men dipping pails into a water-filled irrigation ditch on one side of the road and carrying the water across the road to a dry ditch on the other side. He then explained to his host, a government official, that if a pipe were installed under the road to connect the two sides, a simple gate could accomplish the water transfer. The gate could be operated by one person, thereby saving labor cost. The official listened politely and then asked, "And how will the men we replace support their families?"

The technology used by any nation is largely a function of the relative cost (supply) of the factors of production—always modified by relevant tradition, policy, and law.

In the next chapter, we will discuss "virtual" projects, which are transfunctional and/or geographically dispersed. Multicultural projects are "virtual" by definition. In recent years, communication problems have been greatly eased for virtual projects through email, the Internet, conference calls, and videoconferencing (Dodson, 1998). While overused email may be a curse for project managers, it is also a blessing when frequent communication with other organizations is required. Of course, these technologies do not relieve the PM from the demands of cultural sensitivity. Though it is not electronic, the technology of negotiation is critical for the PM with a multicultural project. Dodson writes:

> Project management is ultimately expectation management. Effective management of expectations requires negotiation skills that eclipse more quantitative, "metrical" skills. Projects are only as successful as the degree to which the project manager is an effective negotiator . . . .

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For at least three-quarters of the world's population, relationship comes above all else: above time, above budget, above specification. The savvy project manager knows this and knows that he or she will always be balancing, for instance, the needs of the Japanese for meeting deadlines against the Latin American tendency toward a more relaxed approach to dealing with others (Dodson, 1998).

We will have much more to say about negotiation in Chapter 6.

3.6 MULTICULTURAL COMMUNICATIONS AND MANAGERIAL BEHAVIOR

The importance of language cannot be overstated. Almost every writer on the subject of managing international projects, or of managing any business in another country, advises the manager to learn the language of the host nation. It is usually not necessary (though it is always helpful) for a project manager to be fluent in the language of the host nation. When precise communication is required, a skilled translator can be used. It is, however, usually pleasing to the citizens of the host nation when visiting PMs speak their language, even haltingly.

Language is a complex composite of words, signs, symbols, movements and positions of the body, pictures, sounds, equations, and objects—the things with which we communicate with one another. The ways in which we use the elements of communication, the ways in which we send and receive messages, are integral parts of the communication. The media are a part of the message, to paraphrase Marshall McLuhan's famous statement. Even the source and destination of the message may alter its meaning. Identical words may carry quite different meanings depending on the context within which the words are spoken or on who delivers the words to whom. (Consider the words, "I'll give you a ring" spoken by a young man to a young lady at the end of a date.)

Because the communication cannot be separated from the communicator, the managerial and personal behaviors of the project manager are discussed along with the more commonly mentioned aspects of the communication process.

Structure and Style of Communications

Some years ago the American steel industry supported a training program for young engineers educated in India. The program was one of several responses from the United States to the Soviet Union's gift of steel production plants and equipment to India. Based on the (accurate) assumption that American management and production methods in the steel business were significantly better than the USSR's, a project was developed to train the engineers on operations by having them work as first-line supervisors in steel mills in Cleveland and Pittsburgh. At the same time, they attended universities in those cities for academic training in relevant American business practices and techniques. Several problems arose.

All the engineers were reasonably fluent in written and spoken English, so they received training in the in-plant communications methods employed by American

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steel companies. It was several months later before an American academic (who had not been involved in planning the program) pointed out that only 17 percent of the workers in an Indian steel mill could read. This obviated much of the elaborate communication system the engineers were being trained to use, most of which depended heavily on written memoranda and instructions. It is appropriate to wonder why the Indian engineers did not make this fact known to those teaching the communications courses. The reason is, in Asiatic nations, teachers (and senior officials in general) are held in very high regard. It would be impolite, almost unthinkable, to question or correct them.

Cultural differences caused another problem. In the United States, it is common to train supervisors in the steel industry (and also in other industries) by giving them some "hands-on" experience in production methods. The young Indians felt that it was beneath them to pick up and use a shovel while working on the blast furnace floor. To convince the engineers to continue in this aspect of their training, without resentment, required an on-site demonstration by a very senior American executive.

These types of multicultural problems are ubiquitous on international projects. In the United States, delegation is a preferred managerial style. When authority is diffused, information moves to the manager from the delegatees. Workers report to supervisors who, in turn, report to middle and senior managers. In cultures where authority is highly centralized, it becomes the project manager's responsibility to seek out information (Smith and Haar, 1993). At several different points in this book, we have urged the PM never to let the boss be surprised. This is a fundamental tenet of our approach to project management. The manager of an international project *cannot count on being voluntarily informed* of problems and potential problems by his or her subordinates.

The Gogal and Ireland study (1988) and the small-sample survey of Graham and Minghe (1988) both examine project management as it currently exists in China. They did not examine multicultural projects, but studied projects conducted by Chinese managers and workers in China. They are, nonetheless, instructive. It is clear that management in China is authoritarian, and that the need to negotiate—largely with the state—is just as, if not more, important than it is in the projects of any other culture. The role of negotiation will not decrease for multicultural projects involving China. It will be extended.

Managerial and Personal Behavior

We have already noted the difference in the bottom-up flow of information in American projects and the top-down flow in countries where the management style is authoritarian. There are other cross-cultural differences that create problems for a project manager whose experience is restricted to the United States. In a fascinating paper, Grinbergs and Rubenstein (1993) compare the managerial characteristics of Swiss and American managers/engineers of the same general age, education, and salary levels, all of whom were working on software projects.

Several of these comparisons illustrate culturally based differences in managerial and interpersonal style. The study revealed that Swiss managers were "much more formal" with each other than Americans. This demonstrates the interaction of interper-

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sonal style and language. Many languages have both formal and informal modes of addressing other people (e.g., the formal German "*Sie*" and French "*vous*" compared to the informal "*du*" and "*tu*"). If an American in Germany uses "du" to a German counterpart, it will certainly be understood, but it may also carry overtones of rudeness.

Because we have emphasized planning so strongly throughout this book, we find the differences in the Swiss and American approaches to planning of special interest.

> The U.S. respondents did not consider thorough planning and a long-term strategy as absolute prerequisites for beginning a project . . . . Though promptness is highly valued in both countries, long-term strategy is considered much more important in the Swiss company. (Grinbergs and Rubenstein, 1993, p. 24)

In addition to these areas, the Swiss and Americans differed in a number of other ways of import to the PM. The Swiss showed a stronger work ethic, were more resistant to change, were more risk averse, more accepting of bureaucracy, and more focused on quality. The Americans were more collegial, more willing to experiment and innovate, had a shorter time horizon, and communicated more openly.

When conducting a project in an Asian nation, an American PM should exercise considerable care while criticizing the work of indigenous subordinates. Loss of face is a serious problem in Oriental cultures. In communist states such as China, the pseudoegalitarianism* may make criticism completely unacceptable (cf. Gogal and Ireland 1988 and elsewhere).

In a society with highly structured social classes, it is also difficult to practice participative management. There is, apparently, a built-in assumption that the more educated, higher-class manager's authority will be denigrated by using a participative style. (It is interesting to note that one does not have to leave the United States in order to see this culturally based trait in action. In many U.S. firms, management is quite authoritarian and the social gulf between manager and worker is as wide as in much more class-conscious nations.) The more structured a country's social system, the less direct managerial communication tends to be. In North America, it is common for senior managers to interact with first-line supervisors, and even with blue- and white-collar workers. Communication flows easily across functional lines. In most other areas of the world, the communication will be more indirect, and will tend to follow the lines of authority established on the organizational chart.

Dinsmore and Codas (1993) list five factors that they contend require special consideration by the PM heading a multicultural project. We have already noted some of these factors (e.g., the importance of language and culture, the need to deal with the politics and politicians in the host nation, the fact that the PM may have to use indigenous staff members, the possibility of input supply and technology problems, and the need to obey local laws and customs). In addition, they note two other matters that may cause serious problems for the PM. First, there are additional risk factors such as kidnapping, disease, and faulty medical care. Of course, in many countries, project workers will face less risk from crime than in the United States as well as easier

*We refer to this egalitarianism as "pseudo" because the actual management style is highly authoritarian. Recall George Orwell's *Animal Farm* in which it was noted that all animals were equal, *but some were more equal than others*.

