CENTER FOR BUSINESS PRACTICES®

Justifying the Value of Project Management



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ISBN: 1-929576-08-0

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The publisher offers discounts on this book when ordered in bulk quantities. For mor information, write to Special Sales / Professional Marketing at the headquarters address above.

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Current printing (last digit):
10 9 8 7 6 5 4 3 2 1

PRINTED IN THE UNITED STATES OF AMERICA

Contents

About the Authors 6

Introduction 7
James S. Pennypacker

The Value of Project Management 11
J. Kent Crawford and James S. Pennypacker

Getting Senior Executives "On Side" 23
Janice L. Thomas, Connie L. Delisle, and Kam Jugdev

Building a Business Case for a Project Organization 51
Frank Toney

Center for Business Practices Research Reports
James S. Pennypacker

- The Value of Project Management Survey 81
- The Value of Project Management in IT Organizations Survey 87
- Getting Executive Buy-in Survey 91

About the Center for Business Practices 96

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Introduction

James S. Pennypacker

Senior executives want to know one thing about any project management improvement initiative: "What's the value?" Today more than ever, every dollar invested must be justified, and any initiative must deliver positive and tangible results. The good news is that tangible metrics on project management value can be established by asking the right questions and developing an appropriate measurement system.

Justifying the Value of Project Management will help you do just that. You will learn how to develop a system to measure the value of project management within your own organization, you will learn how to sell project management to senior executives, and you will learn what value others have attained by implementing project management improvement initiatives in their organizations. Whether you want to implement a project office, a project management methodology, project management software, train staff in project management tools and techniques, or just add improvements in these areas, this book will help you understand how to go about building your business case and selling it to senior executives to attain the funding needed.

In the past, the value of project management has been measured in efficiency terms (time, cost, scope) and financial terms that are generally limited to the project (ROI). There are

broader valuation practices that extend to the organization as a whole that lend a much clearer, accurate, and useful view of the effects of implementing project management in organizations. Each of the chapters in this book takes a different approach to the value issue, but together they provide the understanding you need to help your organization increase its competitive advantage.

In chapter one, Crawford and Pennypacker lay out a framework for measuring the value of project management in an organization using a balanced scorecard approach. They argue that, although many people call for ROI calculations to make decisions, ROI by itself is neither necessary nor sufficient to justify the implementation of project management. They go on to show just what types of measures can be used.

Financial measures (ROI, EVA, productivity, cost savings, etc.), customer measures (satisfaction, profitability, market share, etc.), project process measures (cost, scope, time, quality, risk, etc.), and learning and growth measures (employee satisfaction, employee turnover, employee productivity, etc.) make up the balanced family of measures needed to justify the value of project management to organizations. By selecting a broad range of measures that can be tied to the organizations shareholder value, a system can be put into place to help you understand the effect of implementing improvement initiatives within your organization.

In chapter two, Thomas, Delisle, and Jugdev discuss what it takes to sell project management to executives within organizations. Their research shows just what executives are looking for in terms of project management value and how it's currently being sold. They identify effective strategies used to sell project management to executives and leave you with arguments about how successful selling processes work.

Some of these best practices include the need to:

- understand the organization's key business priorities and discuss project management in the context of measurable quantitative outcomes as well as effectiveness outcomes
- explain project management in terms of time, cost, and scope without overemphasizing project language (tools, techniques)
- understand how project management fits the organization in terms of operational and strategic goals and discuss it in contexts that make sense to senior executives.

In chapter three, Toney builds a business case for implementing a project office. The case requires that the value of project management to the organization be justified. He uses research acquired over the last decade with The Top 500 Benchmarking Forum to contend that the implementation of project management in organizations can increase revenue, reduce costs, enhance the performance of individual project managers, improve the image of professionalism in the eyes of customers and other important stakeholders and provide numerous generalized organizational improvements.

Toney's research shows that best practice project organizations formally and aggressively communicate the value added benefits of the project organization. They emphasize that the process should not be a self-serving approach, but should inform others of the ways the project group can help each functional organization achieve its objectives and be more successful.

In the final section of this book, Pennypacker offers summaries of several research projects conducted by the Center

for Business Practices to measure the value of project management within organizations. Each of the surveys show similar results—project management adds significant value to organizations.

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. The bottom line: those organizations that do not implement project management will be at a competitive disadvantage to those who do.

The Value of Project Management

J. Kent Crawford and James S. Pennypacker

Financial accounting, balance sheets, profit-and-loss statements, allocating of costs, etc., are an x-ray of the enterprise's skeleton. But much as the diseases we most commonly die from—heart disease, cancer, Parkinson's—do not show up in a skeletal x-ray, a loss of market standing or a failure to innovate do not register in the accountant's figures until the damage is done.

— Peter Drucker (1993)

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 and 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. This chapter will outline that approach. Summary findings of several surveys on the value of project management using this framework can be found in the section on Center for Business Practices Research.

A Project Management Culture

The organizational environment needed for continued project success is ultimately created by upper management. The way that the managers of divisions, departments, and/or functions, define, structure, and act toward projects has an important effect on the success or failure of those projects, and consequently the success or failure of the organization. An effective project management culture is critical for effective project management.

So how do we develop a project management culture in our organizations? A culture is a shared set of beliefs, values, and expectations. This culture is embodied in the organization's policies, practices, procedures, and routines. Effective cultural change occurs and will be sustained only by altering (or in some cases creating) these everyday policies, practices, procedures, and routines in order to impact the beliefs and values that guide employee actions. We can affect the culture by changing the work climate, by establishing and implementing project management methodology, by training to that methodology and to the *PMBOK® Guide,* and by reinforcing and rewarding the changed behavior that results.

Having an effective project management culture involves more than implementing the science of project management, however—it involves the art of applying project management skill. It also involves the organizational changes that truly

integrate this management philosophy. These changes are sometimes structural, but they always involve a new approach to managing a business: projects are a natural outgrowth of the organization's mission. They are the way in which the organization puts in place the processes that carry out the mission. They are the way in which changes will be effected that enable the organization to effectively compete in the marketplace.

What is your project management culture? One way to define your culture is to see where you fit in a project management maturity model. A project management maturity model defines levels of growth and development in appropriate organizational policies, practices, procedures, and routines. As such, a project management maturity level of your organization can be thought of as your project management culture. PM Solutions' Project Management Maturity Model defines five levels of project management maturity: Level 1: Initial Process; Level 2: Structured Process and Standards; Level 3: Organizational Standards and Institutionalized Process; Level 4: Managed Process; Level 5: Optimizing Process. This model can be used in assessing the maturity of your organization in managing projects enterprisewide — in other words, your project management culture (Figure 1).

What to Measure

What should you measure to determine the benefits of implementing a project management culture? How do you measure the benefits of moving up the cultural ladder (the project management maturity model)?

In the past, and in some cases today as well, the measure most often used is return on investment. ROI is a measure of profitability computed by dividing the amount of operating

Figure 1. Levels of maturity in PM Solutions Project Management Maturity Model

Level 1: Initial Process
- Ad-hoc processes
- Management awareness

Level 2: Structured Process and Standards
- Basic processes; not standard on all projects; used on large, high visible projects
- Management supports and encourages use
- Mix of intermediate and summary-level information
- Estimates, schedules based on expert knowledge and generic tools
- Mostly a project centric focus

Level 3: Organizational Standards and Institutionalized Process
- All processes, standard for all projects, repeatable
- Management has institutionalized processes
- Summary and detailed information
- Baseline and informal collection of actuals
- Estimates, schedules may be based on industry standards and organizational specifics
- More of an organizational focus
- Informal analysis of project performance

Level 4: Managed Process
- Processes integrated with corporate processes
- Management mandates compliance
- Management takes an organizational entity view
- Solid analysis of project performance
- Estimates, schedules are normally based on organization specifics
- Management uses data to make decisions

Level 5: Optimizing Process
- Processes to measure project effectiveness and efficiency
- Processes in place to improve
- Management focuses on continuous improvement

Source: J. Kent Crawford, *Project Management Maturity Model,* Center for Business Practices/Marcel Dekker, 2002.

income earned by the average investment in operating assets required to earn the income. ROI measures how effectively assets are used to earn income. Financial measures alone, however, don't present a clear picture of the value. They are too unreliable as either a clear gauge of success or a clear sign of the future measures. Unlike financial measures, most operational measures are leading indicators. When they improve, an improvement in the financials follows, albeit often indirectly, and with a time lag. To drive success, financial measures must be supplemented with nonfinancial ones. Many, if not most, Fortune 1000 organizations are taking a balanced scorecard approach to measure and manage their organizations (Kaplan and Norton 1996). Even for institutional investors, non-financial criteria constitute 35% of the investor's decision (Christensen 1999). And in one case, an innovative system provides for a specific Return on Management measure (Figure 2, Strassmann 1996).

Research has shown that creating value for stakeholders is the key to organizational success. Companies that stress shareholders, customers, and employees outperform firms that do not. Over an eleven-year period, the former increased revenues by an average of 682 percent versus 166 percent for the latter, expanded their workforces by 282 percent versus 36 percent, grew their stock prices by 901 percent versus 74 percent, and improved their net incomes by 756 percent versus 1 percent (Kotter and Heskett 1992).

Since deriving advantage through stakeholders drives strategic success, the best way to create measures is to look at which key stakeholder groups most help drive the strategy and devise measures to fit these groups. For every organization, the stakeholders most responsible for helping it deliver on its strategy are shareholders, customers, employees, and communities.

Figure 2. Return on Management

A simple, innovative measurement system has been created by Paul Strassman (1996), called Return on Management. Strassmann argues that the scarce resources today are people who can organize and motivate the productive capacities of their employees, and who know how to maximize the use of capital. This scarce resource is management. If a company is profitable, it is because of management, not capital. The performance of today's high technology and service businesses are influenced more by the quality of their management than by their assets.

We can determine Management costs by first identifying all Operations costs, which are all resources that are essential for serving today's customers. Everything not in Operations is, by definition Management. So first, we need to subtract the cost of purchased goods, energy and services, as well as interest costs and taxes. Then subtract shareholder value added, operations costs and management costs. What's left over is management value added. The ratio of management value added to management costs is the Return on Management.

Some Metrics

What metrics should you use to determine the benefits of project management to your organization. The argument above suggests that simple financial measurements are not enough, that a balanced family of measures is needed to get an overall picture of the health of your organization and its project management practices. A balanced family of measures can evolve into a powerful system for executing strategy. The measures help to define the strategy, communicate it to the organization, and direct its implementation at every rung of the hierarchy, from the corporate level to the individual. They also keep everyone's efforts aligned, because they link strategy to budgets, to resource-allocation systems, and to pay programs. Demonstrating how project management initia-

tives measure up using this balanced family of measures is critical to any business justification for a project management investment.

Below is a sample of the kinds of measures that would make up a balanced family of measures. The measures are a mix of financial, operational, and social measures that show value to stakeholders. Measures in these categories should also be a balanced mix of inputs (money and people put into a process), outputs (results achieved), and processes (performance of the systems that deliver the output). For example, a project management input measure could be R&D spending, the output measure could be the number of new products, and the process measure could be the number of change orders per product during development. The ultimate output measure is the contribution of these new products to corporate profitability.

