



New Directions in Project Management by [Paul C. Tinnirello](#) (Editor)

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Organizations that rely on computing technology for survival understand the critical importance of managing projects that meet strategic goals and objectives. The diversity of business globalization and electronic commerce combined with the unceasing pace of technical change continues to challenge efforts for more proficient project management techniques. Presenting the tools you need to meet the challenges of the new business environment, *New Directions in Project Management* covers best practices in all areas of managing software development projects - practices that have been determined by measurable results not vague ideologies. In addition to a comprehensive treatment of software development project management, this book covers managing outsourced projects, team- and consensus-building, requirements definition, systems integration, measurement and metrics, and quality assurance testing. Rather than force-feeding a particular vision of project management and one methodology, the integrated approach combined with detailed concepts and techniques presented here offer you valuable advice and guidance for your project's success. Successful planning for the challenges of the new business environment will remain complex, but not unachievable. In this environment, project management cannot be viewed only as a solitary management activity but as a set of dynamic principles that can be cultivated and improved through practical experience. This demands the best of your skills. Covering software development project management from all sides, *New Directions in Project Management* gives you the advantage.

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New Directions in Project Management

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Editor

Paul C. Tinnirello

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Introduction

Project management remains one of the most crucial endeavors to the successful delivery of enterprise computing activities. The diversity of business globalization and electronic commerce combined with the unceasing pace of technical change continues to challenge the efforts for more proficient project management techniques. Organizations that rely on the benefits of computing technology for business survival realize more than ever the critical importance of managing projects in meeting strategic goals and objectives. This ongoing recognition of project management's important role was integral to the success of the original edition of *Project Management* and has prompted this second book to help those who are responsible for meeting the delivery of multifaceted technical projects.

To be effective in project management requires formidable effort, and in comparison to other IT related tasks, it is frequently shrouded with perceptions rather than viewed as a set of adjacent management principles. It is still surprising to find that many IT professionals often ignore basic concepts in an attempt to formalize a single approach that can handle the various facets associated with technical projects. In recognition of such perceptions, this book has been organized into six sections that cover a large spectrum of issues that traditionally exist within the project management framework.

Successful delivery of most IT applications requires a solid understanding of principles that are germane to the project management process. [Section 1, Essentials of Project Management](#), provides the important background information to establish the necessary link between concepts and practice. Experienced IT professionals have learned how to apply the basic concepts regardless of the project. At the same time, it is equally important to acknowledge differences in project scope without blind adherence to the rules. The cost of ignoring sound management principles is typically disastrous and, in many cases, occurs well into the schedule of a given project. Many professionals who fail at project management are either victims of rigid discipline or reckless experimentation. Still, there are many professionals who acknowledge the fundamental concepts but have difficulty in implementing the principles into daily practice. In this regard, incremental application of the basic guidelines can yield better results than attempting a massive change to an organization's development culture. I recommend that this section of the book be read initially, and then read again after completing the other sections.

Recognition of quality initiatives has not been limited to engineering and manufacturing practices. Recently, there has been better acknowledgement of the value of quality as applied to management of software technology projects. In particular, the success of ISO 9000 and Six Sigma have been extremely useful when applied to the software development process. [Section 2, Critical Factors for Project Quality](#), has been added to the book in order to offer additional information to ensure successful project management. Many IT professionals assume that quality is a guaranteed byproduct of proficient project management techniques. While quality is more likely the result of good project management methods, it cannot be guaranteed without special focus and attention. As such, this section of the book

should also be reread since the principles described herein can be applied across the entire scope of all project management endeavors.

