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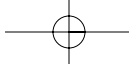


# Executive Guide to Program and Project Management

**P**art I is intended for top-level managers who are responsible for the strategic direction and growth of their organizations, as well as for those who hold responsibilities for project portfolios and the programs and projects they contain. Part I is also directed to managers and project management specialists at the program and project levels, to whom Part II is primarily addressed, to enable them to appreciate more fully how the discipline of project management has become an important factor in the continued success of all complex organizations.

Part I provides the senior executive and others with an in-depth understanding of:

- The role that projects play in the strategic direction of an organization and how project management is best integrated into the total corporate structure (Chapter 1);
- The nature and key characteristics of programs and projects (Chapter 2);
- The value and cost of, and ways to improve an organization's project management capabilities (Chapter 3);

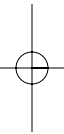


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- The three basic concepts that underlie modern project management: integrative roles, integrative and predictive planning and control, and project teamwork (Chapters 4 through 6);
- Organizing the project management office and function (Chapter 7); and
- Managing project portfolios, programs and multiple projects (Chapter 8).

At the end of each chapter in Part I several “CEO Demands” are presented relating to the main topics of the chapter. These demands—each one reasonable and achievable using today’s state-of-the-art—provide a road map to top managers for moving their organizations toward achieving the full power of integrated strategic project management in this Internet Age.



# 1

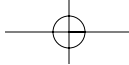


## Executive Overview of Project Management

### 1.1 IMPORTANCE OF EFFECTIVE PROJECT MANAGEMENT

Programs and projects are of great importance to all industrial, governmental, and other human organizations. They are the means by which companies, especially when delivering complex, advanced technology products or systems to their customers, earn a major share of their profit. Projects are also the means by which new products are conceived, developed, and brought to market. New or improved capital facilities and new information systems are acquired through projects. Broad scope management projects, such as restructuring or reorganizing, major cost reduction efforts, plant or office relocation, and the like, are vital to continued profitable operation and growth.

In governmental units from city to county, state, regional, and federal levels, projects are vehicles for growth and improvement. School systems, universities, hospital systems, and other institutional forms of organizations create and improve their services, products, and facilities through programs and projects. In all these various organizations—governmental, institutional, and industrial—there is a growing recognition that although many projects apparently exist within the organization they are often poorly understood and frequently not properly managed. The purpose of this book is to assist in the correction of this situation by presenting a concise, comprehensive, and practical understanding of the concepts, processes, methods, and tools of modern, professional project



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management and how these are successfully applied and continually improved in high-technology environments.

### **Projects Exist in All Organizations**

A project is a complex effort to produce certain specified, unique results at a particular time and within an established budget for the resources that it will expend or consume. A program, as discussed in this book, is a group of two or more related projects. More detailed and definitive definitions of projects and programs are given in Chapter 2.

The concept of a project is not new. Projects exist in all human organizations. They come in many sizes and with widely varying degrees of complexity and risk and produce an infinite variety of end results. The principles and practices of modern project management apply to all these projects across the entire spectrum of human enterprise.

### **The Rapid Spread of Modern Project Management**

In recent years application of project management principles and practices has spread rapidly to an increasingly broad range of human enterprise around the world. The numbers of project management books, magazines, e-zines, other Internet Web sites, seminars, conventions, and professional and popular magazine articles continue to grow. Membership in professional associations in the field also continues to grow at an impressive rate. The Project Management Institute (PMI<sup>®</sup>, [www.pmi.org](http://www.pmi.org)) has grown worldwide from 8,500 members in 1990 to over 100,000 in 2003, with chapters in 39 countries and members residing in 80 additional countries. The International Project Management Association (IPMA, [www.ipma.ch](http://www.ipma.ch)) is an international network of 28 national project management societies. Other professional associations of interest include the Association of Project Management (APM, [www.apm.org.uk](http://www.apm.org.uk)) (a member of IPMA), the Product Development Management Association (PDMA, [www.pdma.org](http://www.pdma.org)), and the Association for the Advancement of Cost Engineering (AACE, [www.aaci.org](http://www.aaci.org)). The referenced Web sites of each of these organizations provide many links to other project management related organizations, forums, magazines, educators and trainers, and software and consulting service providers.