A balanced family of measures might include the following (the exact measures would vary with each organization, depending on its strategy):

- For Shareholders: economic value added, earnings-per-share growth, cash flow per share, economic profit, total factor productivity, percentage of new-product sales, return on management
- For Customers: customer satisfaction, product quality index, repair incidence, customer loyalty
- For Employees: employee satisfaction, employee turnover, productivity, diversity in management, training time per year
- For Community: index of environmental impacts, safety record, community satisfaction, charitable and community contributions.

Measures should also be input (money and people put into a process), output (results achieved) and process (performance of the systems that deliver the output). In R&D input would be R&D spending, output the number of new products, process the number of change orders per product during manufacturing. The ultimate output measure is the contribution of these new products to corporate profitability.

A subset of measures that focus on operational issues only might include the following:

- For Shareholders: productivity, cost reductions, defect level, cycle time, customer retention, employee turnover, percentage of new product sales, process errors
- For Customers: project success (time, cost, quality), repair incidence, product quality index, on-time shipping, customer satisfaction, customer retention, customer loyalty, new product inventions, share of wallet, market share
- For Employees: OSHA recordables, employee satisfaction, absenteeism, employee turnover, empowerment index, grievances, training time per year, competence levels, salary levels, benefit levels, family-support services, percentage of flexible schedules
- For Community: safety record, salary levels, community satisfaction, legal actions (Kaplan and Norton, 1996).

Effective metrics are leading indicators, they forecast future trends inside and outside the organization. They're objective and unbiased, and they're normalized so they can be benchmarked against other companies. They need to be inexpensive to collect as well as unobtrusive—they shouldn't

disrupt work or the trust of your employees. And they need to discriminate meaningful small changes. They should be appropriate (measure the right things) and efficient (so you can draw many conclusions out of your data set). They need to be comprehensive, showing all the significant features of the organization's status. And of course they need to be quantifiable and statistically reliable. A balanced set of measures that follow these criteria would be the perfect measurement system to judge your project management effectiveness.

The Study

PM Solutions' Center for Business Practices has surveyed organizations who have implemented project management improvement initiatives to determine the value of those implementations to their organizations based on a balanced family of measures as outlined above. Similar to the study done by Bill Ibbs and Young-Hoon Kwak (1997), this study hypothesizes that benefits accrue as an organization improves their project management maturity. But, unlike the Ibbs-Kwak study, this study will move beyond simple ROI calculations. Different organizations get value in different ways, as shown by the discussion above on using a balanced family of measures. The Center for Business Practices surveyed these organizations to discover which of the many possible measures the different organizations use to evaluate their businesses and whether or not there were improvements (percentage improvement per year) based on the implementation of project management initiatives. Summary results of the survey are found in the section on Center for Business Practices Research.

Figure 3: The Value of Project Management Research

The Center for Business Practices based its survey using a balanced family of measures to determine the value of project management to organizations. Summary results are found on page 79. Below is a sample of the questions asked regarding the benefits accrued by implementing a project management improvement initiative.

Financial Measures

- What is the return on investment?
- What is the change in economic value-added?
- What is the change in sales growth?
- What is the change in productivity?
- What costs were saved (in U.S. dollars)?

Customer Measures

- What is the change in customer satisfaction?
- What is the change in customer retention?
- What is the change in customer acquisition?
- What is the change in customer profitability?
- What is the change in market share?

Project/Process Measures

- What is the change in projects completed within budget?
- What is the change in projects completed within schedule?
- What is the change in meeting functional requirements/technical specifications?
- What is the change in time to market?
- What is the change in actual cost performance versus projections?
- What is the change in actual schedule performance versus projections?
- What is the change in quality (defects, rework)?
- What is the change in degree of project risk?

Learning and Growth Measures

- What is the change in employee satisfaction?
- What is the change in employee turnover?
- What is the change in training time per year per employee?
- What is the percent change in employee productivity?
- What is the change in information system availability?

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Getting Senior Executives "On Side"

Janice L.Thomas, Connie L. Delisle, Kam Jugdev

Why is it hard to get executives "on side" regarding the value of project management? Why is it hard to "sell" it to them? These and other related questions continue to perplex both practitioners and academics alike. Anecdotal reports focus on identifying best practices and strategies for sellers to "get their foot in the door" and secure airtime with busy executives. Some of the literature focuses on the process of building a buyer-seller relationship, and emphasizes the elements of trust and credibility, which are key to interaction marketing. However, there are no empirical studies conducted within project management on this topic.

In 1999, the Project Management Institute (PMI®) identified the need to study the value of project management in both qualitative and quantitative ways. This was in response to membership feedback on the top issues they were facing.

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This chapter represents the outcome of research into *Best Practices for Communicating the Benefits of Project Management to Senior Executives.* The two-year study, partially funded by PMI®, was awarded to this team in response to the international request for proposal.

This chapter provides an overview of the study, a summary of findings and interpretive analysis, and puts forward interpretations about the best ways to "get senior executives on side?" It summarizes findings on what executives are looking for in terms of project management value and what different groups are selling. Project management professionals and practitioners, project personnel, senior executives, managers, and consultants may gain significant insight from this. The chapter includes the following sections: study background, literature review, Phase I overview, Phase II overview, summary of study findings, conclusions.

Study Background

The primary objective of this study is to better understand the process of selling project management, by project managers and consultants, to senior executives. The primary research questions answered in this two-phased investigation included "Why is it difficult to sell project management to senior executives?" and "How do you successfully sell project management to executives?" In particular, we set out to:

- Identify the main arguments put forth to promote (sell) project management to executives, or in other words, bring project management to their attention (or colloquially "get them on side").
- Articulate the effective strategies used to sell project management to executives. In doing so, we identified

the specific "best practices" related to the process, arguments, and context of successfully selling project management to senior executives.

In this study, project management is operationally defined as the disciplines, methodologies, processes, and standards applied to managing projects in the workplace. The construct of selling refers to promoting and advocating project management to executives in an organized manner. Project personnel includes all organizational personnel involved in project management This could include team leaders and project controls officers up to and including program directors. Consultants are individuals involved in "selling" project management services and tools to organizations. Executives or senior executives are individuals at the vice president level or higher that sponsor and/or manage projects in their organizations.

In order to get a handle on these issues and the research questions at hand, we conducted a literature review of project management, marketing, and organizational literature that formed the foundation for the study. The next section highlights some of the most significant research we consulted at this stage.

Literature Review

Project management is a growing discipline practiced in a challenging, competitive marketplace. It is "one of a few critically enabling strategies for strengthening a competitive marketplace posture" (Bounds 1998, 41). The issue of selling project management to executives is significant as successful project management involves senior management support, both financially and in managerial terms, and achieving

support for the discipline enables firms to improve their competitive advantage (Pinto and Slevin 1987; Shenhar et al 1997; Belassi and Tukel 1996). Although project management is perceived to have value towards improving operational efficiency and contributing to a firm's competitive advantage, the perceptions of its organizational benefits are not always aligned between executives who may buy or invest in the services, practitioners who apply the discipline, and consultants involved in selling it. Executives focus on business goals, results, and outcomes from projects, while practitioners and consultants tend to focus on the tactics of tools and techniques. The emphasis on different values of project management that the other party may not uphold, supports earlier work that suggests there are substantial language bafflers in project management, and considerable difficulty in developing a shared understanding and appreciation (Thomas 2000).

Research from marketing reflects a common theme. Successful sellers present the service / product in a practical manner that speaks to the issues of the purchaser. The literature provides basic tenets of marketing that includes: developing rapport, meeting with the decision-makers, and having credibility (Gardner et al 1996; Gardner and Bistritz 1998; Heinrichs 2000; King 1994; King 1996; Marchetti 1997; On Target 1999; Weitz and Bradford 1999; Price 1999). Few have related these concepts specifically to project management (Thomas et al 2001b; Thomas et al 2001a; Block 1991; Block 1992). In addition, the strategy development literature does not address project management per se. Current literature on the valuation of project management indicates that it is measured in efficiency terms (time, cost, scope) and financial terms that are generally limited to the project as opposed to broader valuation practices that extend to the organization (Belassi and Tukel 1996; Clarke 1999; Kerzner 1987; Munns and Bjeirmi 1996; Shenhar et al

1997). This supports the premise that project management's value is generally perceived to be at the operational level and that project management's value is that of a tactical construct. In contrast, executives generally focus on corporate issues and those related to business results (Dutton et al 2000; Barney 2001). This is part of the conundrum within project management. How do we get executives on side with respect to project management, when the perception is that it is a tactical construct?

Since there is little theory specific to project management, on how we sell or buy project management, we turned to the literature on strategic issues. Strategic issues are those that continuously appear on executives radar screen as they develop corporate strategy and make management decisions (Dutton et al 2000; Dawn and Ashford 1993; Dutton and Webster 1988). The key is to understand how project management becomes a strategic issue that gains executive attention in a positive way.

From the marketing and selling literature, we know that it is important for sellers to be credible (Dutton et al 2000; Dutton and Ashford 1993; Dutton and Webster 1988; Bistritz et al 1999; Gardner et al 1996; Gardner and Bistritz 1998; Block 1991; Block 1992). Executive attention to project management is related to who brings it to their attention, the credibility they have, and how it is presented (Dawn and Ashford 1993). Executives also pay attention to how strategic issues are framed (wording, emotional content). In addition, the selling process is a key factor. Executive attention to project management is related to the selling process, e.g., who is involved, public, or private channels, degree of formality (Dutton and Ashford 1993).

The two ways in which we structured the study then, was to examine the processes and context within which project

management is sold to executives. We examined a number of factors (independent variables) to understand the relationships and linkages to executive attention or support for project management as a measure for the dependent variable, or in other words, "buying project management." Since this chapter contributes to developing the theory of selling project management (as a strategic issue), the methodology did not use independent and dependent variables along with hypotheses. Instead, the concepts were identified as such for the purposes of exploratory factor analysis.

Study Methodology

The primary objective of this study is to better understand the process of selling project management, by project managers and consultants, to senior executives. A two-phased approach was used.

Phase I Overview

Answering the research question in Phase I, "Why is it difficult to sell project management to senior executives?" involved interviewing twenty-five participants using a set of 30-35 semi-structured / open-ended questions. The participants represent three groups: senior managers, project managers / practitioners, and external project management consultants / experts. By qualitatively exploring the participants understanding of project management, we identified differences in understanding value and selling and buying project management at various organizational levels. The grounded-theory analysis method revealed key trends and themes emerging from the interview transcripts to eventually point to prototypes in processes of selling project management as well as interaction patterns between buyers and sellers (Strauss

Figure 1. Phase I Model



1990). Phase I questions also covered such topics as key barriers to selling project management, basic strategies used to sell project management, effective selling strategies, and reflections from executives on what they are looking for.

The interviews provided preliminary feedback on the processes and arguments used to sell project management. This information was coded using ATLAS-TI and key themes and patterns identified. Phase I primary indicated that senior executives recognize the importance of project management to their organization. However, they view it as of importance to a lower, tactical level of the organization. We call this the operational level of the firm. As well, the results show that project

management only became a strategic or senior management issue when there was a crisis in the market or internally in the organization. These findings are portrayed in the Phase I model on the investment in project management diagram.