One of the crucial components of project management is the ability to utilize human resources in meeting application goals. **Section 3, Managing Business Relationships**, offers numerous insights that can leverage the knowledge held by business experts and technical professionals. Historically, acquiring the skills needed to manage people had been less emphasized than having the skills to handle technical details. Although this may explain why IT professionals struggled with human relationships, it is no longer acceptable to remain as merely the technical agent. Clearly, the most successful project managers have mastered the art of working with diverse organizational types, including vendors, contractors, and consultants. These important skills are not easily acquired and often need years of experience to cultivate. However, the information in this section of the book can provide good insight and lessen the traditional time required to become proficient. Continuous shortages of skilled professionals, as well as the need to focus on core competencies, has prompted many, if not all, organizations to seek expertise beyond traditional boundaries. **Section 4, Effectively Managing Outsourced Projects**, describes the unique challenges when using external resources to fulfill project objectives. While the promises of outsourcing have been well identified, there are many issues that still require the experience of project management. Merely outsourcing technical tasks does not guarantee successful completion, nor does it automatically ensure that the best interests of the project will be accomplished. Unfortunately, some IT professionals abdicate their responsibilities when using external resources. This has caused numerous organizations to re-evaluate procedures when engaging in outsourcing activities. However, outsourcing will likely remain as a strong complement to internal resources needed in applications development. Understanding the appropriate risks and rewards for using outsourcing is now a mandatory part of any project management strategy.

Some projects are the function of unusual circumstances or occur less frequently than most other computing activities. These types of applications are described in **Section 5, Managing Special Projects**, and include various discussions on topics such as knowledge management, and return on investment strategies. Managing these unique types of projects can challenge even the most experienced and seasoned professional. Sometimes, there is a tendency to administer similar procedures as with more conventional projects and the results can be less favorable than expected. The most important aspect to remember in these situations is that project management should not be exercised with such regulation that it ignores the peculiar attributes of such one-time projects. Examining the different projects described in this section can improve those project management skills required for future projects that may have less definable characteristics.

project management should not be viewed as a solitary management activity but rather as a set of dynamic principles that can be cultivated and improved through practical experience. Ignoring the need for continuous improvement would be as detrimental as ignoring the basic principles for applying project management itself. **Section 6, Measuring and Improving project management Success**, is offered as the last segment in the book. In some respects it could be considered the most significant portion. On the other hand, it is yet another facet of the intricate process that defines the overall manner of project management. Despite the obvious need for managing projects and the necessity to improve the process, many organizations continue to fail in the consistent and repeatable application of project management

principles. This may be due, in part, to the overwhelming difficulties of technical projects, partial success, or misunderstanding the evolution of the project management life cycle. Nevertheless, without a commitment to measurement, further improvements to project management efforts will stagnate and organizations will rely on ineffective techniques to manage computing activities. This section does not constitute the only recommendations for management growth, but it does focus on the specifics that apply to the development of hardware and software systems. As in the past, to use this book effectively I recommend that the reader complete [Section 1](#) before proceeding to other areas. Several sections may examine the same topic but from a different perspective. Some concepts can also be applied differently depending on the circumstances, so the reader is advised to evaluate the situation from various viewpoints, including those provided in the book. It is also suggested to reread several of the chapters in [Section 1](#) in order to fully absorb the content of the underlying basic principles.

The successful planning of project management activities for the challenges of today's business environment will remain difficult, but not unachievable. Ongoing opinions and predictions about future computing technology or shifts in economic direction should be viewed cautiously, especially since many predictions tend to confuse rather than aid in project management endeavors. For those of us who have earnestly pursued the rigors of managing projects, it has demanded the best of our skills, including the dedication to succeed. From my own experiences as a senior IT executive, I appreciate the challenges that project management poses in a time of rapid, yet exciting technical change. I am confident that this new version of the book will provide you with many important concepts that add knowledge to your existing expertise, as well as provide you with the tenacity to improve your management skills. Much success to your project management endeavors.

Paul C. Tinnirello

Section I: **Essential Concepts of Project Management**

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Chapter 1: **Ten Ways to Improve Project Performance**

Ralph L. Kliem

OVERVIEW

It is a sad fact that despite all the formal methodologies, wider adoption of project management disciplines, and more powerful tools, such as World Wide Web technologies and project management software, most projects fail to complete according to the three elements of project management's iron triangle: cost, schedule, and quality. The record gets even more dismal as a project moves into the high-technology arena.

At first, the tendency is to throw one's hands into the air and ask, "What is the use?" Such resignation, however, only maintains the status quo.