### **The Diversity and Categorization of Projects**

The great diversity in the areas of application is illustrated by the 24 specific interest groups (SIGs) within the Project Management Institute (Table 1.1). Each of these groups brings together executives and project management practitioners who have related interests. Additionally there

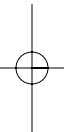


Table 1.1 The 19 Specific Interest Groups (SIGs) within PMI®

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1. Aerospace/defense
  2. Automation systems
  3. Automotive
  4. Design/procurement/construction (across all economic sectors)
  5. Environmental management (pollution remediation and prevention)
  6. Financial services (banking, investment)
  7. Global communications technologies (management and movement of information)
  8. Government
  9. Hospitality (major events, such as the Olympic Games)
  10. Information systems
  11. International development (infrastructure, agriculture, education, health, etc.) in developing countries
  12. Manufacturing
  13. Marketing and sales
  14. New product development
  15. Oil/gas/petrochemical
  16. Pharmaceutical
  17. Retail
  18. Service and outsourcing (buying rather than making)
  19. Utility industry (generation and distribution of electric power, water, and gas).
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are several other PMI® specific interest groups that deal with particular aspects of project management across all of these areas of application. The PMI® College of Performance Measurement is devoted to the military/aerospace area of application. The project management approach also has been found to be effective in reengineering and restructuring existing organizations and bureaucratic processes.

In spite of the diversity of the end products or results created by projects in these many areas, the project management approach is remarkably similar in each. A project is not the end result itself, be it a new product, facility, process plant, information system, reengineered process, new organization structure, document, or any other tangible result. Rather, *a project is the process of creating a new end result*. The same principles of project management are applicable to projects in all areas of application, although there are significant variations in emphasis and in the detailed planning and execution of projects within each application area and within various world cultures.

The globalization of trade, manufacturing, energy, space endeavors, information technology, services industries, and other areas of human activity is a powerful driver to develop and apply common approaches to

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the planning and execution of projects across industrial sector and international boundaries. International joint venture projects involving such deliverables as pipelines, process plants, space vehicles and platforms, aircraft, automobiles, and new information technology platforms and applications, to name just a few examples, require that all contributors to such projects—who are frequently located on different continents and operate in widely different cultures—use common or at least similar management systems. The collaboration (co-labor) needed to complete these projects successfully can only be achieved efficiently if all parties understand what the others are doing and how they are doing it, and if the plans and schedules for interrelated projects or programs are integrated and use commonly understood management methods and terminology.

### **Effective Project Management Is Important to All Organizations**

All projects must be well conceived and then well managed during their planning and execution to achieve the desired results on schedule and within the specified cost (in money or other critical resources).

Failures in project selection, risk analysis, and conceptual planning have caused:

- The expenditure of scarce resources (money, skills, facilities, and time) on efforts that are doomed to failure.
- The organization to be exposed to unacceptable financial, technological, and competitive risks.

Failures in project planning and execution have caused:

- Expected profit on commercial contracts to become losses through excessive costs, delays, and penalties.
- New products to be introduced late with significant detrimental impact on established business plan objectives and market penetration opportunities.
- New product development projects to be completed too late to benefit the related product line or otherwise fail to produce the results expected.
- Capital facilities to be delayed, causing missed objectives in product lines that depend on the facilities.
- Information systems projects to exceed their planned cost and schedule, with negative impacts on administration and general costs and operating efficiencies. The “Chaos Study” ([www.pm2go](http://www.pm2go))

.com/default.asp), conducted by The Standish Group, concluded that only about one software development project in six met quality, schedule, and cost objectives. Nearly half of the projects studied were terminated before completion.

Failure on one significant project can eradicate the profit of a dozen well-managed projects. Too frequently the monitoring and evaluation of high-exposure projects is ineffective, and the failures are not identified until it is too late to avoid undesirable results. It is important, therefore, that every organization holding responsibility for projects also has the capability to manage the projects effectively.

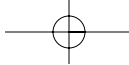
## Project-Driven and Project-Dependent Organizations

Two broad classes of organizations can be identified: First, those *project-driven* organizations whose primary business is projects. Examples of this class include architect/engineer/constructor, general contractor, and specialty contractor firms; software development firms who sell their products or services on a contract basis; telecommunications systems suppliers; consultants and other professional services firms; and other organizations that bid for work on a project-by-project basis. Growth strategies in such organizations are reflected in the type, size, location, and nature of the projects selected for bidding, as well as the choices made in how the required resources will be provided (in-house or outsourced) to carry out the projects, if and when a contract is awarded or the project is otherwise approved for execution.

The second class of organizations—those that are *project-dependent* for growth—includes all others that provide goods and services as their main-stream business. Projects within these organizations are primarily internally sponsored and funded. Examples include manufacturing (consumer products, pharmaceuticals, engineered products, etc.), banking, transportation, communications, governmental agencies, computer hardware and software developers and suppliers, universities and other institutions, among others. These organizations depend on projects to support their primary lines of business, but projects are not their principle offering to the marketplace. Many of these sponsors of internally funded projects are important buyers of projects from project-driven organizations.

