THE IMPORTANCE AND VALUE OF PROJECT MANAGEMENT FOR ENTERPRISES AND INSTITUTIONS

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ABSTRACT

This paper summarizes the reasons that modern project management (PM) is important to all enterprises today, in the highly competitive environment of this digital, Internet Age. It presents the results of the several current efforts to quantify the value of project management, as well as other approaches to determining its value that go beyond return on investment. The requirements to achieve these important benefits are discussed, and the concept that PM is a core competency required of all executives is presented, together with several predictions regarding the PM in the next five years. The primary conclusion is that PM is a vital management discipline for all enterprises that requires substantial effort to achieve its substantial benefits.

PROJECT MANAGEMENT IN INDUSTRY AND GOVERNMENT

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.

Projects Exist in All Organizations

A project is a complex effort to produce certain specified, unique results at a particular point in time and within an established budget for the resources that it will expend or consume. A program is a group of two or more related projects. The concept of a project is not a new idea or invention. Noah’s Ark was a project to conceive of, design, construct and launch a ship. The Egyptian pyramids, the Great Wall of China, the Suez, Panama and Moscow Canals, and the landing of men on the moon were projects. The creation of St. Petersburg out of a frozen swamp was a multi-project program—or more accurately a portfolio of projects to achieve a strategic objective. But beyond these obvious examples we have come to realize within the past few decades that projects exist in all human enterprises. They come in many sizes and with widely varying degrees of complexity and risk and produce an infinite variety of end results.

Nevertheless the principles and practices of modern project management apply to all these projects across the entire spectrum of human enterprise.

**Projects Are the Vehicles for Strategic Growth**

Step-wise 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 small steps to expand, such as hiring an additional salesperson, or taking on a new distributor for an existing product line. But when the steps become significant in size, they clearly are recognizable as projects.

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.

**The Rapid Spread of Modern Project Management**

Application of project management principles and practices continues to spread rapidly to an increasingly broad range of human enterprise around the world. The number of project management books, magazines, electronic magazines, 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®, founded in 1969 [www.pmi.org].
  Today PMI® has over 115,000 members in 168 chapters located in 39 countries, plus members-at-large in some 80 additional countries; in 1990 the total PMI® membership was 8,500. PMI® has cooperative agreements with 16 other professional associations in 19 countries and has identified 12 additional associations involved in some way with project management [PMI 2000, p185].

- The International Project Management Association/IPMA, with national associations founded as early as 1968 (ProjekForum in Sweden) [www.ipma.ch]. IPMA is an international network of national project management societies that serve the specific development needs of each country in its national language. In 2003 IPMA comprises thirty National Associations—primarily in Europe but also in Africa and Asia—representing over 20,000 members in all parts of the world.

- The Association of Project Management/APM [www.apm.org.uk], the American Society for the Advancement of Project Management/asapm [www.asapm.org], the Product Development Management Association/PDMA [www.pdma.org], the Association for the Advancement of Cost Engineering/AACE [www.aaci.org], and others around the world are all devoted to aspects of the project management discipline.

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 rapid extension of the areas of application of modern project management principles and practices is the most important cause of the impressive growth of membership in these professional associations. It is now widely understood that:

1. Projects exist in all types of human enterprise, and that
2. Great benefits are derived from applying the systematic approach to project conception, selection, definition, authorization, and execution that is embodied in modern project management principles produces superior results compared to previously used methods.
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. These are shown in Table 1. Each of these groups brings together executives and project management practitioners that have specific interests in that area of application or business sector. It will be noted that these specific interest groups are not mutually exclusive. Additionally there are several other PMI® specific interest groups and one college, the College of Scheduling, that deal with particular aspects of project management across all of these areas of application. Also, 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 re-engineering and re-structuring existing organizations and bureaucratic processes.