Fortunately, there are ten ways to improve project performance if enterprises in general and project teams in particular implement them:

1. Bypass an obstacle
2. Cause people to stretch, not break
3. Focus on the goal
4. Follow a standardized process
5. Learn from the past
6. Maintain ongoing communications
7. Record the work being done
8. Reuse previous work
9. Seek buy-in from all involved
10. Seek simplicity, not complexity, in goal and path

1. BYPASS AN OBSTACLE

Many projects come to a standstill because an obstacle appears in the path toward achieving their goals. It is akin to a military unit being ambushed by sniper fire, so everyone hugs the ground. People are unwilling to raise their heads to determine the direction of the fire, and yet, as long as they stay down, no progress can happen. Often, any progress that was gained is lost. The worst thing that the unit can do is to sit idle. It must move forward, retreat, or lose everything.

Many projects, unfortunately, sit idle. The results can become devastating. People become frustrated, the team loses momentum, and indecisiveness eats away morale and esprit de corps. People may focus on issues unrelated to the project, or

insignificant issues related to the project become significant, as people look for meaning in their work.

This circumstance often arises because team leaders and members subscribe to an either/or or black/white perspective. When that happens, everything becomes significant and, when an obstacle arises, all work halts.

Instead, team leaders and members must distinguish between what is and is not important. This determination is best achieved by focusing on the ultimate objective, and asking how a particular situation will impact achievement of this final goal. If there is an effect, the team must determine the most appropriate action.

The team must remember that the best action is rarely, if ever, simply standing still. The objective is to move forward by handling an obstacle. If it cannot be dealt with head-on, the team should go around it on the left or right, or go over or underneath it. Progress can continue if coupled with some resilience, perseverance, creativity, and leadership.

2. CAUSE PEOPLE TO STRETCH, NOT BREAK

So many projects are given unrealistic deadlines that it is amazing any of them get done at all. These deadlines are not based on work to do, but by the whim of individuals having little knowledge about the effort required to meet the deadline. A good analogy is trying to place ten pounds of groceries in a five-pound bag; with enough weight and pressure, the bag will burst.

Naturally, there are many consequences. The psychological effects often manifest themselves as burnout, turnover, and conflict. Additionally, the team is set up to fail because constraints are not considered when setting the deadline. Performance and productivity begin to wane as reality confronts unrealistic expectations. Team members compete for scarce resources and start trade-off analyses of what is and is not important.

When making unrealistic demands, management and leadership must realize the impact of their decisions on individual and group performance. Promulgating an unrealistic date or goal may provide a nice exhibition of dominance and decisiveness; however, it can also cause dysfunctional behavior. It is imperative to take time to recognize the talents, knowledge, and skills of people performing the tasks; to identify the cost, schedule, and qualitative constraints; and to apply sound estimating techniques to complete the project. Only then can a realistic plan be put in place to encourage people to stretch, rather than break.

3. FOCUS ON THE GOAL

It is easy to overlook the purpose of a project when administering its details. It is similar to the saying that, when fighting alligators, it is easy to forget that the main purpose is to drain the swamp. Team leaders and team members become so wrapped up in details that they lose sight of the entire purpose of their project. People get so engrossed in the details, due to their immediacy or finiteness, that they lose sight of the big picture and forget to ask if what they are doing is contributing toward accomplishing the final goal.

Keeping focus on the goal offers several advantages. First, it enables people to be proactive rather than reactive. People can choose what to respond to, rather than jumping at each situation like one of Pavlov's dogs. Second, it helps in distinguishing between what is and is not significant. Obviously, not everything is equally important, although some team members might think so. Naturally, these people become overburdened with work. Third, focusing on the goal provides an objective standard of evaluation. The significance of a particular effort is determined by the degree to which it helps to achieve a final goal.

Unfortunately, teams rely too heavily on numbers to determine significance, which can lead to dysfunctional behavior. While numbers tell only part of the story, in some projects they become more important than accomplishing a mission. Hence, the team performs considerable work, and the metrics reflect that increase in effort. However, the fundamental question may remain unanswered: Is what is happening furthering the achievement of the final goal?