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access to medical care. Second, Dinsmore and Codas (1993, p. 458) point out that the PM may have to provide for the physical and psychological needs of people who are transferred to the host nation and must live in a "strange land with different customs and way of life." They refer to this as the "expatriate way of life."

The PM is warned, however, not to go too far in accommodating to foreign cultures. "Going native" is not helpful. An Austrian economist of our acquaintance remarked, "American managers who come over here and wear lederhosen and funny hats are laughable. No one takes them seriously."

Final Comments on Multicultural Projects

The project manager is ill-advised to take on an international project without adequate preparation in the culture and language of the host nation. Lack of preparation is apt to cause cultural shock which results in frustration, usually followed by withdrawal. It is a no-win situation. If there are no resources inside the organization to prepare those moving into a different culture, outside consultants with appropriate knowledge and teaching skills are needed. (Note: a current employee of the firm who happens to be of the right nationality is not a suitable resource for the training.) Lessons in the foreign language are mandatory, even if the language training does not extend to technical language.* In most cases, the willingness to speak in the host nation's tongue on social occasions and for routine business—if not for technical discussions—will be appreciated by the hosts and earn goodwill from the indigenous members of the project team.

Finally, research has shown the importance of the psychosocial aspect of service on project teams. "In practical terms, this finding suggests that it is important for project team members to enjoy working with other team members, and to perceive the project as a valuable way to spend their time" (Pinto and Pinto, 1991, p. 17). This is doubly important for multicultural projects, particularly for expatriate team members. They are away from home and depend, for the most part, on their national cohorts to meet psychosocial needs. Given this cultural isolation, the project becomes a critical source of both psychological and social payoffs, and the PM, with a strong tendency to focus only on task outcomes, should make sure that these other needs are met.

Because all people invariably seem to view the values of other cultures in terms of their own, the process of understanding and working comfortably in another culture requires great effort. But it seems to us that most Americans underestimate their own abilities to manage international projects with skill and sensitivity. Americans seem to feel that being able to speak more than one language, as citizens of many other countries do, implies acceptance and sensitivity to another culture. It takes no more than a quick glance at the Balkans or the Middle East to know that the implication is untrue. If a PM from Toronto can manage a project in Quebec, if a PM from Boston can manage a project in Albuquerque, it is probable that an American Southern Baptist can function in Israel or a Tex-Mex from Corpus Christi can be effective in Berlin. Multicultural management does take effort, but it is do-able.

*It is interesting to note that English comes closest of any language to being the universal tongue for science, technology, and business. The underlying reason for this is probably the preeminence of American higher education in these fields. This generalization does not, however, apply to China—and possibly not to Paris.

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SUMMARY

This chapter addressed the subject of the PM. The PM's role in the organization and responsibilities to both the organization and the project team were discussed first. Common PM career paths were also described. Next, the unique demands typically placed on project managers were detailed and the task of selecting the PM was addressed. Last, the issue of culture and its effect on project communication and success was discussed.

The following specific points were made in the chapter.

Two factors crucial to the success of the project are its support by top management and the existence of a problem orientation, rather than discipline orientation, within the team members.

Compared to a functional manager, a PM is a generalist rather than a specialist, a synthesizer rather than an analyst, and a facilitator rather than a supervisor.

The PM has responsibilities to the parent organization, the project itself, and the project team. The unique demands on a PM concern seven areas:

- Acquiring adequate physical resources
- Acquiring and motivating personnel
- Dealing with obstacles
- Making goal trade-offs
- Maintaining a balanced outlook in the team
- Communicating with all parties
- Negotiating

The most common characteristics of effective project team members are:

- High-quality technical skills
- Political sensitivity
- Strong problem orientation
- High self-esteem

To handle the variety of project demands effectively, the PM must understand the basic goals of the project, have the support of top management, build and maintain a solid information network, and remain flexible about as many project aspects as possible.

The best person to select as PM is the one who will get the job done.

Valuable skills for the PM are technical and administrative credibility, political sensitivity, and an ability to get others to commit to the project, a skill otherwise known as leadership.

Some important points concerning the impact of culture on project management are:

- Cultural elements refer to the way of life for any group of people and include technology, institutions, language, and art.
- The project environment includes economic, political, legal, and sociotechnical aspects.
- Examples of problematic cultural issues include the group's perception of time and the manner of staffing projects.
- Language is a particularly critical aspect of culture for the project.

In the next chapter we move to the first task of the PM, organizing the project. We deal there not only with various organizational forms, such as functional, project, and matrix, but also with the organization of the project office. This task includes setting up the project team and managing the human element of the project.

GLOSSARY

Analytic Approach Breaking problems into their constituent parts to understand the parts better and thereby solve the problem.

Benefit-Cost A ratio to evaluate a proposed course of action.

Champion A person who spearheads an idea or action and "sells" it throughout the organization.

Contingency Plan An alternative for action if the expected result fails to materialize.

Culture The way of life of any group of people.

Discipline An area of expertise.

Environment Everything outside the system that delivers inputs or receives outputs from the system.

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Facilitator A person who helps people overcome problems, either with technical issues or with other people.

Functional One of the standard organization disciplines such as finance, marketing, accounting, or operations.

Microculture The "corporate culture" within the organization, or even project.

Systems Approach A wide-ranging, synthesizing method for addressing problems that considers multiple and interacting relationships. Commonly contrasted with the analytic approach.

Technological Having to do with the methods and techniques for doing something.

Trade-Off Allowing one aspect to get worse in return for another aspect getting better.

Tweed Coat Management The concept that highly educated people such as engineers require a special type of management.

QUESTIONS

Material Review Questions

1. How does the project act as a stepping-stone for the project manager's career?
2. Name the categories of skills that should be considered in the selection of a project manager.
3. Discuss the PM's responsibilities toward the project team members.
4. What are the major differences between functional managers and project managers?
5. What are some of the essential characteristics of effective project team members?
6. What is the most important characteristic of a project manager?
7. What project goals are most important during the project life cycle stages?
8. Why must project management team members have good technical skills?
9. Describe each of the four elements of culture.
10. Identify some important types of project environments.
11. Contrast culture, microculture, and multiculture.
12. In what ways is language crucial in project management?
13. Identify the five multicultural factors requiring special consideration.

Class Discussion Questions

14. Can you think of several ways to assure "breadth of communication" in a project? Do you think "socialization" off the job helps or hinders?
15. Contrast the prime law for projects, "Never surprise the boss," with the corporate adage "Bad news never travels up."
16. How does a project manager, in some cases, work like a politician?
17. What are some of the conflicts that are bound to occur between parties that have legitimate interests in the project?
18. Project managers must be generalists rather than specialists. Yet, team members need to have more specialized, technical skills. Can a generalist manage a team of specialists effectively?
19. Why do you think cost drops in importance as an objective right after the formation stage?
20. Why is it more difficult to keep the project on its time and cost schedules the later the project gets in its life cycle?
21. Suppose you have a talented scientist temporarily working for you on a client contract who is due to be transferred back to her regular job. Although you could do without her efforts at this point of the contract, you happen to know that she will be laid off for lack of work at her regular job and her personal financial situation is dire. You feel it is important that her talent be kept on the company payroll, although keeping her on the contract will increase expenses unnecessarily. Is the transfer decision a business decision or an ethical one? Why?

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If the decision were yours to make, what would you decide?

22. Contrast cultural differences with environmental differences. Isn't the culture part of the environment?

23. How is communication through art different than through language?

Questions for Project Management in Practice

The Project Management Career Path at AT&T

26. How difficult is it to change a culture where project management is perceived as of low status and something to get out of to one where project management is respected? How would you approach such a task?

27. What was the problem with the mentality of admiring heroic rescues of projects in trouble?

28. Compare the skills sought for project managers among BCS's Leadership Continuity Plan with those listed in the chapter.

The Wreckmaster at a New York Subway Accident

29. In what phase of the disaster plan does providing for alternate services probably occur? In what phase does bringing new equipment and supplies occur?

30. How much preplanning could be done for wrecks such as these in terms of disaster teams, command center locations, task sequencing, and so on?

24. What should a firm do when an accepted practice in a foreign country is illegal in its own country?

25. If employing people to use pails to move water helps the economy, why not use spoons instead and thus hire even more people? How should the official have been answered?