The diagram portrays three key points. First, the "sale" of project management is most often triggered by a crisis of some type in the organization. This means that project management is brought into the organization at a very tough time. Second, the decision to invest in project management is usually a decision to buy it as the nature of the crisis invoked an urgency that did not allow growing it internally. In part, the decision to buy the services was also related to the greater credibility consultants had in relation to internal project managers viewed of as contributing to the current crises or project management problems. Third, those organizations that did not invest in project management tended to have "accidental project managers" trying to do damage control and in the process, creating or contributing to other crises.

Our results indicated that project management remains a tough sell for reasons that relate to the cognitive gaps between sellers and purchasers:

- When project management is purchased during times of crises, practitioners lose credibility, as management may view them as being responsible for project failures.
- Practitioners do not necessarily view "selling project management" as one of their roles.
- Project management is generally perceived to have primarily tactical (operational) value.
- Sellers do not convincingly connect project management to business strategy, relegating it to the operational level of concerns that do not interest senior executives.

The findings from Phase I were used to formulate the Phase II instrument and tested in a larger sample for statistically generalizability purposes.

Phase II Methodology

The research question in Phase II, "How do you successfully sell project management to executives?" was tackled with a rigorously designed and pretested survey questionnaire. The foundation of these questions lie in conclusions coming from confirmation / challenges to results initially examined and interpretations of concepts generated from Phase I analysis, literature review findings, discussions with experts in the field, and examination of previous questionnaires on similar topics. The instrument consisted of a 105-item questionnaire consisting of sixty-two questions including seventeen questions on demographics, and eleven open-ended questions. A five-point Likert scale was used and the anchors were "strongly agree and strongly disagree?" The intermediate choices were somewhat agree, somewhat disagree, and neither. It was pretested for validity and reliability with a panel of academic colleagues and practitioners. In addition, we tested the instrument validity and content validity and internal consistency of the items.

A professional survey company who used the Internet to enable the collection of data from suitable participants worldwide administered the questionnaire. The sampling frame was a combination of convenience, purposive, and random sampling designed to allow us to generalize results mainly to North American project management situation. Of these, 3,093 respondents accessed the survey, we collected a useable sample totaling 1,868 participants for a response rate of 5.3 percent overall. The survey accuracy rate of +/- 2.27 percent nineteen times out of twenty means that the questionnaire

provided data that is statistically valid, not occurring by chance. The integrity of the size of the dataset combined with careful comparison of underlying demographics of the sample and respondents allows for generalizability of the findings. The large-scale study using both quantitative and qualitative data helped to determine the statistical validity of findings and interpretation of data from Phase I. Since we used split halves to conduct the Exploratory Factor Analysis (EFA), the results are based on one-half of the respondents. The other half is retained for further studies that would confirm these findings. On this basis, our sample size was 933. It consisted of 499 project managers, 244 consultants, and 190 executives.

Data from Phase II was analyzed to:

- Identify and examine how project management is used in organizations at a strategic and operational level.
- Identify the arguments and processes used to gain senior management attention to purchase project management.
- Examine the demographic background of those involved particularly with respect to their background preparation in project management.

Part one of the analysis involved demographic statistical analysis using Microsoft® Excel® and SPSS statistical software packages. Patterns from this analysis identified "hot spots" of key data to conduct further analysis. Part two of the analysis included scrutinizing the data on participant demographics (position, industry, and country) and both descriptive and inferential statistical analysis (comparisons between demographics and the three types of data collected) to gain insights into the actions contribute selling project manage-

ment to senior executives an easy / tough sell. Part three of the analysis involved EFA to reduce and summarize the data to first identify the top factors explaining how project managers and consultants sell the discipline to executives. The EFA also allowed us to generate different theoretical models and see how the data best fit with the objectives of the study. The project manager group plus the consultants group served as the base model (n = 743 based on 249 + 244) for these complex comparisons. This type of careful analysis allowed us to compare the very successful project managers and consultants to the base model, as well as compare the very successful data files to the very unsuccessful data files. Finally, these results were compared to what the executives explained they were looking for when they purchase project management services.

Study Findings

The sheer magnitude of the data set collected and the wealth of findings make it impossible to document all the analysis and findings in one chapter. We have chosen to present a relatively simple summary of the findings. Those interested in more detailed understanding of the analysis and implications are referred to the research report to be published by PMI® or are invited to contact the authors.

Phase I Findings

Phase I data analysis allow for key interpretations as follows:

- Senior executives recognize the importance of project management to their organization.
- Senior executives view project management as important, but mainly in the lower or more tactical levels of their organizations.

- Project management only becomes a strategic or senior management issue when a trigger residing within the organization erupts as a crisis or in response to an external calamity in the market.
- When a trigger ignites a crisis in the organization, senior executives may consider the type of information resources they have on hand or seek external advice from consultants to determine how to proceed. Senior executives who deny or do not take the crises seriously, maintain the status quo by endorsing the accidental project manager, or react by purchasing a commercial project management software or methodology. These actions attempt to create value only at a tactical level. Senior executives who acknowledge the crises support "growing" project management in-house, bring in training consultants, or hire new project managers.

Phase II Descriptive Statistics on Current State of Project Management Practice

Simple descriptive statistics from Phase II suggest the following findings:

- A large proportion of all participants (82 percent) agree that project management increases the likelihood of delivering successful projects.
- While 60 percent of all participants agree that "projects are usually aligned with my company's strategic plans," 60 percent disagree that projects within their company are usually completed on schedule or on budget.

- More than seven-in-ten agree that project management enhances customer satisfaction (73 percent) and their firm's performance in non-financial ways (71 percent).
- Just over 70 percent of respondents strongly agree that project management enhances customer satisfaction.
- The majority of respondents recognize project management as having strategic as well as tactical value in their organizations. However, an average of 25 percent of respondents still do not recognize project management as having a strategic role to play.
- Only 39 percent of the sample reports a belief that appropriate project management methods are being used in their organizations. Most often, they report believing that there are "appropriate methods," which are not being applied.
- Slightly fewer than 50 percent of respondents believe that project management is recognized as a valued discipline in their organizations.
- As many as 49 percent believe that senior executive's expectations of project management are realistic.
- Only 44 percent report that senior management provides adequate funding to support project management.
- Participants report that 58 percent of project managers in their organizations have little or no formal project management training.
- Sixty-nine percent of participants report still spending over 50 percent of their time on project management and expect it to increase in the future.
- Nearly 50 percent of the time project management is used in response to crises.

Quickly summarized, these findings highlight several interesting gaps. The results suggest that project management is indeed becoming increasingly important and is present in today's organizations in terms of the time spent on it. At the same time, senior executive financial commitment for investing in project management is quite low as is the percentage of project managers receiving little or no formal training. Furthermore, senior executive's expectations of project management as a strategic weapon seem realistic, but appropriate project management methods are not generally being applied to the strategic level.

Strategically important projects are not meeting specification, cost, or schedule expectations consistently. Decisions by senior executives to not act or hold the status quo may well underlie the incidences of accidental project managers managing strategically important projects. Should we be surprised that these projects are not using the appropriate project management tools and techniques or achieving the expected outcomes? While organizations believe that there are such things as appropriate methods (that is, they know how to manage projects) the results suggest that these organizations are woefully inept in doing that effectively.

Phase II Key Considerations in Selling Project Management to Senior Executives

The following section provides a high level summary of key comparisons of the results of the EFA for the General Base Selling Model, the Very Successful Selling Models (combined, consultant, and project personnel), the Unsuccessful Selling Model, and the Senior Executive Model. The first part of this section compares the common core contextual issues, arguments, and processes in successfully selling project manage-

ment to all the processes and arguments identified in the General Base Selling Model. The second part of this section presents the highlights of the "best practices" from those sellers who report being very successful at selling project management. The section concludes by briefly presenting key differences in the unsuccessful selling group.

General Base Selling Model Findings

This General Base Selling Model explores how project management is sold to executives regardless of level of success reported. This gives us a general picture of the most common approaches used, which we can compare to those reporting extreme levels of success or failure.

This model reveals three contextual issues that are common across the study sample:

- Competition: Attention to arguments that *highlight previous successes* using project management, *point out what the competition is doing better,* and *highlight new business opportunities.* Although this is a significant factor identified by senior executives, even successful sellers do not focus on competition-framed arguments about best practices from organizations using project management.
- Crisis: The triggering of a crisis by an event (internal or external) often creates a context amenable to trigger or spark interest in "sales" of project management. Selling in this environment may be risky if the sales goal is to build a long-term relationship because the crisis contexts complicates the implementation efforts enough so senior executive expectations are not met.
- Accidental Project Management: The presence of the "accidental project manager" (does not have the

formal training to manage strategic projects yet; is doing so often without increased incentives and compensation) results in accidental project management. This context may be so ingrained that it becomes part of an organizations' culture.

Factors identified as important to successful selling include:

- Framing the project management investment in senior executive terms and as an executive decision. And, to do so also in such a way to involve others who do project management in the organization. Although the final decision maybe the senior executives, taking the time to build relationships with strategic advocates of project management within the organization (especially in the consultants case) may enable the sale.
- The content of the sales pitch revolves around a variety of value statements relating project management to corporate business outcomes and the iron triangle discussions tied to project outcomes and practices.
- In addition, successful sellers shape arguments to enable the alignment of senior executive expectations and corporate goals with project management outcomes.

The General Base Selling Model points to key process considerations as it relates to deciding who is to be involved in the sales process. The involvement of both internal and external project management personnel is deemed important to the sales process.

Very Successful Selling Practices

Analyzing those reporting the highest degrees of success in selling project management to senior executives allows for the generation of a refined and more focused model. The very successful selling contextual issues, arguments, and processes are briefly presented in the first part of the section. The remainder of the section presents the key differences between very successful consultants and project personnel.

The two contextual issues important to this group include:

- Resistance to project management
- Realistic senior management expectations.

The sales arguments by very successful sellers focus value statements followed by iron triangle discussions, and the use of both executive language and executive framing show the same trend as the common core selling arguments. The difference lay mostly in the "salespeople" that is, their ability to effectively tie together tactical and strategic value statements to demonstrate the benefits and pay offs that they are speaking about. As noted in the qualitative data analysis, there is room to improve since senior executives want selling arguments to contain examples of previous successes, and case studies/examples that they can relate to.

Successful selling processes of importance stress the need to developing a corporate fit and the selling relationship. The corporate fit issue relates directly to how well sellers tie tactical and strategic arguments throughout the sales cycle, so that these arguments are part of an ongoing part of establishing a lasting relationship between the seller and buyer. Effectively, very successful sellers are always being "tested" because the business context may change, and thus, the project management needs of an organization.

Very Successful Selling Practices—Consultants versus Project Personnel

Distinct differences are visible between the model created from the very successful project personnel data and that created from very successful consultant data.

Unique to the very successful project personnel, they identify realistic senior executive expectations as the most important contextual factor. Thus, they lead sales discussions with arguments related to iron triangle outcomes and practices, framing them in executive language. However, they hone in on a smaller set of specific value statements about organizational development outcomes rather than financial measures. Thus, more emphasis is on language to gain a consensual understanding rather than on executive framing.

In contrast, the Very Successful Consultant Model reports that accidental project management is the primary contextual issue. Very successful sellers pay attention to the "accidental project manager" phenomenon and the organization's competitive situation as part of what Dutton (2001) calls "reading the wind?' They also shape selling arguments around a variety of value statements, using particular statements depending on the individual client and the timing. Next, they identified using executive language in framing iron triangle arguments while aligning project management goals with corporate goals and executive expectations.