It is important, therefore, to perform three actions. The first is to constantly query about progress, asking if what people are doing is furthering goal achievement. The second is to establish a consistent, standard "yardstick" for measuring progress, keeping in mind, of course, that the importance of the yardstick is to measure the right factors in order to determine the value of the current work. The bottom line is to remove any blinders leading to myopic decision-making and performance. While such decisions and performance might appear significant, in reality they do nothing, and perhaps even impede actual accomplishment.

4. FOLLOW A STANDARDIZED PROCESS

A common set of tools, procedures, and jargon can help a project progress efficiently and effectively toward its goal. Unfortunately, people often strongly resist following a standardized process. They fear that it stifles creativity and the empowerment of people. As a result, many projects become a cacophony of tools, procedures, and techniques, requiring extensive effort to make them compatible. Naturally, this wastes time and effort, and actually hinders progress toward a goal.

Contrary to popular belief, a standardized process actually encourages creativity and furthers empowerment, rather than impeding both. It encourages creativity by allowing people to work with a given set of tools and techniques; for example, to complete a task. Through standardization, people can anticipate and understand job requirements. Less conversion and relearning are required to complete tasks. People can operate autonomously, knowing the standards to follow during decision-making. When standards do not exist, people are often stymied because everything is unclear.

Standardization, therefore, offers several benefits from a project management and technical perspective. First, it enables the efficient and effective execution of project activities through consistency. Second, it enables better integration of activities because team members can see the interrelationships of their work with that of others. Third, it reduces rework because it enables the use of output developed on earlier projects. Finally, it improves communications because team members are playing from the "same sheet of music."

For projects, standardization involves two distinct areas; one is project management. Standardization involves using tools and executing activities to build plans and manage according to those plans. The other area is technical. Standardization involves identifying requirements and specifications, and constructing a product that satisfies both.

There are many options for moving toward standardization when managing projects. People can join professional organizations, thereby exposing them to what has and has not worked in similar environments. The organization can also purchase or develop a standardized process for managing projects. Regardless of how the organization obtains a standardized process, the key is to develop or adopt one that people can agree to and that is compatible with the company's culture.

5. LEARN FROM THE PAST

The great philosopher Santayana once said that he who fails to study history is destined to repeat it. Unfortunately, because few people learn from the past, history often repeats itself on projects. In fact, many projects are dismal reminders that nothing changes.

Contrary to Henry Ford, who once commented that all history is bunk, learning from the past offers several benefits. It helps organizations avoid costly mistakes that occurred on similar projects in the past. In addition, it helps companies capitalize on previous successes. It also builds confidence and reduces risks for people who have worked on earlier projects.

Learning from the past involves learning both from oneself and from others. Of the two learning levels, learning from oneself is more difficult because it requires introspection. While learning from others can also be difficult, it is less so because there may be documentation or people may be available to provide an oral history or insights.

From personal experiences, team members can visualize the current project in the context of one from the past, identifying similarities and dissimilarities, and determining what worked and what did not work. This requires considerable introspection and objectivity. From the experiences of others, team members can also identify similar projects from the past, and then interview the participants, or read audit reports and "lessons learned," if they exist. Of course, the challenge is to obtain knowledge about the projects and gain access to their information.

6. MAINTAIN ONGOING COMMUNICATIONS

More projects have probably failed due to poor communications than from any other factor. Ironically, while everyone recognizes the contribution of good communications to success, it still remains in a dismal state.

One reason is that people confuse the medium with communication. A medium is the *vehicle* for communicating, acting as an *enabler* of communication, rather than a substitute for it. With the growing presence of email, videoconferencing, and World Wide Web technologies, many people assume that they will be good communicators.

All too often, the medium simply gives a poor communicator a louder voice. At least from a project management perspective, the medium is not the message.

The other reason for poor communications is the lack of team members' distinction between data and information. While data is unprocessed, information is data that is converted into something meaningful. When team members confuse the two, they send data rather than information, whereupon the recipient must go through the data to derive the information. Because this confusion manifests in electronic as well as paper format, many project team members generate countless data files and e-mails, and build innumerable Web pages replete with data but not information.