31. What experience credentials does NYCTA look for in appointing wreckmasters?

Success at Energo by Integrating Two Diverse Cultures

32. What was the key to solving this dilemma?

33. How did the two PMs implement their strategy?

34. What actions in Exhibit 1 might have been key to making this project a success?

Project Management in Brazil During Unstable Times

35. What key background factors led to making this project a success?

36. How does "escalation" work? Is escalation allowed in the escalation?

37. How were bureaucracy and local contractor politics avoided?

INCIDENTS FOR DISCUSSION

Smithson Company

Keith Smithson is the CEO of the Smithson Company, a privately owned, medium-size computer services company. The company is 20 years old and, until recently, had experienced rapid growth. Mr. Smithson believes that the company's recent problems are closely related to the depressed Asian economy.

Brianna Smatters was hired as the director of corporate planning at Smithson six months ago. After reviewing the performance and financial statements of Smithson for the last few years, Ms. Smatters has come to the conclusion that the economic conditions are not the real problem, but rather exacerbate the real problems. She believes that in this Internet era, Smithson Company's services are becoming obsolete but the department heads have not been able to cooperate effectively in reacting to information technology threats and opportunities. She believes that the strong functional organization impedes the kinds of action required to remedy the situation. Accordingly, she has recommended that Mr. Smithson create a new position, manager of special operations, to promote and use project management techniques. The new manager would handle several critical projects in the role of project manager.

Mr. Smithson is cool to the idea. He believes that his functional departments are managed by capable professional people. Why can't these high-level managers work together more efficiently? Perhaps a good approach would be for him to give the group some direction (what to do, when to do it, who should do it) and then put the functional manager most closely

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related to the problems in charge of the group. He assumes that the little push from him (Smithson) as just described would be enough to "get the project rolling."

Questions: After this explanation Ms. Smatters is more convinced than ever that a separate, nonfunctional project manager is required. Is she right? If you were Smatters, how would you sell Mr. Smithson on the idea? If a new position is created, what other changes should be made?

Newcastle Nursing and Rehabilitation Residence

The Newcastle Nursing and Rehabilitation Residence (NNRR) is a 135-bed skilled nursing home. NNRR is considering converting a 36-bed wing of their main building for use by patients who require ventilator-assisted breathing.

The rooms will be slightly smaller than optimum for ventilator patients, but just exceed the recommended minimum square footage. Enlarging the rooms is not an economic option. In the main, the conversion will require the addition of electrical wiring to power oxygen-concentrators that extract 95 percent pure oxygen from room air, portable ventilators that supply the oxygen under pressure to assist breathing, and small, motor-driven suction devices to remove excess mucus from a patient's airway. These rooms must also be connected to an emergency generator that automatically starts and supplies electrical current if the main electrical supply fails. Finally, pressure sensors must be connected from each ventilator unit to a sound device located in the hallway of the ventilator wing. These units sound a strident signal and cause a hallway light to flash if there is a sharp drop in the airway pressure of a ventilator patient. In addition to these power needs associated with ventilator patients, power outlets are also needed for several machines that dispense tube feedings of medicines and nutrition, and for IVs, radios, and similar entertainment devices. Each bed itself needs a power outlet as does the air mattress pump. Because all rooms are double occupancy, each room needs two full sets of the outlets.

The equipment noted above is normally plugged in at all times when the patient is in his or her room. Otherwise-well patients, however, are moved daily into a "day room" equipped with a large screen TV and chairs and tables. Most patients must be moved with their portable ventilators and concentrators or bottled oxygen. Patients who are well enough, eat their meals in the day room and socialize with each other and with visitors. (The socialization is a quiet process because a large majority of the patients breathe through a tube inserted in their trachea and are unable to speak aloud.)

The Senior Administrator, Steve Murphy, has decided to set up the conversion process as a project. Mr. Murphy is considering the choice of a project manager. He is trained in business, not hospital design. He feels a Registered Nurse or Licensed Practical Nurse might be an appropriate PM. He also feels that a Respiratory Therapist might be a good choice because RTs are responsible for using the major electrical equipment. Finally, he thinks that the installation and placing of all the outlets might be better handled by a representative of the electrical contractor who must carry out the major part of the room conversion.

Questions: Who should Mr. Murphy choose? Defend your choice.

International Microcircuits, Inc.

Megan Bedding, vice-president of sales for International Microcircuits, Inc. (IM), was delighted when IM was one of the few firms invited to enter a bid to supply a large industrial customer with their major product in a small foreign country. However, her top salesperson for that region had just called and informed her of certain "expectations" of doing business in the country:

1. Local materials representing at least 50 percent of the product's value must be purchased in reciprocity.
2. The local politicians will expect continual significant donations to their party.
3. Industrial customers normally receive a 40 percent "rebate" (kickback) when they purchase goods from suppliers such as IM. (IM's profit margin is only 20 percent.)

With this new information, Megan was unsure about changing or proceeding with the bid. If it was withdrawn, a lot of effort would be wasted as well as a chance to get a foothold in the international market. But if she proceeded, how could these expectations be met in a legal and ethical way?

Question: Devise a solution that addresses Megan's concerns.

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The following case involves a project manager who stumbles into a public project somewhat by accident. The project starts out as one thing and evolves into something else. Acquiring sufficient resources for the project is a major difficulty, and competition may be troublesome also. A consultant is hired who conducts two surveys to gather more information and makes recommendations based on the survey evidence and experience. The case illustrates the varied skills necessary to be a successful project manager and the myriad opportunities/difficulties some projects entail.

C A S E

THE NATIONAL JAZZ HALL OF FAME*

Cornelis A. de Kluyver, J. Giuliano, J. Milford, and B. Cauthen

Mr. Robert Rutland, founder of the National Jazz Hall of Fame, poured himself another drink as he listened to some old jazz recordings and thought about the decisions facing him. Established about one year ago, the National Jazz Hall of Fame (NJHF) had achieved moderate success locally but had not yet attracted national recognition. Mr. Rutland wondered how much support existed nationally, what services the NJHF should provide and for whom, and what the NJHF should charge for those services. He also thought about other jazz halls of fame and their implications for the NHJF. Although he had engaged an independent consultant to find some answers, the questions still lingered.

Jazz

The word "jazz," according to Dr. David Pharies, a linguistics scholar at the University of Florida, originally meant copulation, but later identified a certain type of music. Amid the march of funeral bands, jazz music began in New Orleans in the early 1900s by combining Black spirituals, African rhythms, and Cajun music; Dixieland jazz became the sound of New Orleans. Jazz traveled from New Orleans, a major trade center, on river boats and ships and reached St. Louis, Kansas City, Memphis, Chicago and New York. Musicians in these cities developed local styles of jazz, all of which remained highly improvisational, personal, and rhythmically complex. Over the years, different sounds emerged—swing, big band, be bop, fusion, and others—indicating the fluidity and diversity of jazz. Jazz artists developed their own styles and competed with one another for recognition of their musical ability and compositions. Such diversity denied jazz a simple definition, and opinions still differed sharply on what exactly jazz was. It was difficult, however, to dispute Louis Armstrong's statement that "if you have to ask what jazz is, you'll never know."

Origins of the National Jazz Hall of Fame

Mr. Rutland, a history professor at the University of Virginia, which is in Charlottesville, discovered that renovation plans for the city's historic district excluded the Paramount Theatre, a local landmark. The Paramount was constructed in the 1930s and used as a performance center and later as a movie theatre. It was closed in the 1970s and now was in danger of becoming dilapidated. Alarmed by the apparent lack of interest in saving the Paramount, Mr. Rutland began to look

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for opportunities to restore and eventually use the theatre. The most attractive option to him was to establish a jazz hall of fame that would use the theatre as a museum and performance center; this would capitalize on the theatre's name, because the Paramount Theatre in New York City was a prominent jazz hall during the 1930s and 1940s. Mr. Rutland mentioned his idea—saving the theatre by establishing a jazz hall of fame—to several friends in Charlottesville. They shared his enthusiasm, and together they incorporated the National Jazz Hall of Fame and formed the board of directors in early 1983. A few prominent jazz musicians, such as Benny Goodman and Chick Corea, joined the NJHF National Advisory Board. The purpose of the NJHF was to establish and maintain a museum, archives, and concert center in Charlottesville to sponsor jazz festivals, workshops, and scholarships, and to promote other activities remembering great jazz artists, serving jazz enthusiasts, and educating the public on the importance of jazz in American culture and history.