The number one process factor very successful consultants mention relates to relationship issues. These consultants pay attention to the relationship and political nature of the sales process recognizing that the arguments they use and the way they are framed is actually a part of the entire sales process.

In addition, very successful consultants used value statements as processes to tie project management to a valuable

corporate goal as often as long as they are able to infer that project management will deliver such a benefit on its *own merits.* Otherwise, if these consultants indirectly or directly tie the sale of project management to themselves or success of the project management implementation, the pressure increases to meet senior management expectations that may be set too high or not managed well. The overall payoff to sellers is high if they are positively "branded" along with project management being sold. On the downside, the risk is also high, particularly if senior management expectations are not aligned, or managed well.

Unsuccessful Selling Practices

In contrast to the other models discussed above, the Unsuccessful Selling Model shows some interesting differences. Unsuccessful sellers do not appear to incorporate any purely process-related factors. Rather, they identify the context of realistic senior management expectations and resistance to project management as a process part of the sales effort. They also report using an unrelated mix or "hodgepodge" of sales arguments mostly containing words that are important in executive language, in combination with dramatic emotional terms that are unique to this model. They also report focusing more on shaping arguments around value statements that point out the quantitative benefit or effect on profits, market share, and competitive position. Ironically, these very arguments are likely the most difficult to justify or deliver.

What Are Executives Looking For?

Overall, it appears that the very unsuccessful project managers/consultants used many approaches that the very successful project managers and consultants did not. Unsuccessful seller

strategies are not as aligned with what executives seek relative to the very successful groups. In contrast the strategies used by the very successful groups are closely aligned with the value statement in particular, in the Senior Executive Model that manage senior management expectations about benefits.

In general, project managers and consultants place different emphasis on, but commonly use executive language, discussing the corporate fit and present it as a value proposition when selling project management. However, they can improve by using language that conveys and arguments that more dearly articulate the tie between project management and the business context in terms of results.

Senior executives are seeking business results and seeking to achieve this through an emphasis on the project management iron triangle. Both the very successful project managers and consultants also use iron triangle arguments in their selling strategies. Senior executives are also more likely to pay attention to project management when someone with whom they have a relationship based on credibility and trust presents it.

Overall, these models suggest that senior executives are mainly interested in information that presents key aspects of project management as they tie into the business context of their particular organization whether that means quantifiable or qualitative results. They also want to hear about past successes, case studies, and any form of evidence to help them see the payoffs.

Conclusions

This chapter presents preliminary results from an international web-based survey aimed at improving our understanding of best practices in selling project management to execu-

tives. To our knowledge, this is the first of its kind combination study on project management that draws from a diverse group of professional associations and uses Internet technology. We have collected a significant amount of very interesting data that will make a significant contribution to the field.

At the same time, no one best sales strategy should be applied across the board because successful selling is sensitive to the instability of ever-changing client priorities and contexts, such as the global business climate. In essence, the approach that works for one seller may not work for another seller. As well, there are many different ways that salespeople themselves influence and shape the way project management is sold.

Those reporting being very successful in getting senior executives on side use moves that fit with what executives are seeking. They frame project management by relating it to business results, the iron triangle, and use executive language. They recognize the context as setting and managing realistic senior management expectations of project management and creating or entering an environment that has little resistance to project management. These sellers tend to use arguments that highlight a variety of value statements about financial measures, staff growth, customer satisfaction, competition, and nonfinancial performance, and link them to issues / values of interest to the organization; making the value statements also plays a bundling role in the sales process. They also use project management outcomes and practices as important sales arguments. Although very successful sellers arguments are sensitive to project management as a senior executive decision, they frame it in positive business language that speaks to solving problems. In terms of process, very successful sellers focus on explaining the fit between project management and the corporation or organization.

Ultimately, very successful sellers pay attention to the quality of the relationship and in building that relationship. They may be more adept at shifting arguments as the business context changes over time, thus, creating lasting seller-buyer relations.

While very successful sellers present the air of tying project management to corporate goals and objectives by being politically astute, the sell continues to be related to stamping out a crisis or potentially flammable situation. These types of strategies may also create long-term problems of gaining reentry to sell project management if organizations find that senior management expectations have not been met A more solid strategy may be on building on the trust-credibility relationship with the buyer, so that over time, the buyer establishes a brand—or distinctive identity—that promises value from project management. Branding helps the buyer and seller establish common value statements about the value of project management so that gaining entry for future sales may be more likely.

In contrast, the very unsuccessful project managers and consultants appear to use a spaghetti strategy. This involves putting various strategies into the pot, boiling it, and then seeing what sticks to the wall. The result is a mixture of presenting project management as a solution, describing what the competition is doing, and using dramatic and emotional terms. They also involve people in the selling strategy based on their roles within or external to the organization. Although they talk about how project management aligns with the company's goals, they fail to discuss it in terms of business results. They also fail to align their strategies to what executives are seeking. In addition, they do not use moves that matter and appear to work.

Practical Recommendations

As mentioned earlier, there do not appear to be any silver bullets or universal truths to successfully selling project management to senior executives. However, there are guidelines that effective salespeople can employ to bring project management to the attention of executives and getting them onside. The following suggestions for those interested in getting senior executives on side arise from this study:

- Understand an organization's key business priorities and discuss project management in the context of measurable quantitative outcomes as well as effectiveness outcomes.
- Explain project management in terms of the iron triangle (time, cost, and scope) but do not over emphasize project language (tools and techniques).
- Ensure that you as a seller have a credible, effective, professional relationship with the buyer. In selling the services, it is less important to involve people at certain levels of project management within the organization—it is more important to focus on building a common understanding using executive language to ensure effectiveness of the relationship between buyer and seller.
- Understand how project management fits the organization in terms of operational and strategic goals and discuss it in those contexts that make sense. Thus, the seller has to be sensitive to and aware of the possibility of switching gears in midstream of the selling relationship should the context internally or externally shift significantly.

- Do not use dramatic or emotional terms (the silver bullet, huge failure, gigantic problems)—they do not seem to work. Very unsuccessful project managers and consultants use this strategy. In addition, unsuccessful sellers present the "sale" as a hodgepodge of reasons as to why executives should pay attention to project management essentially setting up to fail. It is important to be clear about the business results possible from project management and the expectations of senior executives by not promising more than is possible given the particular business context.
- Do no fixate on references to competition within the industy—they do not appear to be a key factor causing executives to pay attention to project management. These arguments can also become entangled with the use of dramatic and emotional terms. Senior executives seem focused on the results they can achieve by using project management within the firm.
- Do not second-guess what senior executives are thinking about. The seller's views on senior executive expectations being realistic and attainable do not seem to matter. Selling arguments that challenge the realism of senior executive expectations was not a highly effective factor for the very successful project managers or consultants.

Research Contributions

The research has a great deal of practical value in its ability to capture results that allow for interpretation of underlying reasons associated with why project management benefits are difficult to sell to senior management. In answer-

ing the research questions, the monograph presents arguments about how successful selling processes work that can be taken away and used by practitioners and consultants.

The research also identifies the processes, arguments, and context that senior executives are mainly interested in as they deliberate an investment in project management. Knowledge about the best milieu for selling provides additional insights into what sellers and buyers could expect in managing and aligning expectations about what project management can do.

Researchers gain an appreciation for the usefulness and value of going outside the field of project management to other disciplines to help expanding thinking out of the box. A multidisciplinary effort lends credibility to our efforts to create a theoretical base of concepts that can be rigorously tested by others in and outside the arena of project management research.

Empirically, this study appears to have one of the largest numbers of survey respondents of any research in the discipline of project management to date. The generation of interest from around the world not only raises the profile of project management as a practice, but also as a valuable research topic. The statistical rigor of the survey preparation and data analysis sets the stage for future research of high quality.

This study also challenges methodological assumptions regarding data collection methods, further propelling the use of Internet-based collection as a reliable and useful medium to use in research. Our efforts may help to clarify outdated expectations about response rates regardless of the medium.

Acknowledgements

We would like to thank PMI® and Athabasca University for their funding and support of this study. In particular, we are appreciative of the guidance and support that Dr. Lew

Gedansky and Mr. Paul Shaltry provided. We would like to thank the organizations that supported this research (Athabasca University, CIO, Computers in Information Processing Society, ESI-International, Professional Engineers of Ontario, Project Management Institute, University of Calgary, and SurveySite). Last but not least, we appreciate the time and effort on the part of all participants in completing the survey and providing their insights.

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Building a Business Case for a Project Organization

Frank Toney

In nearly every organizational situation reported by benchmarking participants [in The Top 500 Benchmarking Forum; Figure 1], it was necessary to make a formal proposal to senior management before support could be obtained and the project organization implemented. Discussed in the proposal or presentation were the benefits the project group could be expected to contribute to the organization, the manner in which existing problems could be resolved and methods used to satisfy identified needs.

> Standard: Best practice project organizations develop a formal presentation that outlines the benefits of the project organization

A typical presentation or business proposal details the potential advantages and synergies resulting from combining the expertise of traditional functional organizations with the speed, efficiency, and effectiveness of professionally managed projects. The case is developed that implementation of professional project management in large functional organizations can increase revenue, reduce costs, enhance the performance of

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Reprinted from Frank Toney, *The Superior Project Organization,* Center for Business Practices/Marcel Dekker, 2002.

Figure 1: The Top 500 Benchmarking Forum

Representatives from approximately 60 organizations worked over a period of nine years developing best practices and competencies for project managers and project organizations. Several of the participants started project organizations before there was any information available to assist in the process. Some suffered failure. In every case, the individuals involved were willing to share their experiences in an effort to help others. All the people who provided time to the benchmarking effort did so on a volunteer basis. The author sincerely thanks the following people and the companies they represent for their contributions in communicating their experiences and supporting the increasingly high levels of professionalism found in project management.

Aeroquip, Yvette Burton
Alcoa, Alan Kristynik,
Allied Signal, Tom Booth
American Airlines, Susan Garci
Arizona Republic, Larry Lytle
Battelle, Steve S. Eschlahta
Bellsouth, Ed Prieto
Cablevision, Dave Steinbuck Steve Potter, Cliff Hagan
Calpers, Doug McKeever, Michael Ogata
Capital One, Bob, Stanley, Debbie Adams
Caterpillar Inc., Dave Harrison
Citibank, Warren Marquis, Lou Rivera, Deluxe Checks, Clark, Hussey
Computer Horizons, Jack Routh
Development Dimensions Intl, Pat Smith
Dinsmore Associates, Paul Dinsmore
Disneyland, Bob Teal
Dow Chemical, Bill Lehrmann
Dupont Agricultural Products, Julie Eble
Eastman Kodak, Fred Bassette
EDS, Carl Isenberg, Mike Wall
Eli Lilly, Sheldon Ort
Ernst & Young, Steve Sawle, Dan Roth
Federal Express, Don Colvin
Fortis, Inc., David Cupps
General Services Administration, John Bland & Hugh Colosacco
Harding Lawson Assc., Don Campbell
Hartford Insurance, Eilleen Rosenfeld
Kemper, Debbie Hoyt
IBM, Sue Guthrie
ITT Hartford, Sue Steinkemp
Kelly Services, Pat Donahue, Joanne Bolas, Kathleen Tabaczynski, Gloria Sirosky
Logistics Management, Tripp Horne
Micro Age Inc, Dan McFeely
Miller Brewing, Lowell Skelton
Morgan Stanley, Tom Tarnow
Motorola, Martin O'Sullivan, Richard Gale, Boyd Mathes
NCR, Pat Peters
Nissan Motor Corp., Randal Macdonald
Northwestern Mutual Life, Marge Combe, Judy Koening, Margie Dougherty, Patricia Weber
Northrop Grumman, Frank Catalfamo, Philip Morris, Barbara Miller
Nynex, Kathy Kuzman
Oracle, Meg Trobiano
Philip Morris USA, Bob Riley
Rust Environmental, Gary Scherbert
Sabre Group, Chris Thomas, Ed Fox
Sprint, Don Albers, Kenny Binnings
Texaco, Richard Legler
Shared Resource Mgt, Derik Mantel
Southern Company, Andy Hidle
Sprint, Kenneth Binnings, Rachel Kussman
SRM/Hennepin County , Derek Mantel
Transwestern Publishing, Julie Freeman
USWest; Compass Telecom, Ray Powers
West Group, Jeannene Dorle
Zurich, Joe Lunn, Jerry Egger, Brent Kedzierski

individual project managers, improve the image of professionalism in the eyes of customers and other important stakeholders and provide numerous generalized organizational improvements. The specific benefits usually covered are as follows.