## 1.2 PROJECTS: VEHICLES FOR STRATEGIC GROWTH

Strategically managing the growth of a company, agency, institution, or other human enterprise requires:



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- *A vision of the future* of the organization at the top level.
- *Consensus and commitment* within the power structure of the organization on the mission and future direction of the organization.
- *Documentation* of the key objectives and strategies to fulfill the mission.
- *Planning and execution of specific projects* to carry out the stated strategies and reach the desired objectives.

*Objectives* are descriptions of where we want to go. *Strategies* are statements of how we are going to get there. Strategies are carried out and objectives are reached, when major growth steps are involved, through execution of projects and multiproject programs within the organization's project portfolios. Projects translate strategies into actions and objectives into realities.

Most organizations of any size have a strategic planning or growth management process in place, with at least annual efforts to develop their longer term plans, objectives, and strategies. It is important to recognize that objectives and strategies exist in a hierarchy—and not just at one level—in large organizations. A useful way to describe this hierarchy is to define three levels:

1. Policy.
2. Strategic.
3. Operational.

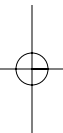
Figure 1.1 shows how the strategies become objectives at the next lower level in the hierarchy, until at the operational level projects are identified to achieve the operational objectives. Unless the higher level objectives and strategies are translated into actions through projects, the plans will simply sit unachieved on the shelf.

### Sources of Growth

Two basic sources of organizational growth can be identified. These are:

- *Growth by accretion*: Slow, steady, layered growth of the basic products, services, markets, and people.
- *Stepwise growth*: Discrete steps—small, medium, and large—that go beyond growth by accretion.

Growth by accretion is relatively slow and most often observed in mature industries. Sales volume slowly builds, for example, perhaps as a result





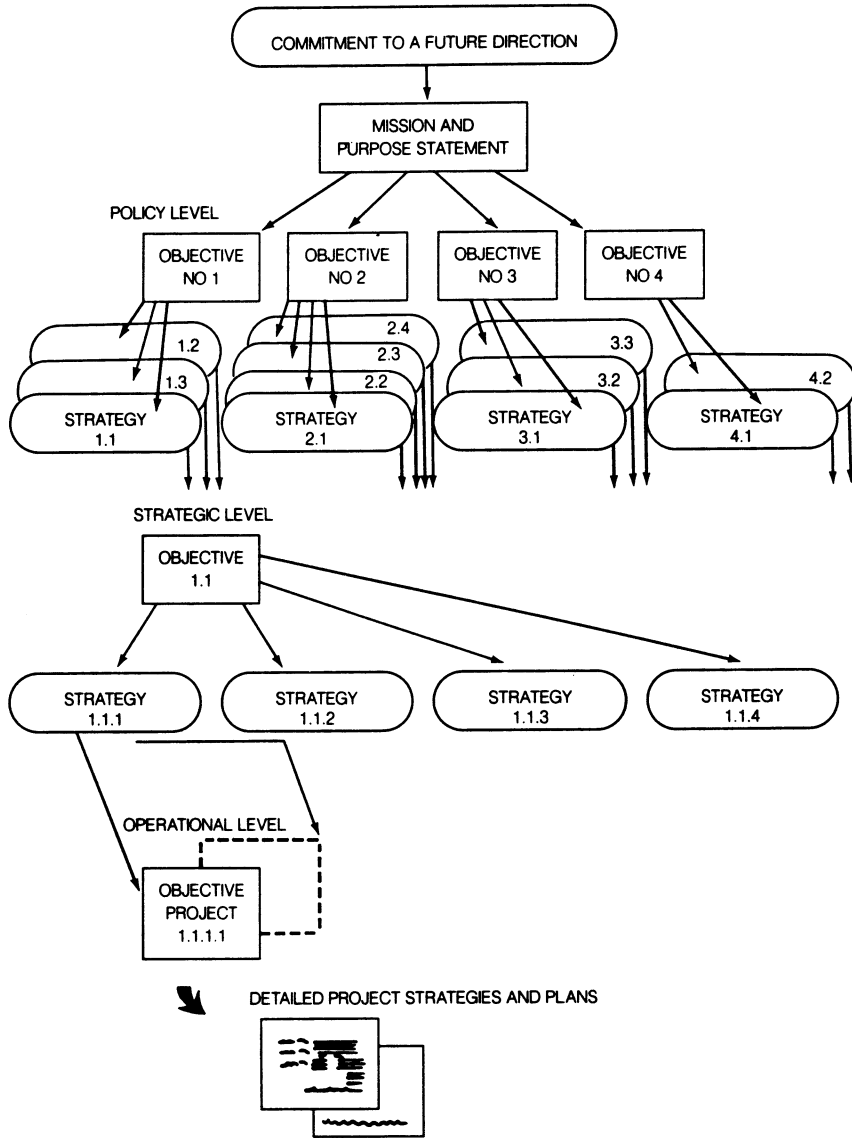


Figure 1.1 The hierarchy of objectives, strategies, and projects. *Source:* Russell D. Archibald, "Projects: Vehicles for Strategic Growth," *Project Management Journal*, XIX, 4 (September 1988), p. 32. Used by permission.