The First Year's Efforts

Immediately after incorporation, the directors began their search for funds to save the Paramount and to establish the NJHF, and soon encountered two difficulties. Philanthropic organizations refused to make grants because no one on the board of directors had experience in a project like the NJHF. In addition, government agencies such as the National Endowment for the Arts and the National Endowment for the Humanities considered only organizations in operation for at least two years. However, some small contributions came from jazz enthusiasts who had read stories about the NJHF in *Billboard*, a music industry magazine, and in the Charlottesville and Richmond newspapers.

By mid-1983, the board of directors discovered that to save the Paramount at least $600,000 would be needed, a sum too large for them to consider. They decided, however, that out of their love for jazz they would continue to work to establish the NJHF in Charlottesville.

Despite these setbacks, Mr. Rutland and the other directors believed that the first year's activities showed promise. The NJHF sponsored three concerts at local high schools. The concerts featured such jazz greats as Maxine Sullivan, Buddy Rich, and Jon Hendricks and Company, and each concert attracted more than 500 people. Although the NJHF lost some money on each concert, the directors thought that the concerts succeeded in publicizing and promoting the NJHF. In addition, a fundraiser at a Charlottesville country club brought $2,000 to the NJHF, and Mr. Rutland started the NJHF newsletter. The collection of objects for the museum was enlarged, and Louis Armstrong and Duke Ellington were posthumously inducted into the NJHF. At the end of the first year, enthusiasm among board members was still high, and they believed that the NJHF could survive indefinitely, albeit on a small scale.

But a Hall of Fame in Charlottesville . . .

Mr. Rutland believed that a hall of fame could succeed in Charlottesville, though other cities might at first seem more appropriate. More than 500,000 tourists annually were attracted to Charlottesville (1980 population: 40,000) to visit Thomas Jefferson's home at Monticello, James Monroe's home at Ash Lawn, and the Rotunda and the Lawn of the University of Virginia, where total enrollment was 16,000. Mr. Jefferson designed the Rotunda and the buildings on the Lawn and supervised their construction. The Virginia Office of Tourism promoted these national landmarks as well as the city's two convention centers. In addition, 13 million people lived within a three-hour drive of Charlottesville. If Charlottesville seemed illogical for a hall of fame, Mr. Rutland reasoned, so did Cooperstown, New York, home of the Baseball Hall of Fame and Canton, Ohio, location of the Professional Football Hall of Fame. He thought that successful jazz festivals in such different places as Newport, Rhode Island, and French Lick, Indiana, showed that location was relatively unimportant for jazz. Moreover, a Charlottesville radio station recently switched to a music format called "Memory Lane," which featured classics by Frank Sinatra, Patti Page, the Mills Brothers, the Glenn Miller Orchestra, and numerous others. The station played much jazz, and won the loyalty of many jazz enthusiasts in the Charlottesville area. The success of "Memory Lane" indicated to Mr. Rutland that the Charlottesville community could provide the NJHF with a base of interest and loyalty.

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Most important, Mr. Rutland believed that he and his friends possessed the commitment necessary to make a jazz hall of fame succeed.

. . . And Halls of Fame in Other Cities?

Although no national organization operated successfully, several local groups claimed to be *the* Jazz Hall of Fame, as Billboard magazine reported.

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Billboard 4/28/84

HALL OF FAME IN HARLEM
by Sam Sutherland and Peter Keepnews

CBS Records and the Harlem YMCA have joined forces to establish a Jazz Hall of Fame. The first induction ceremony will take place on May 14 at Avery Fisher Hall, combined with a concert featuring such artists as Ramsey Lewis, Hubert Laws, Ron Carter, and an all-star Latin Jazz ensemble. Proceeds from the concert will benefit the Harlem YMCA.

Who will the initial inductees be, and how will they be chosen? What's being described in the official literature as "a prestigious group of jazz editorialists, critics, producers, and respected connoisseurs" (and, also, incidentally, musicians—among those on the panel are Miles Davis, Dizzy Gillespie, Cab Calloway, Max Roach and the ubiquitous Dr. Billy Taylor) will do the actual selecting, but nominations are being solicited from the general public. Jazz lovers are invited to submit the names of six artists, three living and three dead, to: The Harlem YMCA Jazz Hall of Fame, New York, NY 10030. Deadline for nominations is May 1.

Billboard, 5/19/84

ONE, TWO, MANY HALLS OF FAME?
by Sam Sutherland and Peter Keepnews

Monday night marks the official launch of the Harlem YMCA Jazz Hall of Fame (Billboard, April 28), a project in which CBS Records is closely involved. The Hall's first inductees are being unveiled at an Avery Fisher Hall concert that also includes performances by, among others, Sarah Vaughan and Branford Marsalis.

The project is being touted as the first jazz hall of fame, a statement that discounts a number of similar projects in the past that never quite reached fruition. But first or not, the good people of CBS and the Harlem YMCA are apparently in for some competition.

According to a new publication known as JAMA, the Jazz Listeners/Musicians Newsletter, Dizzy Gillespie—who also is a member of the Harlem YMCA Jazz Hall of Fame committee—"promised in Kansas City, Mo. to ask musicians for help in establishing an International Jazz Hall of Fame" in that city. The newsletter quotes Gillespie, whom it describes as "honorary chairman of the proposed hall," as vowing to ask "those musicians who were inspired by jazz"—among them Stevie Wonder, Quincy Jones and Paul McCartney (?)—to contribute financially to the Kansas City project, which, as envisioned by the great trumpeter, would also include a jazz museum, classrooms and performance areas.

Is there room for two Jazz Halls of Fame? Do the people involved in the New York city project know about the Kansas City project, and vice versa? (Obviously Gillespie does, but does anyone else?) Remember the New York Jazz Museum? Remember the plaques in the sidewalk on 52nd Street (another CBS Records brainchild)?

The notion of commemorating the contributions of the great jazz musicians is a noble one. It would be a shame to see the energies of the jazz community get diverted into too many different endeavors for accomplishing the same admirable goal—which, unfortunately, is what has tended to happen in the past.

Billboard, 5/26/84

Also noted: the first inductees in the Harlem YMCA Jazz Hall of Fame (Billboard, May 19) have been announced. The posthumous inductees are, to nobody's great surprise, Louis Armstrong, Duke Ellington, Count Basie, Charlie Parker, and—a slight surprise, perhaps—Mary Lou Williams. The living honorees are Roy Eldridge, Dizzy Gillespie, Miles Davis, Ella Fitzgerald and Art Blakey.

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The New York Jazz museum (which the 5/19/84 article referred to) was established in the early 1970s but quickly ran out of money and was closed a few years later. In the early 1960s, a jazz museum was established in New Orleans and because of insufficient funds, all that remained was the Louis Armstrong Memorial Park, the site of an outdoor jazz festival each summer. Tulane and Rutgers universities each possessed extensive archives containing thousands of phonograph records, tape recordings, posters, books, magazines, journals, and other historic pieces and memorabilia. Neither university, however, considered its archives a hall of fame.

Other Halls of Fame

The more prominent halls of fame in the U.S. were the Baseball, the Professional Football, the College Football, and the Country Music Hall of Fame. These and many other halls of fame were primarily concerned with preserving history by collecting and displaying memorabilia, compiling records, and inducting new members annually.

Mr. Rutland visited most of the other halls of fame and learned that they were usually established by a significant contribution from an enthusiast. In the case of the Country Music Hall of Fame, some country music stars agreed to make a special recording of country hits and to donate the royalties to the organization.

Mr. Rutland was especially interested in The Country Music Hall of Fame because of similarities between country music and jazz. Country music, like jazz, had a rich cultural history in America, and neither type of music was the most popular in the U.S.