By contrast, good communication is providing the right information at the right time in the right amount to the right person. When that occurs, people operate on the "same wavelength." They take part in better dialog, reducing the number and magnitude of misunderstandings. As a result of good communication, team members are also better able to adapt to change.

To realize the benefits of maintaining good communications, team members can perform three actions. The first is to concentrate on generating information rather than data. This requires focusing on the needs of the audience, in terms of format and level of content. The second way team members can improve communications is to ensure that data and subsequent information are current and relevant. In fact, all too many projects produce data and information that are outdated and irrelevant. The third method of improving communications is to use the chosen medium as the principal means of communication to obtain the necessary data and information. For example, while a project might establish a Web site for this purpose, some people might be intimidated by the technology. In such cases, good communications cannot occur, despite the best technology.

7. RECORD THE WORK BEING DONE

On most projects, team members perform considerable work in management and development. Unfortunately, the work often goes unrecorded, and the knowledge and expertise is lost due to turnover and time constraints. This is a tremendous loss to companies that could have saved this knowledge and expertise, applying it on future, similar projects.

If companies made an effort to record the knowledge and expertise of what went well on a project, they would gain several benefits for future projects. Such a history improves performance among team members, because people can focus on issues not dealt with previously, which may not be "showstoppers." It also forces people to think about their actions, and determine where and when to spend their effort and time. In addition, a recorded history tells people what has worked in the past, enabling them to predict with reasonable accuracy the impact of their actions on the current project.

On an existing project, team members see the value in creating a trail of activity and auditing previous performance; they thereby gain an understanding of what was done and how, and why things were done a certain way. Finally, sharing the recorded information with everyone fosters good communications among team members.

If recording offers many benefits, why is it not done more thoroughly and more often? For one, it is easier to react and see some tangible, immediate results than to take a proactive approach, which produces long-term rather than immediate results. In addition, such a process requires administrative overhead. Finally, even if it is done, it often gets buried, so it is overlooked and eventually lost.

Obviously, these are monumental challenges. However, organizations can take steps to ease the burden. First, they can see the time and effort to record activities as a necessary activity, establishing it as a requirement rather than an option. Second, they can establish an agreed-upon format and approach before the project begins. Waiting until after the project starts only slows momentum, frustrates people, and often becomes a futile attempt at reconstruction.

8. REUSE PREVIOUS WORK

While it is good for team members to feel creative on a project, unfortunately, their desire for creativity often leads to reinventing the wheel. There are major consequences when that occurs, including wasted effort due to repeating work, slowing of the project's momentum, a failure to capitalize on the success of the past, and extension of the project's life cycle. In other words, it is nonproductive.

Reuse enables organizations to use what was done before again, in a similar situation. The benefits include expediting the project life cycle, allowing team members to focus on more important issues, increasing the product's reliability, and enabling team members to make modifications quickly. Because plans and products are built modularly, reuse also reduces complexity. Finally, it allows more accurate planning.

Reuse occurs on both the project management and technical development levels. For project management, teams may reuse sections of schedules from similar projects, segments of files loaded into automated scheduling packages, report formats and contents, and forms. Examples of reuse related to technical development include code, models, files generated from software tools, and specifications.

Teams can take several actions to maximize the benefits of reuse. They can acquire knowledge of what occurred previously on other projects, enabling them to "cannibalize" what was done well. To obtain information about previous work, team members can review the documentation of earlier projects, interview participants on those projects, and read case histories in professional journals of similar projects.

Team members can also rely on personal experience to maximize the benefits of reuse. Wide exposure to many projects in different environments results in a greater breadth of experience from which the team can learn. That knowledge, in turn, makes it easier to determine what to reuse. In addition, teams can use professional and business organizations as a source of contacts with individuals who can provide, for free, insight on what worked well on similar projects. These organizations can also provide materials for reuse, such as forms and checklists.