Bottom Line Financial Benefits

Benchmarkers agree that a major reason senior management is favorably inclined toward professional project management is that it generates *incremental profit for the organization*. Ingram (1998) infers that profits could increase an average of 6% in companies with superior project management. Dozens of other researchers support his findings with specific examples. A study performed by the Center for Business Practices (2000) concluded that 68% of companies said that increased productivity was the major benefit resulting from project management.

Professional project management generates bottom line improvements by reducing lead time to market and then harvesting the accompanying increased sales, freeing of funds for other investments, execution of more projects with the same resources, quicker response to market opportunities, faster market positioning and better pricing flexibility. Project organizations also increase profits through attaining lower costs, improving the ability to measure performance and quicker identification of failing and marginal projects.

Reduced Lead Time to Market

Speed-based multi-functional project management concentrates on executing and delivering projects in the shortest amount of time. Benefits of the approach are incremental sales gains, an earlier establishment of market position and im-

proved profit margins. Zangwill's (1992) extensive study of concurrent engineering or multi-functional project management disclosed numerous specific examples of improvements. AT&T reduced total process time on new products to 46% of an original baseline. At Boeing, parts and materials lead-time was lowered by 30% and design analysis time by 90%. Deere & Company cut development time by 60% on the project evaluated. In like manner, Hewlett Packard cut development cycle time by 35% and IBM experienced a 40% reduction in design cycle time. In the benchmarking group, a large telecommunications company shortened the average time to complete projects from 52 to 18 months.

- Incremental Sales. The value of reducing time to market by one day is phenomenal. Each day that time to market is reduced adds one more day of sales. In the case of the telecommunications company that shortened time to market from 52 to 18 months, sales occurred nearly *three years earlier* than the prior approach. The project group estimated incremental sales resulting from the 34-month reduction amounted to $4 billion.
- Frees Funds for Other Investments. By generating sales sooner, funds and resources are made available for other investments. The time value of money is maximized. In the preceding case, the project organization calculated that at a 10% interest rate and on a compounded basis, the incremental interest revenue made available to the company amounted to approximately $210 million per year.
- Execute More Projects with the Same Resources. Increased project speed means the project team will execute more projects in any given amount of time.

Where previously the project team might manage a project for say, a year or so, now each project is completed in a few months and the team then moves on to another. As an example, the Avraham Y. Goldratt Institute posted a case study on their web site describing Critical Chain Project Management at Lucent Technologies. Not only did Lucent reduce cycle time to produce new products by 50% but the number of *projects completed more than tripled* from 5 projects in 1998 to 16 projects in 1999, with no increase in staff.

An associated benefit of executing more projects with the same resources is that cash invested in each project is tied up for a shorter period of time. The financial effect is similar to that obtained from increasing inventory turnover. High inventory turnover means that the investment in inventory is small compared to the amount of resultant sales. In the case of project management, resource usage is maximized by (a) making project managers and team members available for other high potential projects, and (b) freeing the financial resources that would have been allocated had the project run for the original extended period of time.

- Respond to Market Opportunities Sooner. Benchmarkers whose organizations operate in high technology industries with rapidly changing technologies and market demands report that a key advantage of speed-based project management is that it gives the company capability to react faster. The organization has increased confidence that market opportunities and alternatives can be identified and a response developed faster than competition. The result is that

the organization can be consistently first to satisfy market needs and demand.

- Quicker Market Position. Speed-based project management and the resultant shortened time to introduction means that market share is obtained early. Competition is less intense and initial demand is higher. A more dominant niche and stronger position can be established.
- Greater Pricing Flexibility. Speed-based project groups with a history of being first to market report that the initial high demand and scarcity of the product provide an opportunity for pricing flexibility. Specifically, the new product or service can capitalize on this set of circumstances and maximize profits.

Reduced Costs

The general consensus of benchmarking participants is that most companies can cut costs approximately 10% by implementing professional project management. Not only do lower costs result in more profit but they also give greater pricing flexibility and competitiveness when contending for business.

An advantage of professional project management is that savings are usually easy to measure and observe. Zangwill (1992) identified numerous examples of cost reductions resulting from the multi-functional approach to projects. The Texaco Convert Louisiana Refinery was estimated to cost $l.l billion and require 6 years to design and construct. Zangwill reported that the refinery was finished one year sooner and $200 million under budget. At McDonnell Douglas one reactor and missile project recorded 60 specific cost savings from the bid. Boeing Ballistic Systems reduced labor rates by

$28 per hour, cost savings by 30%, and material shortages from 12% to zero. Deere & Company lowered construction equipment development costs by 30 percent. Northrop recorded 30% savings on the bid of a major project.

Improved Ability to Measure Output

Professional project management lends itself to the establishment of measurement metrics and performance evaluation. Benchmarkers have identified close to 20 different ways of measuring individual project performance. When evaluated as a part of a coordinated portfolio, individual project and project manager performance can be compared to any number of group averages and ranges. Benchmarkers report that until their organizations embraced professional project management, rarely if ever were the benefits of projects or their overall performance measured and communicated.

Identifies Failing and Marginal Projects Sooner

Professional project management organizations increase organizational efficiency by auditing and monitoring projects. The process ensures that projects remain on track and that ineffective projects are terminated.

Benchmarkers avow that terminating projects is a difficult task in organizations without professional project management. Over 20 companies in the benchmarking forum indicated they *never killed information systems projects* prior to implementing a structured auditing program. Ingram (1998) found that in organizations without a project management organization that stakeholders were reluctant to step forward and declare the project a failure or in trouble. They were even hesitant to interfere with the day-to-day management of the

project. Consequently, projects sometimes continued down the path of failure long after everyone was aware that they were a terminal issue. For example, the project management group at a major telecommunications company reported that an average of 18 months passed before a clearly failing project was even acknowledged by management. After implementation of auditing and review procedures, the project organization identified failing projects *and terminated them* in an average of six months.

Implementation of a structured project evaluation and auditing program can reap other immediate benefits for the organization. A major insurance company eliminated five percent of their portfolio of projects that were contributing *nothing* to the attainment of corporate strategy nor had a termination in sight. The scarce financial and personnel resources associated with the terminated projects were made available for other higher return projects.

Organizational Benefits

In addition to the bottom line benefits resulting from the implementation of a project organization, there are numerous organizational improvements. The probability of successfully achieving the project's planned goals is maximized, risk is minimized, the attainment of organizational goals receives better support and project portfolio management maximizes the value of projects as a coordinated group rather than as individual projects. End-to-end involvement of the project organization gives greater assurance of success, scarce entrepreneurial leadership skills are developed and retained and the multi-functional project approach improves the effectiveness of interdepartmental activities. Expertise and administrative activities improve efficiency by being centralized, stan-

dardized methodologies add predictability, there is a single point of accountability which results in faster problem identification and resolution, quality is improved and there are fewer scope changes.

Maximizes the Probability of Project Goal Achievement

The project organization ensures the application of industry and research supported best practices and competencies that maximize the probability of project goal achievement. The result is a predictable and professional approach to project management and a higher level of confidence in its successful completion. The Center for Business Practices (2000) survey of the value of project management found that 50% of respondents had experienced significant improvement in completing projects within budget and on schedule.

Implementation of professional project management ensures that projects are conducted with speed, yet are efficient and effective. The effectiveness portion of the equation is particularly important because the project *must be completed and attain its goals.* It is similar to taking an airplane flight from Phoenix, Arizona to Kennedy Airport in New York City. The aircraft may be the fastest available (speedy), could take the most direct route (efficient) but if it lands at any airport other than Kennedy (the goal) it is not *effective.* To be effective the project goals must be achieved and the project product or service delivered to the customer.

Minimizes Risk

Professional project management seeks to maximize financial return *while minimizing risk.* Participants in the benchmarking

studies testify that risk associated with projects is inherently greater than encountered in the day-to-day activities of the functional organization. In the beginning of the project there is the risk associated with selecting one project at the exclusion of other potentially good projects. Usually the portfolio selection exercise involves large amounts of money and resources, the effects of the selection decision remain for a long time, and the results are damaging to the organization and people's careers when wrong. Once the project is approved there are myriad additional risks—the team has not worked together in the same environment, the project activity is unique and benefits less from prior learning experiences, deadlines create constant pressure and there is a much higher degree of personal and team accountability.

Experts in the investment field counsel that risk is a particular problem for individuals and teams new to a discipline. They say that the tendency is to emphasize the amount of *financial return* while minimizing the impact of risk. As experience accumulates, emphasis shifts toward *analyzing the risks* associated with the level of potential return. Professional project management accelerates the learning process with a structured and methodological approach to portfolio and individual project risk evaluation and decision-making. The approach ensures that risks are identified, quantified in terms of probability of occurrence and magnitude of consequence, and a response plan developed. As a result, there are fewer surprises, financial reversals and public embarrassments.

Supports Organizational Goal Achievement

The consensus of researchers and practitioners is that organizations, groups and individuals that conduct strategic planning are consistently more successful at achieving goals than

those who don't. As a reflection of this premise, a key purpose of project management in large functional organizations is to support the host organization's goal achievement strategy. In this respect, professional project management has proven a phenomenal tool. Implementation of a project management group is a key factor that significantly contributes to corporate profit and/or other strategic goals. The structured methodologies ensure that the project team is cognizant of how the project goals, plans and deliverables interface with and support the organizational vision and strategy. Project organization emphasis is placed upon the effective communication of organizational leadership and goals and the enhancement of goal focus by project teams.

- Communication of Organizational Leadership Vision and Goals. By having a project organization that spans functional areas and reports to an executive level, the host organization's vision and goals become closer and easier to communicate to the working groups. It is an important consideration because seasoned project and program managers say the project team *must be* cognizant of how their project fits with the organizational goals, vision, and strategies. When the goals and strategies are not clear, there is a tendency for the group to be unsure of their target and to flounder and lack direction. Improved communications reduces the magnitude of this problem.