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of the existing salesforce getting better at their jobs individually, selling the production capacity that exists within the factory, possibly assisted by more effective marketing and advertising. At some point, when the factory capacity is limiting sales (and second and third shifts have already been added) further growth is dependent on a major or stepwise change: building a new factory, or expanding the old one.

Stepwise growth occurs when the organization goes beyond growth by accretion and initiates discrete actions to expand or improve: new products or services, new markets, new processes or production facilities, new information systems, new organizational patterns, new people. These growth steps are projects.

### The Spectrum of Growth Projects

Table 1.2 shows a few representative examples of growth projects across the spectrum of different project magnitudes and serving different growth strategies. Larger and more risky projects require more formalized project management practices.

### Programs and Projects Are the Vehicles for Growth

Stepwise growth involves a wide range of actions from low-risk baby steps to bet-the-company giant strides. It is not possible to draw a sharp line between growth by accretion and baby steps to expand, such as hiring an additional salesperson, or taking on a new distributor in a new state for an existing product line. But when the steps become significant in size, they clearly are recognizable as projects.

Table 1.2 Examples of Projects to Expand or Change

Project Size	Products or Services	Markets	Profits
Small	New package. Small product improvement.	Add new distributor. Local advertising campaign.	Substitute ingredients. Increase prices.
Major	Develop new product in existing line. Expand existing plant. Design/build new plant.	Enter new markets: Domestic Foreign: —Direct —License —Joint venture	New information system. Restructure organization. New policies and procedures.
Mega	Develop or acquire new product line.	Acquire major company.	Merge with competitor.

Major growth steps in any organization require projects for their realization—new facilities, systems, products, services, processes, technology, and/or markets. Acquisition of these by internal or joint ventures, acquiring or merging with another organization, licensing of technology or markets, or other methods always results in a project of some complexity. More organizations are now recognizing these facts, and more are approaching the management of these growth steps using proven project management principles and practices.

### 1.3 STRATEGIC PROJECT PORTFOLIO MANAGEMENT

Projects are major investments for most organizations. Investments must be managed on a portfolio basis. The characteristics and process of project portfolio management that have evolved over the past decade are described next.

#### Integrated Project Portfolio Management

Rather than attempt to manage individual projects as if they were stand-alone endeavors, executives have learned that every project is interrelated, primarily through the use of common resources but often in other ways and often with other projects in the organization. Linking selected projects within a *program* is the first step toward *project portfolio management*. Dye and Pennypacker (1999) provide a useful and comprehensive compilation of articles that reflect the growing awareness and maturity of the project portfolio management discipline in many organizations.

#### Multiproject versus Portfolio Project Management

The key differences between multiproject and portfolio project management are shown in Table 1.3. As indicated in Figure 1.2, a project portfolio consists of the programs and projects supporting a given higher level strategy. Although there could be only one overall corporate project portfolio, it generally makes more sense to define more than one portfolio on a strategic basis in large organizations to reflect product line, geographic, or technological divisions of the organization, industry, or market. Combe and Githens (1999) identify three general types of project portfolios:

- *Value-creating*: Strategic or enterprise projects.
- *Operational*: Projects that make the organization more efficient and satisfy some fundamental functional work.

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Table 1.3 High-Level Comparison of Project Portfolio Management and Multiple Project Management

	Project Portfolio Management	Multiple Project Management
Purpose	Project selection and prioritization	Resource allocation
Focus	Strategic	Tactical
Planning emphasis	Long and medium-term (annual/quarterly)	Short-term (day-to-day)
Responsibility	Executive/senior management	Project/resource managers

*Source:* Lowell D. Dye and James S. Pennypacker, "Project Portfolio Managing and Managing Multiple Projects: Two Sides of the Same Coin?" *Proceedings of the 2000 PMI Seminars & Symposium*, Newtown Square, PA: Project Management Institute.

- *Compliance:* "Must-do" projects required to maintain regulatory compliance.

Combe (2000) reported that "Our senior management [of Northwestern Mutual, a major financial services company] was genuinely astonished at what they saw" when an analysis of their 1998 project budget of \$85 million showed that only 20 percent (\$17 million) was scheduled to be spent on strategic projects.

In organizations that are mature in their project management approach, a *Project Portfolio Steering Group* consisting of senior executives is responsible for the decisions that must be made concerning the programs and projects within the project portfolio(s) during the operation of that process. The responsibilities of the Project Portfolio Steering Group are discussed in Chapter 4 and Chapter 8.