<table>
<thead>
<tr>
<th>Aerospace &amp; Defense</th>
<th>Automation Systems</th>
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</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>Design-procurement-construction (across all economic sectors)</td>
</tr>
<tr>
<td>Dispute Management</td>
<td>E-Business</td>
</tr>
<tr>
<td>Environmental Management (pollution remediation and prevention)</td>
<td>Financial Services (banking, investment)</td>
</tr>
<tr>
<td>Government</td>
<td>Healthcare Project Management</td>
</tr>
<tr>
<td>Hospitality Management (major events, such as the Olympic Games)</td>
<td>Information Systems (software)</td>
</tr>
<tr>
<td>Information Technology and Telecommunications</td>
<td>International Development (infrastructure, agriculture, education, health, etc., in developing countries)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Marketing and Sales</td>
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<tr>
<td>New Product Development</td>
<td>Oil/Gas/Petrochemical</td>
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<tr>
<td>Pharmaceutical</td>
<td>Retail</td>
</tr>
<tr>
<td>Service and Outsourcing (buying rather than making)</td>
<td>Urban Development (potential SIG)</td>
</tr>
<tr>
<td>Utility industry (generation and distribution of electric power, water and gas)</td>
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</table>

Table 1. The specific interest groups (SIGs) within PMI® that relate to specific areas of application of project management.

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 new end result itself, be it a new product, facility, process plant, information system, re-engineered 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 of course significant variations in emphasis and in the detailed planning and execution of projects within each application area and within various world and corporate 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 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, or working together) 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. Table 2 presents a proposed
scheme of categorizing projects that is the subject of a worldwide survey (see
www.ipmaglobalsurvey.com) and illustrates the wide variety of projects in all areas of
application.

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 even before they are started.
• 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. The Product Development and
Management Association (PDMA) determined in 1997 that North American companies
achieve ROI goals with an average of one new product development project in seven
[Griffin 1997 p 431].
• 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.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 in fact made up of 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
<table>
<thead>
<tr>
<th>Project Categories:</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Each having similar life cycle phases and a unique project management process</strong></td>
<td></td>
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<tr>
<td><strong>1. Aerospace/Defense Projects</strong></td>
<td>New weapon system; major system upgrade. Satellite development/launch; space station mod. Task force invasion</td>
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<td>1.1 Defense systems</td>
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<td>1.2 Space</td>
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<td>1.3 Military operations</td>
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<tr>
<td>2.1 Acquisition/Merger</td>
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<td>2.2 Management process improvement</td>
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<td>2.3 New business venture</td>
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<tr>
<td>2.4 Organization re-structuring</td>
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<tr>
<td>2.5 Legal proceeding</td>
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<tr>
<td><strong>3. Communication Systems Projects</strong></td>
<td>Microwave communications network. 3rd generation wireless communication system.</td>
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<tr>
<td>3.1 Network communications systems</td>
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<td>3.2 Switching communications systems</td>
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<td>4.1 International events</td>
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<td>4.2 National events</td>
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<tr>
<td>5.1 Facility decommissioning</td>
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<td>5.2 Facility demolition</td>
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<tr>
<td>5.3 Facility maintenance and modification</td>
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<td>5.4 Facility design/procurement/construction</td>
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<tr>
<td>Civil</td>
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<td>Energy</td>
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<td>Environmental</td>
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<td>High rise</td>
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<tr>
<td>Industrial</td>
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<tr>
<td>Commercial</td>
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<tr>
<td>Residential</td>
<td></td>
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<tr>
<td>Ships</td>
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<tr>
<td><strong>6. Information Systems (Software) Projects</strong></td>
<td>New project management information system. (Information system hardware is considered to be in the product development category.)</td>
</tr>
<tr>
<td><strong>7. International Development Projects</strong></td>
<td>People and process intensive projects in developing countries funded by The World Bank, regional development banks, US AID, UNIDO, other UN, and government agencies; and Capital/civil works intensive projects—often somewhat different from 5. Facility Projects as they may include, as part of the project, creating an organizational entity to operate and maintain the facility, and lending agencies impose their project life cycle and reporting requirements.</td>
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<tr>
<td>7.1 Agriculture/rural development</td>
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<td>7.2 Education</td>
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<td>7.3 Health</td>
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<td>7.4 Nutrition</td>
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<td>7.5 Population</td>
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<td>7.6 Small-scale enterprise</td>
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<td>7.7 Infrastructure: energy (oil, gas, coal, power generation and distribution), industrial, telecommunications, transportation, urbanization, water supply and sewage, irrigation)</td>
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<td>8.1 Motion picture</td>
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<td>8.2 TV segment</td>
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<td>8.2 Live play or music event</td>
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<tr>
<td>9.1 Information technology hardware</td>
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<td>9.2 Industrial product/process</td>
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<td>9.3 Consumer product/process</td>
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<td>9.4 Pharmaceutical product/process</td>
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<td>9.5 Service (financial, other)</td>
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<tr>
<td>10.1 Environmental</td>
<td></td>
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<tr>
<td>10.2 Industrial</td>
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<tr>
<td>10.3 Economic development</td>
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<td>10.4 Medical</td>
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<td>10.5 Scientific</td>
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<td><strong>11. Other Categories?</strong></td>
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Table 2. Proposed project categories/sub-categories, with each category or subcategory having similar project life cycle phases and one unique process management process [Adapted from Archibald 2003, Fig. 2.3, p.35].
in how the required resources will be provided (in-house or out-sourced) 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 mainstream 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, hospitals, 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.