9. SEEK BUY-IN BY THOSE INVOLVED

Perhaps the most powerful way to get a project to progress rapidly is through commitment by the people doing the work. Because buy-in provides people with

ownership and a sense of empowerment, it generates a greater sense of responsibility and accountability. In turn, less effort is required to follow up on tasks. Buy-in also encourages initiative.

Unfortunately, because many projects become one-man shows, there is little commitment. As a result, estimates are often unrealistic, representing scientific wildly assumed guesses (swags), rather than being based on reliable, statistical calculations. There can also be a lack of commitment to the schedule, with team members filling in to be determined (TBD), rather than actually estimating task schedules. As time moves on and such consequences become aggravated, the lack of commitment can affect the project's potential success. Then, while it becomes costly in terms of time, money, and effort to resolve these problems, there is still little commitment.

To help generate commitment, team managers can take an inventory of team members, learning not only about their knowledge, expertise, and experience, but also about their maturity and follow-up. This allows the manager to seek their counsel appropriately. Managers can also use public disclosure to attain and sustain commitment. When team members' input is visible, regardless of perspective, there is less likelihood of their denying input or reducing commitment. Finally, and this is tied to the last point, team managers should not only gauge a person's ability to do a task, but also his or her enthusiasm. While team members might have the requisite background, they may lack the corresponding level of excitement for doing a good job. Commitment comes from the heart — not the head.

10. SEEK SIMPLICITY, NOT COMPLEXITY, IN GOAL AND PATH

Simplicity easily yields to complexity. That is, it is always tempting to make a situation or a solution as complex as possible. People make a refinement here and a slight alteration there, and before anyone realizes it, the result is totally different from what was originally envisioned.

Simplicity, of course, is not the same as being simple. While simplicity means identifying the shortest path, with a style that says "that's it," simple is merely paint-by-the-numbers and lacking in sophistication. Ironically, simplicity can appear the same as being simple because they both share the common characteristic of clarity. Complexity, however, is quite different. It is sophistication gone amuck, whereby confusion rather than clarity is the guiding rule. And a lot of confusion can drown clarity.

In distinguishing between simplicity and complexity, simplicity is recognizable when seen, but not definable. While projects always tend toward complexity, good projects result in simplicity when completed. These are usually the projects that satisfy the criteria for success in regard to cost, schedule, and quality.

In determining whether a plan is simple or complex, the symptoms are quite obvious. In the latter, many people request additions, changes, removals, or repositioning, so that the plan becomes full of exceptions and contingencies. Because this complexity makes it difficult to follow the plan, few ultimately do so. In another symptom of complexity, product developers must repeatedly explain their intent or meaning. In yet another indicator, the plan must be continually revised to accommodate different situations. The end result is similar to a rat following a path in a maze.

By contrast, simplicity forces clarity of thought, demonstrating clarity in destination and the path to take. It also requires less time and people resources to execute a plan, and gives people confidence because they know their mission and what must be done.

To encourage simplicity in project management, team members can first try to attain as much experience as possible in different environments; this provides insight on what works well. Also, they can capitalize on the experience of others to gain further insight.

Second, if team members determine that something can be done in two steps rather than four, they should choose the former, ignoring the tendency to believe that because something looks simplistic it must be wrong. More often than not, the correct solution is simplistic.

Third, project teams should ensure that all elements of a plan contribute toward accomplishing the final goal; otherwise, they should remove it. After all, it merely embellishes the plan, and might well increase complexity and confusion, either now or later. Finally, teams should remove biases from a plan. Thus, they should avoid treating an assumption as fact, and blatantly affecting approaches that have no basis in reality. Biases in fact and data only add to complexity.

NO COMPLICITY WITH SIMPLICITY

Typical high-technology firms seldom apply more than a few of the principles cited this chapter. Instead, their staff moves about "helter skelter," trying to solve a problem with a complex solution that is likely a reinvention of what was been done earlier on another project. However, while few team members agree with the solution, they concede at least temporarily, either because it eases the problem or someone important felt it was the right answer. If the problem remains unsolved, they might wait for someone to do something, all the while looking busy doing insignificant work. As this occurs, the schedule slides, the budget is exceeded, and quality deteriorates. Team members both fear and hope that the unsolved problem is caught during testing.