### The Project Portfolio Management Process

The *project portfolio management process* consists of the following twelve steps:

1. *Define the project portfolios required within the organization.* Examples of portfolio names include Product Line A, Information Technology Development, Corporate Information Systems, Division X, International, Strategic, Operational, and Compliance.

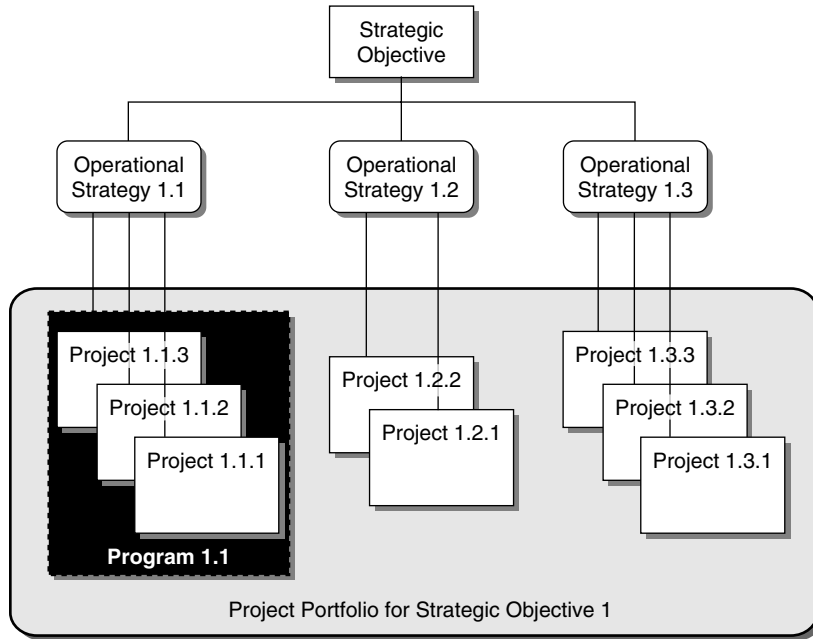


Figure 1.2 Schematic of strategies, projects, a program, and a project portfolio.

2. *Define the project categories within each portfolio based on uniform criteria for the entire organization.* Examples of project categories (or types) include capital facilities design and construction, information technology, new product/services development and launch, market development, acquisitions, e-commerce development (see Chapter 2).
3. *Identify and group all current and proposed projects within appropriate categories and programs.* Selection of new projects for inclusion in a specific portfolio, especially in the research and development of new products, is a complex process (Cooper et al., 1999, p. 23; Frame, 1999, p. 169). This step is more a function of the organization's strategic management than it is of project management, although both should be involved.
4. *Validate all projects with the organization's strategic objectives.* Does every project directly and clearly support an approved strategic objective? Is every strategic objective clearly supported by appropriate projects?

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5. *Prioritize projects within programs and portfolios.* Reflect strategic considerations rather than internal politics in setting priorities. Again, this step is primarily the responsibility of senior strategic managers and the Project Portfolio Steering Group(s). For several project prioritization methods used by leading companies see Cooper et al. (1999, p. 9).
6. *Develop the Project Portfolio Master Schedule.* Include logical dependencies between projects. Project management methods and tools are appropriate for use with this and subsequent steps. The initial target master schedule is periodically revised to reflect current progress on active projects.
7. *Establish and maintain the key resources data bank.* From a practical standpoint it is necessary to limit the number of “key resources” to be allocated to the projects, even though today’s information systems theoretically can handle many such resources.
8. *Allocate available key resources to programs and projects within portfolios.* Reflect resource constraints in the individual project priorities and schedules, and in the project portfolio master schedule (repeat Steps 5 through 8 as required).
9. *Compare financial needs (primarily cash flow) with availability.* Although money is usually more easily obtained than other key resources, such as people with specific skills and experience, there is always a limit to its availability.
10. *Decide how to respond to shortfalls in money or other key resources and approve the list of funded projects and priorities.* Revise individual project priorities, scope, and sequence within portfolios; cancel or delay lower priority projects; acquire additional resources if possible and desirable; repeat Steps 5 through 10 until available money and other key resources have been allocated on an optimum basis.
11. *Plan, authorize, and manage each program and project using the organization’s project management process and supporting systems and tools for each project category.* Project managers and teams validate and elaborate the plans used to authorize each project as needed for successful project execution, and then manage the execution phases.
12. *Periodically reprioritize, reallocate resources, and reschedule all programs and projects as required within each portfolio.* Reflect changes in strategies, products, markets, competition, and technologies, as well as progress made to date on each project. Add newly proposed projects. Repeat Steps 1 through 12 as required, typically on a monthly basis. The Portfolio Steering Group gives strategic direction to each Project Sponsor who interprets that direction and communicates it to the affected Project Manager(s).