ADVANTAGES AND IMPORTANCE OF MODERN PROJECT MANAGEMENT

The formalized, systematic project management approach of modern project management has several advantages and benefits when compared to the alternative approach of relying on the functional managers to coordinate project activities informally, using procedures and methods designed for managing their functional departments.

The fundamental reason that the approach described here and in the PM literature is used, and its use continues to expand, is that it produces a substantial increase in the probability that each and every project will be successful: achieving its strategic objectives by producing the specified results on time and within the approved budget. This in turn directly increases the success of the total organization.

The basic reasons for this increased success—when the principles and practices described here are properly applied—are:

- Projects are selected and authorized only when they clearly support the organization’s growth strategies, their risks have been sufficiently evaluated and understood, they have been priority ranked with other competing projects, and the key limited resources (people, money and facilities) have been allocated to each project as required for successful execution.
- Project commitments are made only to achievable technical, cost, and schedule goals.
- Portfolio, program and project responsibilities are well defined and properly carried out.
- Every project is planned, scheduled, and controlled so that its commitments are achieved.
- Project teams work together with commitment to the project objectives, plans and schedules.

The advantages gained by defining and assigning the integrative project responsibilities as described, including appointing a project manager for each major project, are:

- Placing accountability on one person (the project manager) for the overall results of the project while clearly making accountable the other key persons at the executive and functional levels for their responsibilities on the project;
- Assuring that decisions are made on the basis of the overall good of both the project and the organization, rather than only for the good of one or another contributing functional department;
- More effectively coordinating all functional contributors to the project; and
- Properly using integrated planning and control methods, systems and tools, and the information they produce.
The advantages of integrated planning and predictive control of all projects include:

- Assuring that the activities of each functional area are being planned and carried out to meet the overall needs of the project in full coordination with all other projects;
- Assuring that the effects of favoring one project over another are known (in allocation of critical resources, for example); and
- Identifying problems early that may jeopardize successful project completion, to enable timely and effective corrective action to prevent or resolve the problems.

The advantages of effective team-working, especially in conjunction with the above primary concepts of project management—focused, integrative responsibilities, and integrative, predictive planning and control—include:

- Bringing needed multiple disciplines together from diverse organizations to collaborate creatively to achieve project objectives;
- Creating strong team commitment and understanding to the project and its objectives;
- Developing as a team jointly agreed plans, schedules, and budgets for executing the project, with resulting commitment to achieving the specified results within the target schedule and cost; and
- Achieving outstanding team performance on each project.

**The Goals and Benefits of Project Portfolio Management**

The three broad goals of project portfolio management are:

1. *Maximization of Value*: To most firms, the principal goal is to allocate resources so as to maximize the value of the portfolio in terms of the major company objective (e.g., long-term profitability, return on investment, or likelihood of success.) ....

2. *Balance*: Here the main concern is to develop a balanced portfolio—to achieve a desired balance of projects in terms of a number of parameters....

3. *Strategic Alignment*: The main focus here is to ensure that, regardless of all other considerations, the final portfolio of projects is strategically aligned and truly reflects the business strategy [Cooper et al 2001, pp 26-27).

“The benefits of portfolio management are tremendous. After establishing their new portfolio process, top management of SmithKline Beechman felt their new portfolio was 30% more valuable than the old one, without any additional investment. They saw the marginal return on additional investment triple from 5:1 to 15:1. These achievements prompted the company to eventually increase development spending by more than 50% [Bridges 1999, p 53, citing Sharpe 1998, p 10].