  Having a clear understanding of the organizational vision provides the project organization and teams a unified view of the project direction and objectives. It makes decision-making faster and more efficient. When team members know the overall vision, there is less need to ask for specific instructions each time new

situations, alternatives, opportunities and dilemmas are encountered.

- Enhances Goal Focus of All Team Members. Professional project management emphasizes setting clear, measurable and observable goals—and then maintaining focus on the achievement of those goals. Several studies conclude that maintaining a constant focus on the goal has a high correlation with goal achievement. As a result, projects are less subject to scope changes and diversions. They are completed faster and with fewer modifications. The disciplined vision focus keeps the natural disorder of the project under control. Benchmarkers relate that multi-functional projects in large organizations sometimes find it difficult to maintain this focus. When there is no project organization there is a tendency for each functional area to focus on the goals specific to that area rather than those of the entire organization.

Optimizes the Portfolio of Projects

Approaching the numerous large multi-functional projects in an organization as an integrated portfolio rather than a group of independent projects generates additional revenue, reduces overall organizational risk and focuses all project efforts on attaining organizational strategic objectives. The project organization is often judged to be the best positioned group to optimize returns from the performance of the portfolio management task.

An overall benefit of portfolio management is that *projects can be ranked* according to potential financial return, risk and subjective or strategic considerations. An associated benefit is

that individual projects can be *compared to a baseline* or group average of the entire portfolio. The ranking process ensures that management is clearly aware of the best as well as the poorest performers. Benchmarkers report that the process minimizes the problem of less important projects receiving inordinate amounts of attention because of politics or non-performance related variables. More importantly, it ensures that high-ranking projects receive appropriate levels of resources and management support. The ability to compare single projects to a baseline, group average or beta of the portfolio provides a broader range of measuring project and project team performance as well as their relationship to other projects.

A key element in project portfolio management is the selection process. At least three major studies have found a clear positive relationship between proficiency in analyzing and selecting projects and ultimate project success. Best practice selection teams ensure that there is a good fit between the needs of the project and the host organization's skills, resources and areas of expertise.

An important part of the selection process is the maximization of overall portfolio financial return. A project represents a single financial investment opportunity among a coordinated portfolio of investment activities. Rarely is there enough money and human resources to accept every project that would be beneficial for the organization. Some form of a selection process must be implemented. In this sense, project portfolio management is similar to the management of any other group of sizable organizational assets. Organizational financial return is increased because a pragmatic decision process ensures that each project serves to optimize the overall portfolio potential for financial returns.

Portfolio management offers the opportunity to mitigate risk through pragmatic analysis and studied diversification. Projects can be selected to minimize the effects of external risk such as economic downturn, technological change and competitive actions and reactions. Risks inherent to the project itself can also be evaluated relative to other projects in the portfolio.

Portfolio management represents the tactical portion of the organizational strategic plan. The project portfolio can be viewed as a broad-based group of assets that can be positioned to achieve maximum overall strategic effectiveness for the organization. In addition, the management of specific projects is more focused because the project team is aware of the relative importance of each project and how it helps achieve the company's strategic objectives.

After project selection, the administration of the portfolio ensures maximum speed, efficiency and effectiveness. Project portfolio management emphasizes the optimization of the entire inventory of projects. Project organizations execute the portfolio tactical process by taking, updating and maintaining inventories of existing projects and constantly improving the existing project portfolio through auditing and the subsequent nurturing of healthy projects or pruning of duplicates, non-productive, ineffective and failing projects.

End-to-End Project Involvement Increases Success

Benchmarkers assert that the project organization should manage the project from inception to termination. Specifically, the earlier the involvement of the project group, the higher the probability of project success. Empirical research

supports the practitioners' conclusion. In the Gupta and Wilemon (1990) study, 42% of respondents stated that early involvement of the multi-functional team is a key element in attaining project success. In most best practice project organizations, the project organization is involved in project selection and project portfolio management. Some organizations report that the project manager even accompanies the sales person when finalizing details on large technical and complex information systems and software projects.

Benchmarker's experience plus hard research data conclude that integration and involvement of the project group at an early stage in the process results in greater shared commitment, clarified stakeholder needs, and better definition of product specifications before large amounts of money are spent and stakeholder positions become entrenched. Response time is reduced because future changes are minimized. Cooperation of the functional groups and stakeholders is improved as a result of better understanding of customer requirements, technical feasibility, manufacturing and marketability of the product. Trust and commitment of stakeholders is gained early on and false starts are avoided. The end result is increased confidence that the project will perform as planned and a better understanding of the manner in which the project will proceed.

Develops Leadership and Entrepreneurial Skills

The project organization serves as an incubator to nurture and retain aspiring managers who possess the scarce entrepreneurial seeds that grow into future executives and organizational leaders. A growing body of research supports the conclusion that the best practices and skills needed to lead and manage an entrepreneurial company are essentially the

same as those required to lead and manage the multi-functional project. Organizational representatives in the benchmarking forum acknowledge the similarities and comment that their organizations seek project managers with entrepreneurial characteristics as potential future executives. Some have also voiced the opinion that the entrepreneur is the type person that formerly was *inclined to leave large organizations* and start businesses of their own. Project management serves as a means to motivate and retain the entrepreneurial resources.

These views are buttressed by solid research conclusions. Competency research indicates that the characteristics of the superior project manager are identical to those of the superior *entrepreneurial* chief executive officer. McClelland (1991) defines an entrepreneur as the person who organizes the firm or organizational unit and increases its productive capability by taking *risks*. McClelland proposes that self-confidence and faith in a positive future are key components of *entrepreneurial* leadership. The entrepreneurial propensity to take risks has a positive impact on organizational goal achievement. Self-confidence and faith in a positive future outcome induce the leader to engage in ventures that less confident people would hesitate to embrace. The entrepreneurial project leader is more willing to accept accountability for project success and its associated rewards and/or potential for failure. The chief executive officer aspect of the entrepreneur definition infers that the individual is responsible for all functional aspects of the enterprise or project.

The project environment is conducive to the retention of entrepreneurial resources within the organization. Entrepreneurial individuals can make worthwhile contributions to the organization as well as exercise their unique talents. A future

source of executive leadership material is assured. The project organization can serve as the training ground to prepare people for management and executive roles in the organization. Rewards and motivation for risk taking and assumption of bottom line responsibility are provided in the form of remuneration, broader career path opportunities, job satisfaction and self-fulfillment.

Improves Coordination of Intergroup Activities

Implementation of a project organization lends itself to the formation of multi-functional teams. Multi-functional teams work best where there is an independent and high-level project organization. Where projects are conducted within functional areas, the various organizational units are sometimes reluctant to turn over authority and resources. The compatibility of multi-functional teams with the project organization is an advantage that, more than any other, results in many of the phenomenal increases in revenue and reductions in cost often attributed to professional project management.

Multi-functional project teams consist of representatives from each functional area (i.e., engineering, marketing, production, finance and accounting) that is impacted by the project. Multi-functional team members work simultaneously, in a parallel effort, on each of the functional aspects of the project. Discarded is the traditional sequential approach where each functional area performs its activity and then passes the project to the next functional area. The primary output of multi-functional teams is *increased speed* compared to performing projects in a sequential manner.

At least three studies conclude that the multi-functional project team is *the* critical element in the rapid attainment of project goals and improvement of project speed. Having a

representative on the project team from each functional area improves the coordination of project activities as they flow across functional boundaries. Smoother execution of all phases of the development process is the result. Team members develop empathy for the concerns of other functional areas. There is a deeper understanding about how each of the functional areas is integrated into an effective team to utilize synergy in more effectively attaining goals. Downstream problems are identified and corrected earlier in the project process. As a result, projects are executed faster and more efficiently.

Phenomenal results have resulted from the multi-functional approach. Cross-functional teams have cut development time by 20 to 70 percent, boosted white-collar productivity 20 to 100 percent and increased sales five to 50 times. One research team reported an almost perfect positive correlation of .87 between the use of multi-functional teams and timely project goal achievement.

Centralizes Expertise and Consolidates Activities

The project organization concentrates project management expertise and combines activities common to multiple projects at one central location. Efficiency is improved and the cost of redundant and duplicate functions is reduced.

A positive result of centralized project organizations is the optimization of management and administration of the project manager resource pool. Skills inventories can be taken that spotlight strong as well as weaker areas needing specific competency based training. Hiring practices can reflect these needs. The end product is a group of project managers and other subject experts that offer a higher level of competence than would be found without the centralized approach.

Most best practice project organizations develop and maintain a knowledge library of information from prior projects including charters, plans, lessons learned and journals. Using prior project knowledge as a model reduces time required to develop new projects. Diminished is the tendency to repeat errors and the need to constantly reinvent the wheel. The knowledge library also normally includes a standardized methodology along with templates and tools to ensure a predictable approach to project management.

Results in a Predictable Management Approach

A key output of best practice project organizations is the implementation of a standardized project management methodology. The methodology includes specific best practices, procedures and templates that are appropriate for the broad variety of large projects. The methodologies represent a structured and predictable approach yet are broad-based and flexible. The most simple methodology appropriate to the project is applied.

The employment of a standardized set of project specific best practices and methodology makes the management approach to projects more predictable. It provides certainty that the large variety of projects in different organizational settings, cultures and geographical locations will be approached in a similar manner. Cordero (1991) concludes that exercising a predictable approach to project management tends to simplify team effort and increase project speed. The project team is more efficient. Team members don't need to develop a new methodology every time they lead and manage a project. The best practices, standards and documentation for each project phase are easier to understand and implement. They provide a common terminology that results

in faster and more accurate communication. If the manager of the project is replaced in mid-project, the new project manager understands the process and can quickly adapt to the project specifics. Inexperienced project managers became proficient faster than if they learned the mechanics of team leadership in a random manner.

The methodological approach to project management is evidenced by other benefits. Project effectiveness as measured by the probability of goal achievement is maximized. The procedural approach ensures that all steps are taken to attain project success. In cases where projects are marginal or fail to live up to their initial expectations, the methodology dictates that they will be promptly evaluated and either fixed or terminated. The common frame of reference ensures that projects and project management performance can be evaluated, compared and contrasted between dissimilar projects in various geographical, technical, and organizational environments.

Implementation of a predictable methodology gives stakeholders a measure of confidence about project leadership and the manner in which the project will be run. It presents a professional image. It lends itself to structured presentations and proposals. It aids managers in easily presenting the concepts and status of the organization to stakeholders.

Provides a Single Point of Accountability

Professional project management is based on the utilization of a project organization and project managers that are responsible and accountable for project performance and goal achievement. With traditional project management the project phases are approached sequentially and span several functional areas. In such environments, it is often difficult to

determine who has overall responsibility. Accountability increases efficiency by pinpointing the critical elements of performance. Root problems are identified faster and solutions implemented sooner.

Improves Quality

When professional project management is implemented the quality of the service or product is typically higher. Usually the improvement comes at no sacrifice of project speed, cost or effectiveness. According to the research, improved quality is a side-benefit of the increased levels of competency associated with professional project management. Zangwill (1993) identified numerous examples of quality improvements associated with multi-functional project management. At McDonald Douglas weld defects per unit decreased by 70%, scrap was reduced by 58%; rework cost by 29% and nonconformances by 38%. Boeing Ballistic Systems decreased the floor inspection ratio by 66% and ran a 99% defect free operation. Northrup reduced defects by 35% and at AT&T defects declined 30%. Quality improved at Deere and Company to the point that the inspector staff was reduced by 66%. Hewlett-Packard's product field failure rate went down by 60% and scrap and rework by 75%. AT&T's cost of repair for new circuit pack production was cut by 40%.