Even if half the ideas in this chapter are implemented on a project, performance will improve. The dismal track record of project success and failure, however, attests to the fact that few use such suggestions. The challenge is to get project managers and team members to embrace the recommendations.

Chapter 2: **Nine Factors for Project Success**

John P. Murray

OVERVIEW

The successful design, development, and implementation of information technology (IT) projects is a very difficult, complex, and, at times, daunting process. However, although developing IT projects can be difficult, the reality is that a relatively small number of factors control the success or failure of every IT project, regardless of its size or complexity. There is nothing esoteric about those factors. The problem is not that the factors are unknown; it is that they seldom form an integral part of the IT development process.

Of course, the recognition and management of these factors does not ensure IT project success. Understanding the factors and the part they play in successful project management is one thing; appropriately managing them is something else. In addition, there is a high potential for project failure in not recognizing the part these factors play, or failing to appropriately manage them.

If these factors are so clearly important and well-known, why do they not form an integral part of every IT project? The short answer is that they should. The issue here is that because they are not used, too high a number of IT projects suffer some degree of failure.

The phrase "IT project failure" often raises a specter of some colossal failure. For example, the project never goes operational, or it is abandoned in midstream after considerable expense. In addition, there are other, qualified IT failures, such as projects that exceed their development time and expense estimates, but ultimately become operational. There are also many projects that move to production status, but do not meet the expectations of internal customers as defined in the project specifications. And projects may be considered failures if the applications take too long to process the data, or if they regularly fail in the operational environment.

In short, many organizations do not have a particularly good track record in IT project success. However, many IT project failures can be eliminated or mitigated by understanding and managing the nine project failure factors described in this chapter. These factors should be recognized for the strength they can bring to every project, and accorded the attention they deserve.

THE NINE FACTORS

The following nine factors can and do make or break IT projects:

1. Appropriate senior management levels of commitment to the project
2. Adequate project funding
3. A well-done set of project requirements and specifications

4. Careful development of a comprehensive project plan that incorporates sufficient time and flexibility to anticipate and deal with unforeseen difficulties as they arise
5. An appropriate commitment of time and attention on the part of those outside the IT department who have requested the project, combined with a willingness to see it through to the end
6. Candid, accurate reporting of the status of the project and of potential difficulties as they arise
7. A critical assessment of the risks inherent in the project, any potential harm associated with those risks, and the ability of the project team to manage those risks
8. The development of appropriate contingency plans that can be employed should the project run into problems
9. An objective assessment of the ability and willingness of the organization to stay the project course

The reader will realize that none of the factors has anything to do with technology. In addition, all the factors are straightforward, and can be easily understood by anyone with a business background.

Organizations that recognize and work to appropriately include the nine factors in IT project development are taking an important step in moving to more consistent IT project success. However, they will have to do more than recognize the factors' importance. They must also understand the interlocked nature of the factors, which together form a mosaic of strong project management. If IT project success is to improve, the role and importance of each factor must be understood. A discussion of each of the factors will provide information about how they affect IT projects.

1. SENIOR MANAGEMENT COMMITMENT

When it is clear that a particular IT project has the interest, the support, and the commitment of the organization's senior management, everyone involved in the project will have a sharper focus. Almost all IT projects are expensive. In addition, these projects present opportunities — some of them significant — that foster organizational success. Poorly done projects can hamper the organization's success; some can even put the organization in jeopardy. Therefore, it is imperative that the senior managers responsible for the areas affected by a particular project become and remain involved. If, as often happens, the process is completely left to the IT department, the project is in trouble.

There are numerous examples of IT projects that have considerably benefited an organization. There are also many examples of IT project failures that have seriously disrupted an organization's business. Beyond the issue of total IT project failures, there are IT projects that are not true failures, but are less than successful. Those projects never deliver what was originally promised and are sometimes simply abandoned.

IT projects are sometimes conceived, funded, and built without appropriate senior-level review and involvement. This should not be seen as a failure on the part of