**COST VERSUS THE VALUE OF PROJECT MANAGEMENT**

The sources of the costs related directly to the application and continual development and improvement of the project management discipline are summarized in Table 3. As noted there, many of the costs associated with this discipline are commonly included in the direct budget for each project. The costs related to managing the project portfolios and the project management office (PMO) are usually included in the organization’s overhead and/or general and administrative expenses.

The magnitude of the total cost of project management varies widely, depending on the type, size and number of the projects and the project management maturity level of the organization. Ibbs and Kwak [1997, p 20] report that a survey of 20 companies shows that “Eighty percent of the companies answered that they spend less than 10 percent of total project cost for utilizing project
management services.” The range of reported costs in that survey was from 0.3% to 15% of total project cost. Salaries and related costs for the various people involved are the largest single item involved. Licensing of project management and related software applications, consulting assistance, and training in project management are also usually significant costs.

<table>
<thead>
<tr>
<th>People (salary plus overhead)</th>
<th>PM Software Applications (Acquisition and maintenance)</th>
<th>PM Planning, Computing and Communications (PCs &amp; ISP*)</th>
<th>PM Travel, Training &amp; Consultants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Portfolio Management</strong></td>
<td>1. Portfolio Steering Group. 2. Support staff (if required.)</td>
<td>Supported by PMO.</td>
<td>1. Minimal PM travel. 2. Consultant may be needed for first implementation.</td>
</tr>
<tr>
<td><strong>Project Management Office (PMO)</strong></td>
<td>1. PMO Director. 2. Support staff.</td>
<td>Acquire &amp; maintain PM software for total organization.</td>
<td>1. Acquire/administer Intranet/Internet/Web server and support for PM discipline. 2. Acquire PCs.</td>
</tr>
<tr>
<td><strong>Program/Project Office (PO) (for each program or project). Costs are included in direct project budget.</strong></td>
<td>1. Program or Project Manager. 2. Planning &amp; control staff.</td>
<td>Tailor &amp; use PM SW for each project’s needs.</td>
<td>1. Project start-up team planning. 2. Other training as required. 3. Travel for project as required. 4. Consultant needed perhaps.</td>
</tr>
<tr>
<td><strong>All affected functions</strong></td>
<td>1. Managers. 2. Functional project leaders. 3. Work package leaders.</td>
<td>Supported by PMO and all project offices &amp; project managers.</td>
<td>Provide &gt; planning inputs &gt; progress info &gt; time sheets.</td>
</tr>
</tbody>
</table>

* Internet Service Provider

Table 3. Sources of Costs for Application and Development of the Project Management Discipline.

Ibbs and Kwak [1997, p 59] present the organizational and financial benefits of implementing project management tools, processes and practices. They look at return on investment in project management and provide a vehicle for estimating the returns to be expected from increasing an organization’s project management maturity.

**Measurement of Project Management ROI**

Knutson [1999] describes a useful approach to measure the return on investment in the project management discipline. She proposes using four measurement plateaus:
Measurement Plateau 1: Comprehension and Acceptance. What is the level of comprehension and acceptance of project management within the organization?

Measurement Plateau 2: Application. What is the frequency and accuracy with which the technical and sociological components of project management are applied?

Measurement Plateau 3: Influence on the Business. What business results have been produced by the existence of the discipline of project management?

Measurement Plateau 4: Return on Investment (ROI). What is the calculated ROI on the direct investment in the project management discipline?

Knutson says:

Generically, business success is measured by 1) tangible outputs, 2) mindset of the employees affected, 3) financial impacts, and 4) reaction of internal and/or external clients. In the project management discipline, one can attempt to accredit the success of the discipline by correlating the success of individual projects. This is a valid, clean approach. However, we may be contaminating the data by failing to recognize that a project might be unsuccessful not because the project management discipline is ineffectual but because external factors are not within the control of the technical or human dimensions components of project management.

To attempt to measure the success of project management—rather than of projects—we need to focus on initiatives within the realm of project management, such as methodologies, automated support, organizational structure, information creation and dissemination, and so on. In this paper, the focus is not only on using the techniques to determine the success of a single project, but more importantly, on how these same techniques can be used to address multiple initiatives that comprise the business and cultural discipline of project management.