Decreases Scope Changes

Benchmarking forum participants report that a constant problem with conventional project management is poorly managed scope changes. Researchers agree. Ingram's (1998) investigation of 60 failed projects determined that 70% came in materially late, over budget, *or failed to meet the client's*

expectations. The direct and associated costs of the missed targets *averaged eight to ten times the original project budget*. Research of projects investigated by the Standish Group found that *almost all* projects in the study incurred significant scope changes.

Some projects have so many changes that the very nature of the project is distorted. The change process is often continuous with the result that projects become increasingly nebulous and harder to define. Scope changes make it more difficult to measure performance, monitor progress related to the original project plan and compare current status with prior efforts and milestones. Scope changes generate alterations to the budgeted cost of work scheduled, the day-to-day schedule, the technical and functional specifications, deliverables and project goals. Accountability is tougher to pinpoint and enforce. Projects become skewed, go off track and continue into perpetuity.

One reason the project organization is a necessary element in the scope management process is that, often, the *project manager* allows and even encourages scope creep and project changes. Benchmarkers say that in almost all cases the project manager is under constant pressure to change the project. The project manager may be susceptible to change requests as a result of making an effort to be cooperative and keep the customer happy. In other cases, the scope changes may be self-serving in nature. Ingram (1998) identified numerous examples where project managers used uncontrolled scope changes to reduce accountability, disguise performance problems or to continue projects indefinitely when they should have been terminated.

In an ideal world of maximized speed, efficiency and effectiveness, the scope and technology of the project would be frozen and never changed. In real life, scope changes are a

necessary reality. In many organizations scope changes represent opportunities to generate incremental revenue and profit, add value, adjust the project to changing conditions, incorporate improvements and correct oversights.

Even so, best practice project organizations recognize that the fewer scope changes, the higher the project speed and degree of efficiency and effectiveness. Consequently the superior project organization formalizes the scope change process and manages scope changes rigorously. The results are measurable. Zangwill (1993) identified several examples of reduced scope change resulting from professional project management. McDonald Douglas recorded 68% fewer changes on a reactor. ·Northrup reduced engineering changes by 45%.

Individual Benefits

Individuals are considered valuable assets in most organizations. The project management group can be an instrumental factor in improving the value of those assets. *The Value of Project Management* survey conducted by the Center for Business Practices (2000) found that 37% of respondents said that improved employee satisfaction was one of the major benefits of professional project management.

The project organization lends itself to the implementation of best practices that reflect observable and measurable standards of performance. Subsequent selection of the best performing individuals to promote ensures that performance proven individuals rise to higher levels of responsibility within the organization. The skills of prospective project managers can be tested on progressively larger projects. Focused competency-based classroom training and increasing responsibilities through the management of larger and larger projects increases the asset value of project managers.

Clearly Defines Best Practices and Competencies — Observable and Measurable

Project manager performance is based upon the application of specific best practices and competencies. All of these are clearly defined, observable and measurable. As a result it is easier to measure and compare performance of project managers. In situations where the project outcome is unclear or the project manager takes over the project in trouble, the ability to measure competence is much broader and more realistic. Use of best practices as measurement metrics lets the performance of project managers be evaluated over time and in varying environmental settings.

Measurable and observable project manager competencies offer the benefit that training can be customized to bolster strengths and resolve weaknesses. Emphasis on competencies means that the effects of training investment can be measured and evaluated.

Ensures that the Right Person Gets Promoted

An advantage of professional project management and its administration by the project organization is that it is easier to measure performance. In its rawest form, the project is either successful or it isn't. In less clear situations, it is straightforward to evaluate the observable and measurable application of best practices by the project manager. The result is that people can be promoted on the basis of performance.

Implementation of a project organization that measures project manager performance and makes promotions accordingly eliminates a problem associated with the functionally structured organization. Although the functionally structured organization is highly efficient, one criticism is that it is often

difficult to measure the performance of individuals. For example, how does one identify the best accountant in a department of a thousand accountants? Or how does one determine who is the best engineer in a group of a thousand engineers? The response of critics is that the process is difficult. They say that sometimes people are promoted on the basis of other qualities (e.g., networking, personality, etc.) rather than performance. For example, one survey asked respondents "Have you ever worked for or with a manager that you felt was incompetent?" "Yes" answers were received from approximately 90% of respondents. When the researcher delved farther it was often determined that the individual in question was in a job where performance measurements were unclear. The survey pointed out the need for performance based measurements such as used in project management, when making promotion decisions.

Increases the Asset Value of the Project Manager

Professional project management is based upon a solid research and practitioner foundation that the project manager is the key component in achieving project success. Training of project management best practices and competencies makes performance of project managers more predictable. Project managers can be sent to differing project and cultural situations with a higher degree of confidence they will perform their duties in an exemplary manner. In the final analysis, the outcome of professional project management is that the project management professional will consistently outperform the non-professional. The result of the process is that the output of the project organization and associated individuals is much higher related to the cost.

Benefits to Customers and Stakeholders

Initiation of a project management group improves the relationship between the organization and customers and other stakeholders. The image is presented that the approach to project management is more professional. Adoption of best practices and competencies increases the predictability of successful project completion. The risk of the press reporting project failures and the subsequent embarrassment is minimized. As a result stakeholder morale as well as public image is heightened and stock values remain high. As a case in point, *The Value of Project Management* survey conducted by the Center for Business Practices (2000) determined that 32% of respondents felt that improved customer satisfaction was the major benefit of professional project management.

Presents the Image of Professionalism and Competence and Predictability

Benchmarkers believe that image is important — particularly when the viewer's perception is that the image reflects reality. In project management it is difficult if not impossible to present the image of professionalism without knowing the language of professional project management and being familiar with its methodologies, best practices and tools. These competencies are soon apparent to potential customers and other stakeholders. A project management organization and its associated professional project managers clarify the image and provide visible confirmation of proficiency for clients and stakeholders. The impact can be powerful. One benchmarker received a $200 million contract because the customer judged their structured approach to be more professional than the ad hoc manner of the competitors.

Reduces Risk of Public Embarrassment

No one likes their failures displayed to the public, fellow employees, competitors and other stakeholders. Failed projects have a ripple effect through an entire organization and in the minds of employees and stakeholders. Often they negatively impact profits and stock values. The appearance of a lack of competence and professionalism makes it more difficult to win bids and generate business. A project organization with its structured approach to project management maximizes the probability of successful project goal achievement across the entire portfolio of projects.

Supports High Stock Valuations

Ingram (1998) found a direct linkage between the failure of large functional organizations to perform projects and a reduction in stock valuation. In his study, seven firms lost an average of 59% of their stock value during the time the projects were underway and receiving adverse publicity. Stock price declines ranged from 91% to 20%. Ingram concluded that when functionally organized firms have major losses it is often the result of projects. Conducting their day-to-day business rarely results in major surprises. Implementation of a project management organization and its resultant improved project management performance can be inferred to maintain higher stock values.

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Center for Business Practices Research Summaries

James S. Pennypacker

The Center for Business Practices sponsors original research that contributes to the success of organizations. Research is conducted through the CBP Consortium, a benchmarking community of more than 600 senior project management professionals who participate in surveys on a variety of subjects. Current areas of research include the value of project management, project management maturity and assessment, project office staffing, and portfolio management.

The following summaries represent research that was conducted to gather data on the value of project management to organizations and how to sell project management to executives in those organizations.

The Value of Project Management Survey

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 the Center for Business Practices in September 2000. More than 94% of the respondents stated that implementing project management added value to their organizations. 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.

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 CBP surveyed senior practitioners with knowledge of their organizations' project management practices and their organizations' business results. The results showed improvements to the organization because of the implementation of project management initiatives. The survey revealed that most companies strategically rely on multiple coordinated

project management improvement initiatives rather than just one or two. Organizational initiatives included implementing a project office, a project management methodology, project management software, integrating project management into key company processes, training staff in project management tools and techniques, and deploying a development program for project staff. Over 70% of the organizations implemented three or more initiatives within the past 3 years.

Survey results document the years engaged in project management (3.12), the dollars spent on project management ($676,000/year), and the number of employees engaged in project management (235).

The Value of Project Management survey goes a long way in validating the considerable gains an organization can make by planning and instituting formal project management practices.

Observations and conclusions drawn from the study include the following:

- The responses to the survey were almost all significantly positive, for all measures, for all industries, for all size organizations — project management definitely adds value to organizations.
- Those measures that received the most responses revealed significant gains — productivity, customer satisfaction, employee satisfaction, and project budget, schedule, and requirements performance.
- The majority of respondents (59%) represented Fortune 1000 organizations, although all size organizations were represented.
- Most industries were represented, with the highest response from Information (19%), Manufacturing

(16%); Professional, Scientific, and Technical Services (16%); Finance & Insurance (10%); and Utilities (10%).

- The implementation of project management is new to most organizations—within the last three years.
- 71% of respondents implemented three or more project management initiatives.
- Improvements / experiences in individual departments and divisions were almost always more positive or extensive then those found throughout the entire enterprise.
- Some organizations showed enormous gains in specific measures (these huge gains skew the mean; in many cases, the median provides better insight than the mean).
- Many companies do not collect the kinds of metrics used in this survey, the broad-based "balanced scorecard" metrics that show the value of a process or program or project to an organization.
- Those companies who do collect metrics tend to focus on project / process measures, particularly those related to the triple constraint — project cost, schedule, and requirements.
- The measurement categories in this survey are high level — the actual metrics used within each organization vary dramatically, making apple-to-apple comparison impossible. High-level comparisons, however, can be made, which point to the significant value of project management to organizations.

THE VALUE OF PROJECT MANAGEMENT SURVEY RESULTS (EXCERPT)

Which project management improvement initiatives have you engaged in?

Implemented a project office	47%
Implemented a project management methodology	76%
Integrated PM into key company processes	60%
Trained staff in PM tools and techniques	74%
Implemented PM software	51%
Deployed professional development program	35%
Other	10%

On a scale from 1-5 how valuable has the implementation of project management been to your IT organization?

1. Not Valuable	1%
2. Of Little Value	5%
3. Moderately Valuable	15%
4. Valuable	41%
5. Very Valuable	38%
AVERAGE RATING (1-5): 4.10	

What is the improvement in the following metrics due to the implementation of project management in your IT organization?

FINANCIAL MEASURES	
Return on investment	88.1%
Return on capital employed	25.5%
Economic value-added	76.8%
Sales growth %	34.3%
Sales growth $	$8,203,847
Productivity	61.2%
Cost savings	$1,005,749
Earnings per share	-1.0%
Cash flow per share	39.8%
Other financial measures	30.3%
CUSTOMER MEASURES	
Customer satisfaction	33.4%
Customer retention	22.1%
Customer acquisition	31.0%

Customer profitability	25.9%
Market share	5.6%
Customer use	44.4%
Other customer measures	46.0%
PROJECT/PROCESS MEASURES	
Project budget performance	50.0%
Project schedule performance	49.2%
Requirements performance	43.4%
Process errors	32.0%
Defects	22.6%
Rework	18.2%
Resource utilization	50.1%
Time to market	43.2%
Scope changes	31.3%
Project completions	51.0%
Business strategy	49.1%
Project risk	18.6%
Other project measures criteria	28.7%
LEARNING AND GROWTH MEASURES	
Employee satisfaction	36.0%
Employee turnover	4.4%
Training time	33.1%
Employee productivity	32.4%
Employee motivation	13.7%
Employee empowerment	30.7%
Information system availability	52.7%
Other learning and growth	35.6%

Source: *The Value of Project Management Research Report,* Center for Business Practices, 2000.