## Project Portfolio Management Links Strategic and Project Management

Figures 1.1 and 1.2 illustrate how project portfolio management links strategic and project management. Senior line managers in the organization are the creators of the growth strategies and the “owners” of the projects that will carry them out, with a designated project sponsor with executive responsibility for each project, and a project manager as the focal point of integrated responsibility and accountability for planning and executing each one. Strategic management sets the future course of the organization and selects the projects to be added to the project portfolios. Project management plans, authorizes, and executes the specific efforts that implement the growth strategies. The managers of these projects are acting for and representing the project owners, and receive their direction through the project sponsor. These responsibilities are discussed in detail in Chapters 4 and 8.

The linkage that project portfolio management provides between strategic and project management is not simply a top-town connection. Combe describes the two-way flow that is needed to assure that projects effectively implement strategies, saying, “It’s important that senior management view projects as a means to accomplish strategy, and institute practices that best position the company’s projects to get their strategy implemented. But it’s just as important that the organization’s project managers understand the company’s strategies. . . .” Only when the project-strategy linkage flows both ways does the organization get the real payoff . . . (Combe, 2000). Among the things Combe cites as necessary for ensuring this two-way flow are: having project managers who “maintain focus” and integrate the efforts of the people involved, and having a clearly-defined strategy and time-frame for implementation.

## Enterprise Project Management

There has been movement in some areas of application toward *enterprise project management*, in which an enterprise is viewed as consisting totally of a collection of projects, or of one or several project portfolios, and managed accordingly. Dinsmore (1999) describes how an organization can be run by using project management as an organizational creed. He defines enterprise project management as:

An organization-wide managerial philosophy based on the principle that company goals are achievable through a web of simultaneous projects, which calls for a systematic approach and includes corporate strategy projects, operational improvement, and organizational transformation, as well as traditional development projects. (p. 19)

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This approach may continue to develop but at this time it appears to be appropriate only for some types of organizations.

### 1.4 INVENTORY OF PROJECTS: THE PROJECT REGISTER

An important recommended first step in any improvement effort, including the implementation of project portfolio management, is to prepare an inventory of programs and projects that are either in progress or in the planning or conceptual stages. Such an inventory can take the form of a *project register*, which should identify for each project within each portfolio:

- Project name and an identifying code number.
- Name of program/project manager, and percent of their time devoted to this effort.
- Assigned project sponsor, if any.
- Customer or client.
- Value in dollars or other currency (contract value, investment cost, or other monetary measure of size).
- Project category and whether it is a “major” or “minor” project (see Chapter 2).
- Total key human resource investment (work-months, work-years by skill).
- Possible exposure, dollars or other currency (penalties, loss of market, competitive gain, performance guarantees, other).
- Most critical risks (economic, environmental, political, competitive, technological).
- Key start, milestone, and finish dates (contract award, occupancy, completion, or other).
- Associated projects (facilities construction, research and development, product development, other contracts).
- If part of a program, identification of the program.
- Identification of the specific project portfolio that the project is a part of.
- Identification of approving authorities, dates of top management review, and approval to proceed.
- Other pertinent information.



## Project Overload

Senior managers are often surprised by the number of projects that are identified in a rigorous preparation of such a project register. This listing of all authorized projects as well as all projects underway or planned for which formal authorization has somehow been overlooked will provide a direct indication of whether or not the organization is overloaded considering currently available resources. When too many projects have been started without careful resource planning, all projects will probably suffer delays. Without formalized project management policies and planning procedures, an overload condition can occur without higher level management's being aware. It may be necessary to do some digging in the functional departments to find all the projects in larger organizations.

The basic responsibility of top management in this regard is to:

- Set criteria defining categories and sizes of projects.
- Require establishment and maintenance of a project register.
- Establish and revise priorities among programs and projects as required.

These actions, discussed in more detail in Chapters 4 and 8, will set the stage for effective application of the 12 steps in the project portfolio management process.

## 1.5 THE ORGANIZATION'S PROJECT MANAGEMENT PROCESS

The objectives of modern project management are two-fold:

1. To assure that each project when initially conceived and authorized supports the organization's approved higher level strategic objectives and contains acceptable risks—competitive, economic, political, technical, cost, and schedule—regarding the project's objectives.
2. To plan, control, and lead each project simultaneously with all other projects effectively and efficiently so that each will achieve its approved objectives: Meeting the related strategic objective by producing the specified results on schedule and within budget.