Knutson then presents techniques for evaluating and measuring the results of project management on each of these four plateaus, and lists these six possible criteria upon which the discipline of project management might be evaluated:

- **Success Criterion 1**—Documented project management exists and is being applied.
- **Success Criterion 2**—Project customers are more satisfied with project performance.
- **Success Criterion 3**—Accuracy of project planning has improved.
- **Success Criterion 4**—Ability to monitor project status has improved.
- **Success Criterion 5**—Effective mechanism is in place for collecting and disseminating lessons learned (which equals improving project performance).
- **Success Criterion 6**—Effective process is in place for documenting change of scope/requirements and their impact on the project (which equals reducing the number of requests and, for those received, assuring payment for additional work requests).

Application of the approach described by Knutson within any organization will produce a reasonable and defendable calculation of the return on investment in modern project management.

The Value of Project Management: Beyond ROI

Crawford and Pennybacker [2000] say that calculating the return on the investment in project management is not sufficient:

With the accelerating growth of project management initiatives in organizations, a quantitative demonstration of the value of project management is needed to help justify investment in those initiatives. In the past, that demonstration has been mostly anecdotal—project management success stories and case studies. It has been suggested
that some sort of return on investment calculation is needed to support this business justification for project management implementation (Knutson, 1999; Ibbs & Kwak, 1997). We believe that ROI calculations are not good indicators of the value of project management—that many other, more intangible (yet quantifiable) benefits will accrue but not show up in ROI calculations. We argue that today’s executives have turned to a much broader view in valuing their organizations, many using a balanced scorecard approach, and that this approach should be used in studies to determine the value of project management to an organization [Crawford and Pennypacker 2000].

Implementing project management adds significant value to organizations. This conclusion is the result of a survey of more than 100 senior-level project management practitioners by PM Solutions’ research arm, the Center for Business Practices. More than 94% of the respondents stated that implementing project management added value to their organizations [Exhibit 1 shows 5% reported “of little value” and 1% ‘not valuable”]. Organizations cited significant improvements in financial measures, customer measures, project/process measures, and learning and growth measures. All size organizations in all industries reported improvement [Crawford and Pennypacker 2001 citing Center for Business Practices Research Report 2001].

What should organizations expect when implementing project management initiatives? Average improvements on the order of 50% in project/process execution, 54% in financial performance, 36% in customer satisfaction, and 30% in employee satisfaction were noted by the companies surveyed. Those organizations that do not implement project management will be at a competitive disadvantage to those who do…. The survey revealed that most companies rely on multiple coordinated project management improvement initiatives rather than just one or two [Crawford and Pennypacker 2001].

REQUIREMENTS TO ACHIEVE THESE BENEFITS

In order to achieve these potential benefits of effective project management, organizations must invest a reasonable amount of time and effort in

- Creating the needed organization culture
- Introducing and improving project management practices, systems and tools, and
- Training the involved persons at all levels.

**Organization Culture for Project Management:** Effective project management requires an organization culture that is open to change and willing to accept new ways of doing things. The roles and responsibilities related to project management add a new dimension to those existing in the traditional, functionally organized structure of organizations. These integrative roles cut across the functional lines of authority to enable project managers (and others) to give ‘project direction’ to persons who are not under their direct authority. People performing the work on projects must learn that it is possible to operate effectively when they receive functional direction from one boss and project direction from another.

Open information channels are important to effective project management. The early exposure of potential problems (delays, cost overruns, technical problems) is necessary to be successful in managing projects. Old attitudes regarding the unwillingness to share vital information must be changed when project management practices are introduced.

**Introducing and Improving Project Management Practices, Systems and Tools:** When an organization undertakes to introduce or improve their project management practices, systems and tools this requires careful planning with the assistance of experienced practitioners, often in the form of outside consultants. Implementation of new or improved methods are projects in themselves and require good project management for their accomplishment. Most
organizations will move through a series of evolutionary steps before achieving maturity in project management capabilities.

Several different project management maturity models [PMI’s OPM3, opm3info@pmi.org; OGC’s Maturity Model, www.ogc.gov.uk/sdtoolkit] have been developed in various countries to assist organizations in first determining how they compare with other organizations, and second deciding their priorities in introducing improvements in their project management capabilities.