The Country Music Hall of Fame (CMHF) was established in 1967 in Nashville after a cooperative fundraising effort involving the city, artists, and sponsors. By 1976, the CMHF included a museum, an archives, a library, and a gift shop. More than one-half million people visited the CMHF in 1983, partly because of the nearby Grand Ole Opry, the premier concert hall for country music where the Grand Ole Opry cable radio broadcasts originated. Of the CMHF's $2.1 million annual budget, 85 percent came from admissions, 10 percent from sales at the gift shop and by mail, and 5 percent from donations. In the past two years, the CMHF had formed the Friends of Country Music, now more than 2,000 people who donated $25 each per year and who received a country music newsletter every three months and discounts on CMHF merchandise.

The National Association of Jazz Educators

Mr. Rutland was uncertain how much and what type of support he could get from the National Association of Jazz Educators. This organization, with 5,000 members, primarily coordinated and promoted jazz education programs.

Performance programs were normally offered through music departments. Most high schools and colleges had bands that played a variety of jazz arrangements as part of their repertoire. Band conductors usually had a music degree from a major university and belonged to the National Association of Jazz Educators.

Most of the jazz appreciation courses offered in schools throughout the U.S. treated jazz as a popular art form, as a barometer of society, rather than as a subject of interest in itself. Some educators believed that jazz greats such as Louis Armstrong and Duke Ellington should be honored not as jazz musicians, but as composers like George Gershwin and Richard Rogers. Indeed, a prominent jazz historian told Mr. Rutland that jazz might benefit more from breaking down this distinction between jazz artists and composers than from reinforcing it.

The National Survey

To get some of the answers to his many questions, Mr. Rutland engaged an independent consultant who conducted two surveys; the first was a national survey and the second a tourist survey. For the national survey (Appendix A), the consultant designed a questionnaire to gauge the respondent's level of interest in both jazz and the concept of a National Jazz Hall of Fame, and to determine the respondent's demographics. A sample size of 1,300 was used and the mailing covered the entire continental United States. The mailing list, obtained from the Smithsonian Institution in Washington, DC, contained

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Exhibit 1. Survey Results: Demographics of Respondents

Demographics	*Percentage of Respondents*	*Percentage of All Record Buyers**	*Census Data***
Age—35+	79	37	43
Sex—Male	73	82	49
Education—Grad.+	54	24****	31
Job—Professional	57	26	22
Income—$50,000+	50	23	7
Non-profit Contr. $200/year+	75		

**Source*: Consumer Purchasing of Records and Pre-recorded Tapes in the U.S., 1970–1983, Recording Industry Association of America.

***Source*: U.S. Department of Commerce, Bureau of the Census, 1982.

****Source*: Simmons Market Research Bureau, 1982.

names and addresses of people who had purchased the "Classic Jazz Record Collection," as advertised in *Smithsonian* magazine. Of the 1,300 questionnaires, 440 were sent to Virginia residents and 860 to residents of other states in order to provide both statewide and national data. Of the questionnaires that went to other states, the majority was targeted toward major cities and apportioned according to the interest level for jazz in each city as indicated by the circulation statistics of *Downbeat*, a jazz magazine. Of the 860 questionnaires sent to the other states, 88 were sent to residents of Chicago, 88 to Detroit, 83 to New York City, 60 to San Francisco, 56 to Philadelphia, 56 to Washington, DC, 52 to Los Angeles, 46 to Charlotte, 46 to Miami, 45 to Dallas, 42 to Atlanta, 42 to Houston, 30 to Denver, 28 to Kansas City, 28 to New Orleans, 28 to St. Louis, 27 to Boston, and 15 to Seattle. Of the 1,300 questionnaires, 165, or 12.7 percent, were returned.

As shown in Exhibit 1, 79 percent of the respondents were 35 years of age or older, 73 percent were male, and the majority were well-educated, professionals, and had an annual income of more than $50,000. Of interest also was that 75 percent of the respondents contributed $200 or more per year to different non-profit organizations. Since the sample included a large number of record buyers of age 50 or older, the consultant weighted the survey results with age data obtained from the Recording Industry Association of America to make the survey results representative of all jazz-record buyers.

The survey also showed in Exhibit 2 that swing was the most popular form of jazz, followed by Dixieland, and then more traditional forms of jazz, from

Exhibit 2. Survey Results: Preferences for Different Styles of Jazz

Type of Interest	*Percentage of Respondents Answering with a 4 or 5 Rating*	*Weighted Percentage of Respondents Answering with a 4 or 5 Rating*
General Interest in Music	62	71
Dixieland	62	70
Swing	87	81
Traditional	63	66
Improvisational	41	48
Jazz Rock	25	47
Fusion	15	9
Pop Jazz	27	53
Classical	68	73

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Exhibit 3. Survey Results: Preferences for Services Offered

Service	*Percentage of Respondents Answering with a 4 or 5 Rating*	*Weighted Percentage of Respondents Answering with a 4 or 5 Rating*
Performance Center	70	83
Concert Hall	66	79
Artist Seminars	50	62
Nightclub	52	57
Museum	57	57
Tourist Center	42	48
Audio-Visual Exhibitions	57	55
Shrine	55	52
Educational Programs	48	51
Record Information	71	69
History Seminars	38	54
Member Workshops	25	34
Lounge	37	45
Financial Support:		
at $10.00/year	17	13
at $20.00/year	30	26
at $30.00/year		
Number of Contributors	62	64

which the consultant concluded that a nostalgic emphasis should gather support from jazz enthusiasts of all ages, and that later, the National Jazz Hall of Fame could promote more contemporary forms of jazz.

As for services, the survey suggested in Exhibit 3 that respondents most wanted a performance center or concert hall. A museum and seminars were also popular choices. The consultant was surprised by the strong interest in information about jazz recordings because the average respondent did not buy many records. A newsletter was rated relatively unimportant by most respondents. Most gratifying for Mr. Rutland was that respondents on average were willing to contribute between $20.00 and $30.00 per year to the National Jazz Hall of Fame, with a weighted average contribution of $23.40.

The Tourist Survey

In addition to conducting the National Survey, the consultant developed a questionnaire (Appendix B) and interviewed approximately 100 tourists to the Charlottesville area at the Western Virginia Visitors Center near Monticello. About 140,000 tourists stopped at the center annually to collect information on attractions nearby and throughout the state. The respondents came from all areas of the country, and most were traveling for more than one day. Almost 70 percent said they like jazz, mostly Dixieland and big band, and more than 60 percent indicated they would visit a Jazz Hall of Fame. The average admission they suggested was $3.50 per person.

The Consultant's Recommendations

The consultant limited his recommendations to the results of the two surveys. As a result, the question of whether the efforts in other cities to establish a National Jazz Hall of Fame would make the Charlottesville project infeasible was still unresolved. In a private discussion, however, the consultant intimated that "if the other efforts are as clumsily undertaken as many of the previous attempts, you will have

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nothing to worry about." He thought it was time that a professional approach was taken toward this project. Specifically, he made three recommendations:

1. Launch a direct mail campaign to the 100,000 people on the Smithsonian jazz mailing list. The focus of the mailing should be an appeal by a jazz great such as Benny Goodman to become a Founding Sponsor of the National Jazz Hall of Fame. He estimated that the cost of the campaign would range between $25,000 and $30,000; however, with an average contribution of $25.00 per respondent, a response rate of only 2 percent would allow the National Jazz Hall of Fame to break even.
2. Appoint a full-time executive director with any funds exceeding the cost of the mailing. The principal responsibilities of the executive director would be to organize and coordinate fundraising activities, to establish a performance center and museum, and to coordinate the collection of memorabilia and other artifacts.
3. Promote the National Jazz Hall of Fame at strategic locations around Charlottesville to attract tourists and other visitors. The Western Virginia Visitors Center was a prime prospect in his view for this activity. He calculated that 50,000 tourists annually at $3.00 each would provide sufficient funds to operate and maintain the National Jazz Hall of Fame.

The consultant also identified what he considered the critical elements for his plan's success. First, the National Jazz Hall of Fame should be professional in all of its services and communications to jazz enthusiasts. Second, the executive director should have prior experience in both fundraising and direct mail; he should have a commitment to and love for jazz, as well as administrative skill and creativity. Third, the National Jazz Hall of Fame should communicate frequently with Founding Sponsors to keep their interest and excitement alive. Finally, to ensure the enthusiastic cooperation of city officials, local merchants and the Charlottesville community, he thought that more local prominence for the National Jazz Hall of Fame would prove indispensable.