The first of these objectives is closely linked to the strategic management of the organization. Application of systematic project management practices during the early strategic planning and project concept phases

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has been introduced in many organizations within the past few years, with beneficial results. Too frequently, project failures can be traced directly to unrealistic original technical, cost, or schedule targets considering the resources available to the organization, and inadequate risk analysis and risk management.

### Total Life Cycle Project Management Plus Risk Management

In the early decades of modern project management, the primary focus was on the second of the two objectives listed earlier. Somehow a project was conceived and authorized and then it was handed to a project manager to plan, schedule, execute, monitor, and control through its execution phases. Even the most effective planning and control methods and the most dedicated project manager and project team cannot avoid or prevent failure when the initial objectives are impossible to achieve, or when unacceptable risks are taken. Repeated failures in achieving project objectives has led to the realization that systematic project management disciplines must also be applied during the conceptual phases of a project as well as during its execution. We now recognize that *total life-cycle project management* coupled with adequate *risk management* is necessary for success.

As systematic project management methods were applied to the conceptual phases, the need for improved risk analysis, mitigation and management became more apparent. Today this first objective of project management is very widely recognized and improved methods, tools, and systems are continually being developed to assure that both of these basic objectives are achieved for every project.

### Documenting the Organization's Project Management Process

In order to achieve the full benefits of modern project management each company or agency must have a documented picture of its overall *project management process*. This process:

- Describes how the organization's project portfolios are related to the organization's growth strategies.
- Identifies and defines the basic types or categories of projects that exist or are planned (see Chapter 2).
- Defines the project life cycle and the detailed project management process ("the Project Life Cycle Management System—PLCMS" as described in Chapter 3) for each project category.

- Defines, for each project category, the corporate guidelines for risk analysis, planning, and control, with provision for appropriate adaptation for specific situations.
- Specifies the documents and related levels of approval authority for initiating and authorizing new projects and major changes to authorized projects.
- Identifies the key roles and defines their responsibilities and authority as related to strategic, project, and functional management.
- Specifies and describes the methods, procedures, and tools (including the project management software applications) to be used for each project category.
- Specifies the procedures for escalating the inevitable conflicts (competition for scarce resources, priorities between projects, and others) and unresolved issues to the appropriate level for their prompt resolution.

This process is usually documented as a flow chart with supporting narrative descriptions together with appropriate references to pertinent corporate policies, procedures, and forms. When this is done properly, the result is *integrated* project management. Only when the project management process is properly documented can effective improvement actions be planned and implemented, as described in Chapter 3.

Because of the diversity in the many areas of application and in the categories or types of projects that exist, and because of the detail involved, it is not feasible to provide a useful example of a well-documented project management process. The remainder of this book conveys a sufficient understanding of the building blocks (concepts, methods, and tools) so that readers can develop, implement, and continually improve an effective project management process for their situation.

## 1.6 TRIAD OF PROJECT MANAGEMENT CONCEPTS

The three basic concepts that underlie professional project management are:

1. Identified points of integrative project responsibility.
2. Integrative and predictive project planning and control.
3. Identifying, managing, and leading the *project team* to integrate the efforts of all contributors to the project.

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### **1. Identified Points of Integrative Project Responsibility**

There are several levels within each organization involved with projects where persons must be identified that hold integrative responsibilities for projects. The most important of these are:

- The executive level:
  - Chief Operating Officer/General Manager.
  - Project Portfolio Steering Group(s).
  - Project Sponsors.
  - Manager/Director/Vice President of Project Management (Project Management Office).
- The program/project managers.
- The functional department managers and project leaders.

The program/project manager role has been the focus of attention in much of the project management literature, but the other integrative roles listed are equally important to achieving truly effective project management. These roles and their related responsibilities are discussed in detail in Chapter 4 and in Part II.

### **2. Integrative and Predictive Project Planning and Control**

The second concept of the project management triad requires that each project be planned and controlled on an integrated basis, including all contributing functional areas or organizations, through the entire project life cycle, including all the elements of information (schedule, cost, technical, risk) pertinent to the situation. Most organizations are faced with the need to plan and execute many projects simultaneously using common resource pools, creating the need to use one common project planning and control system for all projects so that all can be appropriately integrated and coordinated. Chapter 5, “Integrative and Predictive Project Planning and Control,” presents an overview of this important topic and several chapters in Part II discuss it in detail.

### **3. The Project Team**

The third of the project management triad of concepts is that of designating and managing the project team to integrate the efforts of all contributors to the project. Projects consist of many diverse tasks (or “work

packages” in the established usage in many areas of application) that require the expertise and resources of a number of different specialties. These tasks are assigned to various people, usually both from within and outside the organization, who hold primary responsibility for the project. Other persons hold decision-making, regulatory, and approval authority over certain aspects of a project. Every individual contributing to a given project is considered a member of that project team. The most effective project management is achieved when all such contributors collaborate and work together as a well-trained team under the integrative leadership of the project manager. Chapter 6 and Chapter 11 discuss various aspects of project teams and team working.