**Training Requirements in Project Management:** Implementing project management systems and tools requires extensive training of all the persons involved at all levels of the organization. Today, formalized education and training for individuals in all aspects of project management is widely available in most of the developed countries of the world at doctoral, master’s, bachelor, and even high school levels. “More than 900 organizations (universities, government and non-government agencies, training and consulting companies, and independent consultants—on-line and on-site) in 46 countries participate in the R. E. P. [PMI Registered Education Providers] Program [initiated in 1999], currently offering 4,000 learning activities and training for more than 60,000 students per year” *(PMI Today August 2003, Supplement).* Many additional education and training providers are recognized by the 30 national member organizations of the International Project Management Association/IPMA. Eighteen graduate and undergraduate level PM certification and degree programs that exist today across the U. S. have been identified by one (Curtis 2003, pp 37-39) of the many printed and electronic periodicals devoted to PM.

Differing kinds of PM training and indoctrination is needed for executives, program and project managers, and project planning and control specialists who support the project managers.

**Project Management Certification Programs:** Individual certification in project management is provided by PMI and IPMA and its member associations, as well as by various educational and training institutions. PMI’s certification is presently at two levels: Project Management Professional/PMP, and Certified Associate in Project Management/CAPM By July 31 2003 PMI had certified 67,160 PMPs around the world, including 15,703 during the first seven months of the year 2003 *(PMI Today Oct. 2003, p 7).* The PMP certification examination is heavily based on the content of PMI’s PMBOK® Guide, which has recently been translated from English into eight languages (Brazilian Portuguese, French, German, Italian, Japanese, Korean, Mandarin Chinese, and Spanish) and focuses almost entirely on managing a single project, with little reference to multi-project, program, or project portfolio management. (The PMBOK® Guide has also been unofficially translated into Russian and probably other languages.) Although fairly extensive experience is required in order to qualify to take the PMP exam, some critics believe that PMI’s PMP certification is too heavily based on knowledge rather than capability or competence, is not sufficiently application specific, and does not specifically certify project managers per se. The IPMA Certification Program *(www.ipma.ch/root/certification)* approach provides for the four levels of certification shown in Figure 1. These levels are being adapted and administered by the national member associations of IPMA for their countries and in their languages. The 90 page IPMA Competency Baseline/ICB document (English, German and French) can be downloaded from the above address. The main requirements for each level are:

- **Level A: Certificated programme director (CPD)** shall have the ability to direct all projects of a programme or all projects of a company/branch or to manage a complex project with major partners from different international cultures.
- **Level B: Certificated project manager (CPM)** shall be able to manage complex projects him/herself.
• **Level C:** Registered project management professional (RPMP) can manage non-complex projects him/herself and assist the manager of a complex project in all fields of project management.

• **Level D:** Project management Fachman/Fachfrau/practitioner (PMF) shall have project management knowledge and may be applying it on some fields as a specialist.

Figure 1. IPMA’s Project Management Certification Scheme

The Association of Project Management/APM, the British member of IPMA, lists 32 accredited training organizations and 15 higher educational institutions in the UK. Its program ([http://www.apm.org.uk/qualifications/APM_Qualifications_brochure.pdf](http://www.apm.org.uk/qualifications/APM_Qualifications_brochure.pdf)) currently offers three award levels: Certified Project Manager (IPMA Level B), Practitioner Qualification (IPMA Level C), and APMP (IPMA Level D). The APM Group ([www.apmgroup.co.uk](http://www.apmgroup.co.uk)) acting on behalf of the UK OGC, presently accredits trainers (currently 150 worldwide) and training organizations (currently 50 worldwide) in the OGC ‘Best Practice’ Guides (OGC PRINCE2, MSP and M_o_R) for IPMA Level C certification.

**IS PROJECT MANAGEMENT A PROFESSION?**

There is continuing discussion within the PM community of practitioners, consultants, teachers, trainers, authors, researchers, editors, publishers, software vendors, and the associations that have taken charge of the several PM bodies of knowledge, certification, accreditation, standards development, ethics, and PM maturity model development and application, regarding whether or not PM is or will ever be a true ‘profession.’

“Contrary to ‘PM as a Profession’, I have recently come to the conclusion that project management must now be understood and promoted as a ‘core competency for every executive in every organization’. The direction our ‘profession’ must now take, in my opinion, is to show that the benefits of professional PM are so profound and wide spread that they should be embraced by every professional, every executive and every organization. Management by projects is no longer a choice but a practical reality in a competitive world. Enterprise PM and Portfolio PM are simply steps toward a more mature and more profitable enterprise. To survive and/or to prosper, every executive must understand how to organize, plan and complete projects.” (Pells, 2003).