The National Jazz Hall of Fame—Dream of Reality

As he paged through the consultant's report, Mr. Rutland wondered what to make of the recommendations. While he was encouraged by a national base of support for his idea, he was unsure how the Board of Directors would react to the consultant's proposals. With less than $2,500 in the bank, how would they get the necessary funds to implement the plan? Yet he knew he had to make some tough decisions, and quickly, if he wanted to make his dream a reality.

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Appendix A

NATIONAL JAZZ HALL OF FAME SURVEY

1. How would you classify your interest in jazz? (Please circle)

Not interested		Moderate interest		Very enthusiastic	
1	2	3	4	5	1._____

2. Rate your interest in the following categories of jazz. (Circle your answer)

	No Interest		Some Interest		Very Interested	
Dixieland/New Orleans (K. Oliver, P. Fountain)	1	2	3	4	5	2._____
Big Band/Swing (B. Goodman, G. Miller)	1	2	3	4	5	3._____
Traditional (A. Tatum, E. Garner)	1	2	3	4	5	4._____
Improvisational (C. Parker, D. Gillespie)	1	2	3	4	5	5._____
Jazz/Rock (M. Ferguson, P. Metheny)	1	2	3	4	5	6._____
Fusion (M. Davis, S. Clarke)	1	2	3	4	5	7._____
Pop Jazz (B. James, G. Benson)	1	2	3	4	5	8._____

3. Besides Jazz, what other types of music do you usually like to listen to? (Circle your answer)

	Never				Often	
Popular/Top 40	1	2	3	4	5	9._____
Classical	1	2	3	4	5	10._____
Easy Listening	1	2	3	4	5	11._____
Rock and Roll	1	2	3	4	5	12._____
Country	1	2	3	4	5	13._____
Soul/Disco	1	2	3	4	5	14._____
Nostalgia	1	2	3	4	5	15._____

4. How many jazz albums have you bought in the last 3 months? ___ 16._____
   In the past year? ___ 17._____

5. Do you play a musical instrument? 18._____
   Yes ___ How many? ___ Hours per week ___ No ___ 19._____
   20._____
   Do you sing? Yes ___ Hours per week ___ No ___ 21._____
   22._____
   23._____
   Do you compose music? Yes ___ Hours per week ___ No ___ 24._____

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6. Are there any jazz nightclubs/concert halls in your area? Yes ___ No ___ 25._____

   If yes, how many times have you been there in the last 3 months?

   0–1 ___ 2–4 ___ 5–9 ___ 10 or more ___ 26._____

7. How many hours per week do you listen to the radio?

   0–5 ___ 5–10 ___ 10–15 ___ 15–20 ___ More than 20 ___ 27._____

   What format(s) do you listen to most often?

   Popular/Top 40 ___ Rock and Roll ___
   Classical ___ Jazz ___
   Easy Listening ___ Country ___
   Soul/Disco ___ Nostalgia ___
   Talk Show ___ All News ___

8. Have you ever visited a Hall of Fame? Yes ___ No ___ 28._____

9. The following section is an attempt to determine the services you would expect from a National Jazz Hall of Fame. Please circle the level of your interest in each of the following services.

	Low				high	
Performance center	1	2	3	4	5	29._____
Concert Hall	1	2	3	4	5	30._____
Seminars by jazz artists	1	2	3	4	5	31._____
Seminars by jazz historians	1	2	3	4	5	32._____
Student workshops	1	2	3	4	5	33._____
Member workshops	1	2	3	4	5	34._____
Jazz nightclub	1	2	3	4	5	35._____
Museum with memorabilia	1	2	3	4	5	36._____
Tourist center	1	2	3	4	5	37._____
Audio/Visual exhibits	1	2	3	4	5	38._____
Recording studio	1	2	3	4	5	39._____
Music chart library	1	2	3	4	5	40._____
Shrine for jazz greats	1	2	3	4	5	41._____
Souvenir shop with mail order	1	2	3	4	5	42._____
Jazz lounge	1	2	3	4	5	43._____
School education programs	1	2	3	4	5	44._____
Newsletter	1	2	3	4	5	45._____
Jazz journal/magazine	1	2	3	4	5	46._____
Concert update	1	2	3	4	5	47._____
Record information	1	2	3	4	5	48._____
Musician referral center	1	2	3	4	5	49._____
Toll free jazz “hot line”	1	2	3	4	5	50._____
Other (Describe below)	1	2	3	4	5	51._____

10. We would now like to ask you how much you would be willing to pay for the services you feel are essential. Please check the box below for the annual contribution you would be willing to pay for the items you circled “4” or “5” above.

    $10 ___ $20 ___ $30 ___ $40 ___ $50 ___ $100 ___ 52._____

    Please check here if you would NOT be willing to financially contribute to a National Jazz Hall of Fame. _____

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11. Would you consider donating any of your jazz albums or memorabilia to the National Jazz Hall of Fame?
    Yes ___ No ___ Do not own any ___ 53._____

12. Please circle the number indicating how often you read each of the following magazines:

	Never				Often	
Time	1	2	3	4	5	54._____
Barron's	1	2	3	4	5	55._____
Esquire	1	2	3	4	5	56._____
Harper's Bazaar	1	2	3	4	5	57._____
Jet	1	2	3	4	5	58._____
Inside Sports	1	2	3	4	5	59._____
Money	1	2	3	4	5	60._____
Omni	1	2	3	4	5	61._____
New Republic	1	2	3	4	5	62._____
Psychology Today	1	2	3	4	5	63._____
Playboy	1	2	3	4	5	64._____
Down Beat	1	2	3	4	5	65._____
Rolling Stone	1	2	3	4	5	66._____
Musician	1	2	3	4	5	67._____
The New Yorker	1	2	3	4	5	68._____
The National Enquirer	1	2	3	4	5	69._____

13. How many movies have you been to in the last 3 months?
    0–1 ___ 2–4 ___ 5–9 ___ 10 or more ___ 70._____

14. How many books have you read during the past year?
    0–2 ___ 3–6 ___ 7–10 ___ More than 10 ___ 71._____
    What types of books do you like to read? (Answer below)

15. What other hobbies/activities do you regularly engage in?

16. Do you belong to any clubs or community organizations? If so, please list them in the space below.

17. Our group is considering locating the National Jazz Hall of Fame in Charlottesville, Virginia. Some other attractions in the area are the home of Thomas Jefferson, Monticello, the University of Virginia and the Blue Ridge Mountains. Would you plan a vacation to include a visit to Charlottesville and the Hall of Fame?
    Yes ___ No ___ 72._____

18. What do you think about the idea of locating the Hall of Fame in Charlottesville?

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19. If the Hall of Fame was located in Charlottesville, and if it offered the services you felt were essential (Question 9), would you support it?
    Yes ___ No ___ 73._____

****

The following questions will enable us to better compare you to the nation at large. Your responses will help us very much, and will be kept STRICTLY CONFIDENTIAL.

20. In what city and state do you live? _____ 74–75._____

21. What is your age? 76._____
    Less than 20 ___ 20 to 24 ___
    25 to 29 ___ 30 to 34 ___
    35 to 39 ___ 40 to 49 ___
    50 and older ___

22. What is your sex? Male ___ Female ___ 77._____

23. What is your race? Caucasian ___ Black ___ Hispanic ___ Other ___ 78._____

24. What is your marital status? Married ___ Single ___ 79._____

25. How many people are in your household? ___ 80._____

26. What is your highest level of education? ___ 81._____
    Have not received high school diploma ___
    High school graduate ___
    Some post-high school education ___
    Associate's Degree ___
    College graduate ___ What Degree? ___
    University work beyond Bachelor's degree ___ What Degree? ___

27. What type of job do you have? 82._____
    Student ___ Sales/Clerical ___
    Semi/Unskilled Labor ___ Professional ___
    Skilled Labor ___ Managerial ___
    Technical ___ Retired ___

28. What is your total household income? 83._____
    Under $5,000 ___ $5,000 to $15,000 ___
    $15,000 to $25,000 ___ $25,000 to $35,000 ___
    $35,000 to $50,000 ___ $50,000 and above ___

29. How much do you contribute to non-profit organizations annually? 84._____
    Under $25 ___ $25 to $50 ___
    $51 to $75 ___ $76 to $100 ___
    $101 to $200 ___ $200 and above ___

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30. We would appreciate any other comments or suggestions.