## 1.7 CHALLENGES POSED BY THE INTERNET

The Internet is posing serious challenges to industry, business, and government. A survey of the CEOs of 506 major companies (sales over \$5 billion) listed “Impact of the Internet” as their second top challenge in 2001 (Table 1.4).

The most basic challenge is to determine in which of two situations your company, agency, or organization finds itself:

- *Transform or perish.* For many organizations, the changes brought on by the Internet and its related technologies are truly a life or death matter. Either the company or agency transforms itself to compete in this new environment or accepts the fact that its days are numbered.
- *Exploit the Internet to grow and compete.* All those for whom the Internet is not a life or death matter have the choice either to capitalize on the opportunities presented by the Internet or not. However, even those who are not today faced with the transform-or-perish option may well find themselves confronted with that option tomorrow. The developments in the global arena are moving so fast that it is impossible to predict which industries, companies, and agencies are invulnerable to the challenges of the Internet phenomena.

**Table 1.4 CEOs of 506 Companies with Sales over \$5 Billion List Their Greatest Challenges for 2001**

1. Changes in type and level of competition	41%
2. Impact of the Internet	38%
3. Industry consolidation	37%
4. Downward pressure on prices	33%
5. Skill shortages	32%

*Source: PC Magazine Internet Business, June 12, 2001, p. 18.*

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Within this context, the specific questions posed by the Internet for senior executives include:

- What must I do to transform my organization to assure that it will survive and prosper?
- What changes can/must I introduce into my organization to participate appropriately in the new e-business communities and the “customer-led revolution”—within this new economy?
- How can my company compete effectively when much of our previously proprietary intellectual property has been made available on the Internet?
- How can we adequately protect our proprietary interests and intellectual capital and at the same time enter into strategic partnerships with companies that can easily become direct competitors?
- How can I promote, foster, and support the means to enable the broad collaboration that is now necessary both within my organization and with our strategic partners?
- What can I do to be sure that we can develop and launch our new products and services rapidly enough to compete in this high-speed environment?
- How can/do I prioritize and manage strategies, projects within strategic programs and within my project portfolios, and activities within projects in this new environment?
- For the shareholder and prospective investor, how can I differentiate my organization from all the others so that our financial fortunes in the stock market do not rise and fall with the herd?

The principles of program and project management, effectively applied, provide powerful answers to at least some of these challenges.

### Using the Internet to Respond to Its Challenges

“Internet speed” refers to the recent drastic reductions in both (1) the time required to launch a new product or service, and (2) the time available to competitively respond to market opportunities. The Internet both causes this situation and enables the competitive response. Using the Internet to help deliver completed projects in shorter times requires a concerted effort, starting with the CEO.

There are a number of powerful, commercially available, Web-enabled project management software systems using client servers and desktop/notebook/handheld computers that bring Internet speed to the project planning and control arena. These systems, when properly coupled with systematic project management as described in this book:

- Enable improved collaboration and communication for project teams no matter where the members are located geographically, with everyone working from the same currently updated information.
- Provide risk and issue tracking, and effective escalation processes.
- Empower project team and staff members through access to central information repositories, with suitable controls on who can change the information.
- Automate much if not most of the project management process and related documentation and record keeping.
- Enable key resource assignments within and between projects, programs, and project portfolios, and facilitate corporate resource planning and acquisition.
- Enable tracking and evaluation of changes in project scope, schedule, cost, and risk.
- Allow integration of project management processes with all other business systems.
- Capture the “lessons learned” on every project for incorporation into and continued improvement of the project management process and related data repositories.

The selection and implementation of such systems is in itself a complex management project that requires application of the principles and practices discussed in this book.

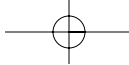
### WHAT CEOs MUST DEMAND

#### **Unleashing the Full Power of Project Management to Compete and Collaborate**

To gain the full power of project management the CEO must demand that:

1. Strategic and project management disciplines be fully integrated.
2. Project portfolio management fully supports the organization's growth strategies.
3. A coherent project management process exists and is fully understood.

*(continued)*



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4. The project management process recognizes the appropriate project categories that exist within the organization and provides detailed guidance for the planning and control of projects in each category.
5. This process and the supporting systems and tools are fully implemented and integrated with corporate policies, procedures, and systems.
6. The Internet and Web are used properly in the daily project management operations.

More detailed CEO demands that must be made to achieve effective project management are identified at the end of each of the chapters in Part I.