David Curling has expressed a similar opinion, recently saying that “I wrote on the ‘Globalization of the Project Management Profession’ and presented the paper to PMI in Chicago [in 1998] and to some local PM organizations. Most were horrified when I declared that PM was
not a profession but a business discipline and I had some difficulty in seeing that it would ever become a profession. That is, I felt that project management was simply a sub set of general management and there was little probability of ‘General Management’ becoming a ‘legally based profession’” (Curling 2003).

Roberto Morales [2003], Dean of the National University of Engineering in Peru, captured the essence of this current thinking when he recently stated that “Project management is a way of life for all professionals.”

**PROJECT MANAGEMENT IN THE NEXT FIVE YEARS**

Here are a few conclusions and cautious predictions about where the discipline of PM will be in the year 2008.

**Characteristics of Project Management**

The basic characteristics of PM have not changed appreciably in the past 10 years and are not expected to change much within the foreseeable future.

**Major Project Management Trends**

Three major PM trends are observed that will continue:

1. Linking strategic and project management through project portfolio management practices.
2. Broadening the application of PM to include the total project life cycle, from concept through to full realization of project benefits.
3. Continued discovery of new application areas for the PM discipline.

**Organization Capabilities and Maturity in PM**

Rather than continue to be developed as a separate specialty within organizational management disciplines, the principles and practices of PM will gradually merge with other areas of management and be an important part of every manager’s responsibilities, much like financial management is today: Chief Financial Officers/CFOs set the financial policies and practices of an organization, but every manager has and uses a reasonable amount of financial management skills and expertise. There are numerous financial specialists, including licensed CPA’s or their equivalents, who work throughout large organizations within the established policies and procedures. Within the next five years, project-driven and project dependent organizations will similarly have Chief PM Officers/CPMOs who will set the PM policies and practices of the organization, and every manager will hold and apply a reasonable amount of PM skills and expertise. PM specialists, many “certified” but none “licensed,” will similarly support the PM policies and procedures throughout these organizations.

**PM Maturity Models**

There will be at least three major models competing in the global marketplace: PMI’s OPM3, Japan’s P2M (not yet available in English), and outgrowths from the UK’s OGC PRINCE2 approach. Adaptations of these, as well as new models, will emerge within specific areas of application. Translations of the basic models and their area-specific adaptations into the eight or ten major languages will also appear.

**Individual Capabilities in PM**

- Certification of individuals in PM will be:
  - Much more heavily based on proven capabilities
  - Almost entirely focused on specific areas of application and/or specific categories of projects
Awarded at several levels: Program manager, project manager, and several project specialist categories (cost, estimating, scheduling, risk, and others)

- Demonstrated knowledge of and capabilities in PM, but not necessarily PM certification, will be a prerequisite for advancement to almost all senior management positions by within all project driven organizations, and within many project dependent organizations as well.
- Governmental licensing of PM practitioners will not exist by.

“While I believe that PM should be embraced and used by all executives and organizations, it will also be a ‘career path’ for many individuals and certainly in very projectized industries such as construction, energy, petrochemicals, aerospace, defense and other engineering-based endeavors. Membership in PM professional societies will be a requirement for those actively involved in PM, but also useful as sources of education and information for the much broader set of professionals and executives who must understand PM but who may not be managing projects themselves. In addition, PM should also be recognized as a great training and proving ground for future CEOs because of the broad range of functional and stakeholder issues that a PM on any large or mission-critical project must cover” (Pells 2003).

**Projects, Programs, and Project Portfolios**

- Project portfolio management will be in widespread use
- A global project classification system based on the characteristics of project results will be accepted by the major PM associations and used by most practitioners
- The characteristics of projects and programs within specific project categories of the classification system will be the subject of intensified research.
- PM certification programs will be offered in consonance with this project classification system.

**Project Life Cycle Models**

- A catalog of project life cycle models related to the project classification system will be available for adaptation and use by practitioners to fit their project categories and environments
- Most projects will be managed on a total life cycle basis
- The post project phase of “realization of project benefits” will become increasingly recognized as a proper part of the total project life cycle.