31. Please write your name and address below if you wish to be added to our mailing list:

THANK YOU VERY MUCH!

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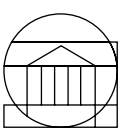

JAZZ HALL OF FAME
EXECUTIVE PROGRAMS
The Colgate Darden Graduate Business School Sponsors
University of Virginia
P. O. Box 6550
Charlottesville, Virginia 22906-6550

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Appendix B

Hello, My name is _____. I am a Graduate Student at the University of Virginia and am conducting a survey. Could I ask you a few questions?

We are conducting a survey for a group here in Charlottesville who is considering the establishment of a National Jazz Hall of Fame. We would like to get some information from you about your visit to Charlottesville and the tourist sites you plan to visit.

1. Where are you from? _____
   How far is that from Charlottesville?
   0–50 ___ 50–150 ___ 150–300 ___ 300+ ___
2. Have you visited Charlottesville before? yes ___ no ___
3. How long do you plan to stay here?
   One hour ___ 1/2 day ___ overnight ___ more ___
4. Are you stopping here on your way to another destination? yes ___ no ___
5. What places do you plan to visit in Charlottesville?
   Monticello ___ Ash Lawn ___ Michie Tavern ___
   U. Va. ___ Downtown ___ Castle Hill ___
   Mountains ___ Other ___
   Now, I'd like to ask you some questions about the music you like to listen to.
6. What is your favorite type of music?
   Popular/Top 40 ___ Classical ___ Easy Listening ___
   Rock and Roll ___ Country ___ Soul/Disco ___
   Nostalgia ___ Jazz ___ Other ___
7. Do you have an interest in Jazz music? yes ___ no ___
8. If yes, how often do you listen to Jazz?
   Seldom Always
   1 2 3 4 5
9. If yes, what is your favorite type of Jazz?
   Dixieland ___ Big Band ___ Traditional ___
   Improvisational ___ Jazz/Rock ___ Fusion ___ Pop/Jazz ___
10. Have you ever visited a Hall of Fame? yes ___ no ___
11. The people who are considering opening a National Jazz Hall of Fame in Charlottesville plan a building which would house a collection of memorobilia, audio/visual displays, a gift shop which would sell magazines, books and records, and perhaps a performing arts center. Would you be interested in visiting such an attraction?: yes ___ no ___
12. If YES, we are trying to determine what effect the location of the Hall of Fame would have on your decision to visit it. Would you visit the Hall of Fame if it was located
    more than 10 minutes from the Visitors Center? yes ___ no ___
    5 to 10 minutes away from the Visitors Center? yes ___ no ___
    less than 5 minutes away from the Center? yes ___ no ___
13. Finally, how much do you think you would be willing to pay (per person) to visit a National Jazz Hall of Fame as described above?
    1 2 3 4 5 6 7 8 9 10

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QUESTIONS

1. What is the project Mr. Rutland is trying to manage? Has it stayed the same?
2. Identify the various stakeholders in the project, including the competition.
3. Of the skills mentioned in the chapter that a project manager needs, which are most important here? Why?
4. What credibility does Mr. Rutland have? Is he a leader?
5. What cultures are relevant to this project? Describe the project environment.
6. What should Mr. Rutland do? Include the following issues:
   - Budget: acquiring adequate resources
     - -philanthropic organizations
     - -governmental agencies
     - -donations
     - -memberships
     - -visitors
   - Budget: expenditures (consider Paramount theater)
   - Performance: services/activities to offer
   - Competition
   - Schedule: deadlines, windows, milestones

The following reading integrates two views about the requirements for good project managers. One view concerns the personal and managerial characteristics of PMs and their ability to lead a team, regardless of the project. The other view considers the critical problems in the project in question and the PM's talents relative to these problems. A survey is first described and then the critical problems that projects face are identified from the survey responses. Next, the skills required of project managers, as indicated by the survey respondents, are detailed. Last, the skills are related back to the critical project problems for an integrated view of the requirements for a successful project manager.

DIRECTED READING

WHAT IT TAKES TO BE A GOOD PROJECT MANAGER

B. Z. Posner

Selecting a good project manager is not a simple task. Being an effective project manager is an ongoing challenge. The complex nature and multifaceted range of activities involved in managing projects precludes easily identifying managerial talent and continually stretches the capabilities of talented project managers. Two seemingly contradictory viewpoints have been advanced about what is required to be a good project manager.

One perspective prescribes a set of *personal characteristics* necessary to manage a project [1]. Such personal attributes include aggressiveness, confidence, poise, decisiveness, resolution, entrepreneurship, toughness, integrity, versatility, multidisciplinarity, and quick thinking.

However, Daniel Roman [2] maintains that it would take an extraordinary individual to have all of these critical personal characteristics. A more practical solution, he suggests, would be to determine the *critical problems* faced by project managers and to select a person who can handle such difficulties. The shortcoming with this second perspective, argue those like Michael Badaway [3], is that the primary problems of

"What It Takes to Be A Good Project Manager." *Project Management Journal,* March 1987. (c)1987 by the Project Management Institute. Reprinted by permission.

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project managers are really not technical ones. The reason managers fail at managing projects, he contends, is because they lack critical organization and management skills.

Scholars like Roman and Badaway—as well as practitioners—may actually be raising different issues. On the one hand, good project managers understand the critical problems which face them and are prepared to deal with them. On the other hand, managing projects well requires a set of particular attributes and skills. But, are these two viewpoints really at odds with one another? In this study they were discovered to be two sides of the *same* coin!

Study of Project Manager Problems and Skills

Questionnaires were completed by project managers during a nationwide series of project management seminars. Project managers attending these seminars came from a variety of technology-oriented organizations. Responses to the survey instrument were both voluntary and confidential.

Information about the respondents and the nature of their projects was collected. The typical project manager was a 37-year-old male, had nine people reporting to him, and was responsible for a small to moderate size project within a matrix organization structure. More specifically, there were 189 men and 98 women in the sample (N = 287) and their ages ranged from 22 to 60 years of age (X = 37.4, S.D. = 8.3). Fifty-six percent indicated that they were the formal manager of the project. The size of their immediate project group ranged from 2 to over 100 people (median = 8.9). Fifty-nine percent reported that they worked primarily on small projects (involving few people or functions, with a short time horizon) as compared to large projects (involving many people or functions, with a long time horizon). More than 63 percent indicated they were working within a matrix organization structure. No information was collected about the specific nature (e.g., new product development, R & D, MIS) of their projects.

Two open-ended questions were asked (their order was randomized). The first asked about the skills necessary to be a successful project manager. The second question investigated the most likely problems encountered in managing projects. Responses to these questions were content analyzed. Content analysis is a systematic approach to data analysis, resulting in both qualitative assessments and quantitative information. Each respondent comment was first coded and then recoded several times as patterns of responses became apparent. The two questions were:

1. What factors or variables are *most* likely to cause you problems in managing a project?
2. What *personal* characteristics, traits, or skills make for "above average" project managers? What specific behaviors, techniques, or strategies do "above average" project managers use (or use better than their peers)?

Problems in Managing Projects. There were nearly 900 statements about what factors or variables created "problems" in managing a project. Most of these statements could be clustered into eight categories as shown in Table 1. Inadequate resources was the issue most frequently mentioned as causing problems in managing a project. "No matter what the type or scope of your project," wrote one engineering manager, "if insufficient resources are allocated to the project, you have to be a magician to be successful." Not having the necessary budget or personnel for the project was a frequent complaint. However, the specific resource of time—and generally the lack thereof—was mentioned just about as often as the general inadequate resource lament. Typically, the problem of time was expressed as "having to meet unrealistic deadlines."

That resources are inadequate is caused by many factors, not the least of which being that resources are generally limited and costly. Before this hue is dismissed by veteran project managers as just so much bellyaching—"after all, there are never enough resources to go around"—it is important to examine the cause(s) of this problem. Respondents pointed out that resource allocation problems were usually created by

Table 1. Project Management Problems

1. Resources inadequate (69)
2. Meeting ("unrealistic") deadlines (67)
3. Unclear goals/direction (63)
4. Team members uncommitted (59)
5. Insufficient planning (56)
6. Breakdown of communications (54)
7. Changes in goals and resources (42)
8. Conflicts between departments or functions (35)

Note: Numbers in parentheses represent percentage of project managers whose response was included in this cluster.