The Value of Project Management in IT Organizations Survey

Implementing project management adds significant value to IT organizations. This conclusion is the result of a survey of senior-level project management practitioners by the Center for Business Practices in September 2001. Over 97% of senior-level project management professionals stated that implementing project management added value to their IT organizations. Overall return on investment is 27.9%. All size organizations in all industries reported improvement.

What should organizations expect when implementing project management initiatives? The implementation of project management initiatives showed, on average, more than 21% improvement in the 20 project management metrics surveyed. The greatest improvements were shown in schedule estimating (38.6%), customer satisfaction (37.6%), and alignment to strategic business goals (37.0%). Positive improvement was shown in all areas surveyed. Those organizations that do not implement project management will be at a competitive disadvantage to those who do.

The CBP surveyed senior practitioners with knowledge of their organizations' IT project management practices and their organizations' business results. Results from the 43

organizations that responded to the survey showed improvements to the organization because of the implementation of project management initiatives. Results of the survey show improvements in 20 IT measures, including time to market (21.7%), customer satisfaction (37.6%), alignment to strategic business goals (37.0%), time and budget to date (32.5%), quality (31.9%), labor hours performance (25.6%), schedule performance (32.1%), cost performance (23.8%), defect rate (12.9%), component size (3.9%), defect per peer review (11.9%), staff productivity (22.8%), response time (23.0%), average time to repair defect (11.8%), schedule estimating (38.6%), cost / hours estimating (32.8%), defect rate estimating (12.9%), component size estimating (5.1%), and quality estimating (7.6%).

The survey respondents also agreed that project management adds value to IT organizations. To the question, how valuable is project management to your IT organizations, respondents answered: very valuable (30.3%), valuable (37.2%), moderately valuable (30.3%), of little value (2.3%), not valuable (0%).

The Value of Project Management in IT Organizations survey goes a long way in validating the considerable gains an IT organization can make by planning and instituting formal project management practices.

Observations and conclusions drawn from the study include the following:

- The responses to the survey were almost all significantly positive, for all measures, for all industries, for all size organizations — project management definitely adds value to IT organizations.
- Those measures that received the most responses revealed significant gains — schedule estimating,

customer satisfaction, alignment to strategic business goals, cost/hours estimating, time and budget to date, and quality.

- Some organizations showed enormous gains in specific measures (these huge gains skew the mean; in many cases, the median provides better insight than the mean).
- A large percentage of respondents (41.9%) represented Fortune 1000 organizations, although all size organizations were represented.
- Many companies do not collect the kinds of metrics used in this survey, metrics that show the value of a process or program or project to an organization.

THE VALUE OF PROJECT MANAGEMENT IN IT ORGANIZATIONS SURVEY RESULTS (EXCEPRT)

On a scale from 1-5 how valuable has the implementation of project management been to your IT organization?

1. Not Valuable	0.0%
2. Of Little Value	2.3%
3. Moderately Valuable	30.2%
4. Valuable	37.2%
5. Very Valuable	30.3%
AVERAGE RATING: 4.0	

What is the improvement in the following metrics due to the implementation of project management in your IT organization?

Return on investment	27.9%
Time to market	21.7%
Customer satisfaction	37.6%
Alignment to strategic business goals	37.0%
Time and budget to date	32.5%
Quality	31.9%
Labor hours performance	25.5%
Schedule performance	32.1%
Cost performance	23.8%
Defect rate	12.9%
Component size	3.9%
Defect per peer review	11.9%
Staff productivity	22.8%
Response time	23.0%
Average time to repair defect	11.8%
Schedule estimating	38.3%
Cost/hours estimating	32.8%
Defect rate estimating	12.9%
Component size estimating	5.1%
Quality estimating	7.5%

Source: *The Value of Project Management in IT Organizations Research Report,* Center for Business Practices, 2001.

Getting Executive Buy-In Survey

Research has shown that getting executive buy-in in implementing project management improvement initiatives is vital to ensuring an organization's success. Why do organizations implement project management improvement initiatives? Who makes the decisions to implement them? How are improvement initiatives sold to senior management? How do organization's determine whether or not they returned value for these implementations? The Center for Business Practices offers answers to these questions in their report on *The Value of Project Management: Getting Executive Buy-In.*

In this survey of senior project management practitioners from 92 organizations, more than 97% of respondents say that project management is valuable to their organizations. Their organizations have implemented a variety of initiatives, including a project management methodology and training staff in PM tools and techniques. A majority of the initiatives began within the past three years, although a significant number of them have been ongoing for more than five years. The average cost for project management initiatives is $569,981 (USD) per year.

The first initiative that most companies implemented was either a project management methodology or a project office. The primary reasons for implementing these initiatives were

that organizations experienced inconsistent approaches to managing projects or their projects were always late and over budget. The initial advocate for the project management improvement initiative was often a VP or Director-Level Business Manager or the CIO. Approval to implement the initiative was needed by a variety of executives, including VP or Director-Level Business Manager, CIO, CEO, or COO.

The primary arguments used to sell the implementation of the project management improvement initiative were to improve the ability to deliver on time and stay within budget, improve bottom-line economics, or standardize management of projects. A variety of other arguments are used to support the primary argument.

Fewer than half of the organizations responding track the actual value returned on implementing project management improvement initiatives. Those who do primarily measure the change in meeting delivery dates and budget, although other measures are used as well.

Observations and conclusions drawn from the study include the following:

- More than 97% of respondents say project management adds value to their organization (avg. 4.2 on 5.0 scale).
- The two most implemented initiatives were PM methodology (84.6%) and PM tools & techniques (83.5%).
- The first initiative implemented is usually a PM methodology (43.7%) or project office (28.7%).
- Amost all organizations are still implementing their initiatives (94.4%). A majority of the initiatives were begun with the last 3 years, but more than 30% of the respondents have been implementing initiatives for more than 5 years.

- The primary reasons for implementing initiatives are inconsistent approaches to managing projects (35.4%) followed by projects being late and over budget (23.2%).
- The initial advocates for PM improvement initiatives were executive / senior management (VP / Director-Level Business Management or higher; 62%).
- Small companies implemented significantly less PM software (38.9%) than medium (72.7%) and large (63.5%) companies.
- Size of company correlates with dollars spent on improvement initiatives.
- Small companies are much less likely to have a project office than medium and large companies.
- Manufacturing organizations are far less likely to have a project office, whereas Information organizations are more likely.
- Professional services organizations have been implementing PM improvement initiatives far longer than other organizations.
- Information organizations, far more than other organizations, have stopped implementing PM improvement initiatives, although 75% are still implementing (compared to 94.4% of all organizations).
- Finance organizations were far more likely than other organizations to implement PM methodology as their first initiative.
- Information organizations were far more likely to implement a project office as their first initiative.

GETTING EXECUTIVE BUY-IN SURVEY RESULTS (EXCERPT)

On a scale from 1-5 how valuable has the implementation of project management been to your organization?

1. Not Valuable	0.0%
2. Of Little Value	2.3%
3. Moderately Valuable	22.1%
4. Valuable	25.6%
5. Very Valuable	50.0%
AVERAGE RATING: 4.2	

Which project management improvement initiatives have you engaged in?

Implemented a project office	63.7%
Implemented a project management methodology	84.6%
Integrated PM into key company processes	67.0%
Trained staff in PM tools and techniques	83.5%
Implemented PM software	60.4%
Deployed professional development program	36.3%
Other	11.1%

Which initiative was done first?

Implemented a project office	28.7%
Implemented a project management methodology	43.7%
Integrated PM into key company processes	9.2%
Trained staff in PM tools and techniques	10.3%
Implemented PM software	6.9%
Deployed professional development program	1.1%
Other	0.0%

What is the primary reason your organization started the project management initiative?

Difficulting in allocating resources	4.9%
Inconsistent approaches to managing projects	35.4%
Limited visibility into project activities	7.3%
Projects always late and over budget	23.2%
Product quality unacceptable	1.2%
Customers not satisfied	7.3%
Economic pressures (ROI, EVA)	11.0%
Other	9.8%

Who made the recommendation to do the first initiative?

CEO	3.4%
CIO	16.1%
COO	8.0%
CTO	0.0%
VP or Director-Level Business Management	34.5%
Director, Project/Program Management	14.9%
Project/Program Office Manager	8.0%
Project/Program Manager	5.7%
Technical Lead	3.4%
Other	5.7%

What was the primary argument the initial advocate used to sell the first initiative to Management/Executives?

Better manage resources	8.3%
Standardize management of projects	17.9%
Provide more visibility into project activities	1.2%
Improve ability to deliver on time and stay within budget	40.5%
Improve product quality	1.2%
Improve customer behavior and satisfaction	7.1%
Improve bottom-line economics (ROI, EVA)	20.2%
Other	3.6%

Is Management/Executives tracking the actual value returned on the initiative?

Yes	47.1%
No	52.9%

If so, how is the actual value tracked?

Change in resource productivity	39.0%
Change in meeting delivery dates and budgets	78.1%
Change in product quality	36.6%
Change in customer behavior and satisfaction	58.5%
Change in bottom-line economics (ROI, EVA)	56.1%
Other	4.9%

Source: The *Value of Project Management: Getting Executive Buy-in,* Center for Business Practices, 2002.

About the Center for Business Practices

The Center for Business Practices, the research and publishing arm of PM Solutions, harnesses project management knowledge and expertise and integrates it into products and services to deliver comprehensive, fact-based information to customers.

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The CBP sponsors original research that will contribute to the success of organizations. Subject areas include: Value of Project Management, Portfolio Management, Project Office Implementation, Enterprise PM, PM Maturity and Assessment.

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Discover best practices that help project management professionals develop and enhance the people skills that are vital to making a project succeed.

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Discover best practices that lead to a superior project organization: Covers portfolio management, project office implementation, enterprise PM, professional development, PM maturity and assessment, PM processes, performance metrics, and more.

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Justifying the Value of Project Management

Projected Returns

A rundown on how effective project management can promote improved return on investment

Effective project management initiatives can . . .

- Yield an average **28%** return on investment
- Generate overall business improvements by an average of **21%**

The implementation of project management initiatives has led to improvements in . . .

- Schedule estimating **38.6%**
- Customer satisfaction **37.6%**
- Alignment with business goals **37.0%**
- Time and budget to date **32.5%**
- Schedule performance **32.1%**
- Cost performance **23.8%**
- Staff productivity **22.8%**
- Time to market **21.7%**

Source: *The Value of Project Management in IT Organizations,* Center for Business Practices Research Report, 2001. Reprinted from Pimm Fox, "Tapping the Right Tools," *Computerworld,* April 22, 2002.

The Center for Business Practices is the research and publishing arm of PM Solutions. For more information, visit www.cbponline.com.

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