**Areas of Application of PM**

Within the next five years formalized PM will be in use in essentially all areas of human endeavor.

**PM Planning and Control Systems and Tools**

- PM software and the information it produces will be fully integrated with all corporate information systems
- PM software will be further specialized to fit the project classification system and the catalog of project life cycle models
- Web enabled PM software will be used by all but the smallest enterprises
- Wireless handheld, notebook, and desk top computers will be used by most project teams for planning and control purposes, accessing the complex PM applications that will reside on centralized servers
- The PM software industry will enter its mature phase and we will witness the classic consolidation of a mature technology or industry.
Project Teams

- Virtual project teams will meet regularly via video conferencing on most projects
- The majority of project managers will understand the importance of, and be proficient in, team building and team leadership.

The ‘Profession’ of PM

- Many people within the PM community will still be referring to the ‘profession’ of PM, however there will not be any U. S. state or Canadian province that has an official licensing statute for PM practitioners, program or project managers, educators, consultants, trainers, or software vendors.
- PM disciplines and practices will be widely known and used by managers at many levels in essentially all industries and human agencies in the developed world.

Variations in the Status and Applicability of PM Around the World

While some relatively minor differences will remain in the status of PM between different geographic regions and countries in the developed world, more significant differences will continue to exist between developed and newly developed countries on one hand and less developed countries on the other. For example, in Sub-Saharan African countries, excluding of course South Africa, “implementation of modern PM...is directly tied to projects financed or implemented for organizations from fully developed economies [such as The World Bank or multi-national corporations]. This might lead to some questions (in the future) related to how much the spread of modern PM is also tied to economic and political freedoms within society – where individuals are free and motivated to seek out best practices in other organizations, societies or locations” (Pells 2003).

“This paper has argued that project management concepts are not universally valid because (1) they are based on certain assumptions about what governs human behaviour (e.g. economic rationality) and (2) these assumptions are not valid in some cultures (e.g. values at work and in social settings differing across cultures)” (Muriithi and Crawford 2003).

By 2008 PM is not expected to have permeated the economies of a number of African and perhaps other developing countries to a major extent.

CONCLUSIONS

Essentially all enterprises realize their long range growth strategies through the creation, planning, and execution of unique efforts that we call projects. In order for any enterprise to properly, effectively, and prudently manage their future growth, modern project management principles and practices must be applied. Thus the application of these practices, methods, systems and tools is of great importance to every enterprise today.

The surveys quoted above show conclusively that when properly applied the principles of project management will produce benefits and value to the enterprise far in excess of the costs associated with this management discipline.

In order for organizations to realize the important benefits of modern project management, it is necessary for them to invest substantial time and effort to create the needed organizational culture; implement the PM practices, systems and tools; and provide the needed training and indoctrination at all organizational levels.

The project management discipline is not a separate management profession but rather it is a core competency that all executives must have in this Internet Age. It should be a way of life for all professionals.
The art and science of project management will continue to evolve, in particular with more complete project life cycle management, with closer linkage to the organization’s strategic management, with more specialization in life cycle models and individual certification for well-defined categories of projects, with ever more powerful information and communication systems and tools, within ever-broadening areas of application, and with the realization that there will remain countries and cultures in which the project management discipline will not be widely appropriate or effective.

References


Curling, David H., private communication to Russell Archibald, 2003. Used with permission. See his 1998 paper “Globalization of the Project Management Profession,” presented at the PMI Seminars Symposium 1998, Toronto, Canada, at http://www.pmforum.org/docs/prof2col.htm, and further commentary on this subject in October 2002 at http://www.pmforum.org/library/feat98.htm#CURLING. David Curling, CPM, is a Fellow in PMI and APM, and a registered professional engineer in Canada. He is the creator and webmaster for the Project Management Forum (www.pmforum.org), one of the most widely read web sites devoted to PM.


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Pells, David L., “Licensing in the PM Profession,” private communication to Russell Archibald, David Curling, and Max Wideman, October 10, 2003. Used with permission. David Pells, PMP, pells@sbcglobal.net is a PMI Fellow and former member of the Board of Directors of PMI. He is also active in IPMA, and began the Global PM Forum (www.pmforum.org/globalpm/globpmndx.htm ) initiative that once or twice each year brings together members of the total spectrum of the PM community from around the world.