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senior management's failure to be clear about project objectives, which in turn, resulted in poor planning efforts. These two problems—lack of clear goals and effective planning—were specifically mentioned by more than 60 percent of the respondents. It is painfully obvious that vague goals and insufficient planning lead to mistakes in allocating the resources needed by project managers.

The three most significant problems reported by first-line research, development, and engineering supervisors in Lauren Hitchcock's [4] study parallels those identified by project managers. He found "insufficient definition of policy from top downward, how to define the goal of a problem, and budgeting and manpower assignments" to be the major problems confronting supervisors. It remains true that senior management needs to articulate clearly where the project should be going, why, and what it expects from project personnel.

When project goals are not clear, it is difficult (if not impossible) to plan the project efficiently. The lack of planning contributes directly to unrealistic resource allocations and schedules. People assigned to the project are unlikely, therefore, to commit energetically to the endeavor. The lack of commitment (and poor motivation) among project personnel was reported as emerging more from the problems already mentioned than from issues associated with the project's technology or organizational structure (e.g., matrix form).

The communication breakdowns (problems which occur during the life of a project) were often referred to as "inevitable." These breakdowns occur as a result of the ambiguity surrounding the project, but also result from difficulties in coordinating and integrating diverse perspectives and personalities. The project manager's challenge is to handle communication breakdowns as they arise rather than being able to predict (and control) communication problems before they happen.

How the problems confronting project managers were interrelated is exemplified by how frequently problems of communication and dealing with conflicts were linked by respondents. The linkage between these two issues was demonstrated in statements like: "My problem is being able to effectively communicate with people when we disagree over priorities." "Conflicts between departments end up as major communication hassles." Conflicts between departments were also linked to earlier problems of poor goal-setting and planning.

Managing changes (e.g., in goals, specifications, resources) contributed substantially to project management headaches. This was often mentioned as "Murphy's Law," highlighting the context or environment in which project management occurs. Planning cannot accurately account for future possibilities (or better yet, unknowns). Interestingly, less than one in ten project managers mentioned directly a "technological" factor or variable as significantly causing them problems in managing a project.

Project Manager Skills

The second issue investigated was what project manager skills—traits, characteristics, attributes, behaviors, techniques—make a difference in successfully managing projects. Most respondents easily generated four to five items which they believed made the difference between average and superior project performance. The result was nearly 1400 statements. These statements were summarized into six skill areas as shown in Table 2. Several factors within each are highlighted.

Eighty-four percent of the respondents mentioned "being a good communicator" as an essential project manager skill. Being persuasive or being able to sell one's ideas was frequently mentioned as a characteristic of a good communicator within the project management context. Many people also cited the importance of receiving information, or good listening skills. As one systems engineer exclaimed: "The good project managers manage not by the seat of their pants but by the soles of their feet!"

Table 2. Project Management Skills

1. Communication Skills (84)
   - Listening
   - Persuading
2. Organizational Skills (75)
   - Planning
   - Goal-setting
   - Analyzing
3. Team Building Skills (72)
   - Empathy
   - Motivation
   - Esprit de corps
4. Leadership Skills (68)
   - Sets an example
   - Energetic
   - Vision (big picture)
   - Delegates
   - Positive
5. Coping Skills (59)
   - Flexibility
   - Creativity
   - Patience
   - Persistence
6. Technological Skills (46)
   - Experience
   - Project knowledge

Note: Numbers in parentheses represent percentage of project managers whose response was included in this cluster.

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Organizational skills represented a second major set of competencies. Characteristics included in this category were planning and goal-setting abilities, along with the ability to be analytical. The ability to prioritize, captured in the phrases "stays on track" and "keeps the project goals in perspective," was also identified as significant.

While successful project managers were viewed as good problem solvers, what really differentiated them from their so-so counterparts was their problem *finding* ability. Because of their exceptional communication skills, goal clarity and planning, effective project managers were aware of issues *before* they became problems. Problem finding gave them greater degrees of freedom, enabling them to avoid being seriously sidetracked by problems caused by unforeseen events.

The important team building skills involved developing empathetic relationships with other members of the project team. Being sensitive to the needs of others, motivating people, and building a strong sense of team spirit were identified as essential for effectively managing a project. "The best project managers use a lot of 'we' statements in describing the project," wrote one computer programmer. Being clear about the project's objectives and subsequently breaking down the project into its component parts (e.g., schedules) helped project participants to understand their interdependencies and the need for teamwork.

Several different attributes and behaviors were catalogued under leadership skills. These included setting a good example, seeing the big picture, being enthusiastic, having a positive outlook, taking initiative, and trusting people. Having a vision is closely related to goal clarity (which was included as an organizational skill). The leadership component of this competency was best expressed by one financial analyst as "the ability to see the forest through the trees." Since, as is often lamented, the only constant in managing a project is change, successful project managers require coping or stress-management skills. Respondents indicated that both flexibility and creativity were involved in effectively dealing (or coping) with change, as were patience and persistence. What project managers experience are generally high levels of stress. How well they handle stress ("grace under pressure") significantly affects their eventual success or failure.

The final cluster of skills was labeled technological. Successful project managers were seen as having relevant experience or knowledge about the technology required by the project. Seldom, however, were effective project managers seen as technological "experts." Indeed, expertise was often felt to be detrimental because it decreased flexibility and the willingness to consider alternative perspectives. Project managers do need to be sufficiently well versed in the technology to be able to ask the right questions because, as one senior military officer pointed out, "you've got to be able to know when people are blowing smoke at you."

Skills and Problems: Fundamentally Interconnected

It has been argued in the literature that project managers require certain skills in order to be effective. It has also been argued that project managers need to be able to handle certain problems in order to be effective. The results of this study suggest that these two perspectives are not contradictory but are fundamentally compatible. When the set of required skills is considered side-by-side with the set of critical problems project managers face, the complementary nature of these two perspectives is evident. This is illustrated in Table 3.

Without arguing which comes first, it is clear that either (a) project managers require certain skills in order to deal effectively with the factors most likely to create problems for them in managing the project, or (b) because certain problems are most likely to confront project managers, they require particular skills in order to handle them.

While this one-on-one matching in Table 3 obviously oversimplifies the dynamic nature of project management, it does have an inherent logical appeal. Since communication breakdowns are likely to create project management problems, effective project managers need to cultivate their communications (persuading and listening) skills. Project managers with good

Table 3. Skills ↔ Problems: Interconnected in Project Management

Communication	Breakdowns in communications
Organizational	Insufficient planning
	Resources inadequate
Team Building	Team members uncommitted
	Weak inter-unit integration
Leadership	Unclear goals/direction
	Interpersonal conflicts
Coping	Handling changes
Technological	Meeting ("unrealistic") deadlines

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organizational skills are likely to be more effective at planning and subsequently allocating resources. Unless project managers are able to build strong project teams they are likely to be plagued by problems caused by poorly committed team members and interdepartmental conflict. Project goals are likely to be more easily understood when the project manager's leadership is consistent. Interpersonal conflicts will likely diminish when project managers set clear standards of performance and demonstrate their trust in, and respect for, others. The inevitable changes which accompany any project will be less problematic when not only coped with calmly, but also when handled with flexibility and creativity. Finally, problems created when deadlines and schedules are unrealistic may be minimized through a project manager's problem finding ability and experience in getting things back on track.

What was found underscores the claim that the primary problems of project managers are not technical, but human. Improving project managers' technological capabilities will be helpful only to the extent that this improves their ability to communicate, be organized, build teams, provide leadership, and deal comfortably with change. The challenge for technical managers, or for those moving from technical into managerial positions, is to recognize the need for, and to develop where necessary, their interpersonal skills.

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Questions

1. What primary characteristic distinguishes the very successful project managers from the more mediocre project managers?
2. In Table 3, match the rankings between skills and problems. Why aren't the top skills matched to the main problems?
3. In Table 1, which of the problems are related to project setup (perhaps occurring before a project manager was selected) and which are related to the project manager's skills?
4. How does Table 1 compare to the discussion in the chapter?
5. How does Table 2 compare to the discussion in the chapter?