Project Management
Best Practice Benchmarks
Senior executives want to know one thing about project management: “What’s the value?” Today more than ever, every dollar invested must be justified, and any initiative must deliver positive and tangible results.

The PM Solutions Research Approach

We first search the literature to identify current practices and challenges that we use in the development of our survey questions. Our surveys, in general, are designed to determine the extent to which organizations use these practices. In particular, we want to identify those practices that are used more often by high-performing organizations. These we identify as best practices.

An invitation to participate in our web-based surveys are sent to our research mailing list (senior project management practitioners). Responses to the survey are collected and analyzed. Summary reports are posted on our website and the full research results are available for purchase. The number of useable responses varies from 100-450, depending on the survey.

Notes on Reading the Survey Findings

Averages cited are means (unless otherwise noted). Numbers are rounded off. We compare the responses of high-performing organizations to low-performing organizations to determine whether there are any particular practices that stand out and might represent “best practices.” For the purposes of our research, high-performing organizations are those that rank in the top 25% in overall performance based on ratings in eight measures (strategy execution, shareholder satisfaction, customer satisfaction, budget/schedule performance, financial performance, resource allocation, strategic alignment, portfolio performance). Low-performing organizations rank in the bottom 25%.
The Value of Project Management
Including Project Management Training Practices

Our research clearly demonstrates that organizations receive significant value in implementing project management improvement initiatives. Initiatives include implementing a PMO, a project or portfolio management methodology, performance measures, a governance or risk management process, change management, Agile PM, or project or portfolio management software. Initiatives also include maturing existing project and portfolio management practices, hiring contracted PM resources, or training staff to use PM tools and techniques.

### PM Value Benchmarks

<table>
<thead>
<tr>
<th>Improvement Area</th>
<th>Improvement Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements performance</td>
<td>54%</td>
</tr>
<tr>
<td>Quality</td>
<td>47%</td>
</tr>
<tr>
<td>Projects completed</td>
<td>52%</td>
</tr>
<tr>
<td>Project-strategy alignment</td>
<td>55%</td>
</tr>
<tr>
<td>Budget performance</td>
<td>47%</td>
</tr>
<tr>
<td>Schedule performance</td>
<td>47%</td>
</tr>
<tr>
<td>Employee satisfaction</td>
<td>47%</td>
</tr>
<tr>
<td>Return on investment</td>
<td>46%</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>45%</td>
</tr>
<tr>
<td>Time to market</td>
<td>41%</td>
</tr>
<tr>
<td>Productivity</td>
<td>32%</td>
</tr>
<tr>
<td>Degree of project risk</td>
<td>27%</td>
</tr>
<tr>
<td>Number of scope changes</td>
<td>22%</td>
</tr>
</tbody>
</table>

- Average number of PM improvement initiatives implemented in each organization: 6
- Average cost of PM improvement initiatives implemented in each organization: $7,400,000
- Average cost saved due to the PM improvement initiatives in each organization: $19,000,000

### PM Training Benchmarks

- Organizations still use instructor-led training as their primary delivery method (42% of the time onsite and 23% of the time off-site), but the amount of time spent with e-learning methods is increasing (21% of the time).
- The primary sources of training are from training companies (in 80% of organizations) and delivered by in-house resources (76%).
- Most organizations offer training in PM basics (84%), but a majority also offer training in general management (62%) and advanced project management topics (58%).
- A majority of organizations (66%) do not offer a professional development program for project managers.
- Organizations spend $218,000 a year on PM training on average.
- Organizations see positive benefits in all areas measured, but the greatest benefits are in customer satisfaction and schedule performance.

Our research over the past three years shows that resource management issues are consistently the biggest challenges to organizations that practice project management. From inadequate resource forecasting to resource contention issues: from conflicting resource priorities to inadequate information on what resources are available; our research has shown that the resource challenges faced by project management professionals significantly impact their organizations’ effectiveness.

**Best Practice Benchmarks**

- Organizational performance improves as the resource management maturity of the organization improves, based on our measures of performance (see page 2).
- There are significant challenges in all components of resource management, but particularly issues around understanding the number of resources needed to complete projects. The top five most significant challenges are:
  - Resource capacity planning is poor
  - Not enough appropriately skilled resources
  - Too many unplanned requests for resources
  - Resource use is not optimized
  - Effort estimation is inaccurate.
- Organizations don’t follow even the basic resource management standards consistently — using resource leveling, creating staffing management plans, or considering the number and availability of resources required before determining schedules.
- There is a significant disconnect between decision makers who assume that there are enough resources for all projects when, in fact, there often are not.
- Almost half (48%) of all organizations use automated information systems to assist in resource management functions. But almost half of them (47%) thought the tools did not accurately calculate resource forecasts and more than half (55%) said their managers did not use the tools consistently or effectively.
- The following practices and characteristics show up far more often in high-performing organizations than in low-performing organizations:
  - The organizations have strong, effective PMOs
  - There is a clear organizational culture for sharing resources
  - Stakeholder roles/responsibilities are clearly defined
  - Effective project portfolio reporting capability exists
  - Resources understand project management practices.
IT Project Portfolio Cost Management

To be a truly powerful, credible, and useful function, project cost management must be considered a dynamic and integral part of the technical and financial function of an organization. Our research demonstrates that there is a strong correlation between organizational performance and the maturity of an organization’s cost management practices.

Best Practice Benchmarks

» Although fewer than half of organizations (49%) use a structured cost estimating process, there is a huge difference between the percentage of high-performing organizations that use the process (71%) and the percentage of low-performing organizations (19%).

» A large majority of organizations (79%) tie requirements to business goals and results, and there is a significant difference between the percentage of high-performers (83%) and low-performers (57%).

» Most organizations take project size (93%) and technical complexity (92%) into consideration in developing cost estimates; and though most of them use informal methods and tools, high-performing organizations are far more likely than low-performers to use formal methods and tools in evaluating both project size (70% vs. 18%) and technical complexity (64% vs. 17%).

» As expected, high-performing organizations are better at specific cost-estimating practices than low-performers. In particular, they are 113% better at estimating the cost of quality, 68% better at estimating business labor costs, 68% better at estimating the cost of technical complexity, 56% better at estimating costs by project size, and 40% better at estimating technical labor costs.

» Fewer than half of organizations monitor project progress against business goals (48%), but high-performing organizations are more than twice as likely to do so (71% vs. 32%). Also, high-performers are significantly more likely to use the following measures: function points delivered per labor hour (63% vs. 8%), defects per 100 function points at user acceptance (60% vs. 8%), and economic value-added (53% vs. 8%).

» The most significant challenges to organizations in developing defensible cost estimates are a lack of data needed for estimating and the inability to assess the benefits to be derived from a potential IT investment.

Most Often Used IT Portfolio Measures

1. Return on investment
2. Alignment to strategic business goals
3. Number of projects completed on-time/on-budget
4. Cycle time reduction
5. Percent customers satisfied with IT product delivery

In spite of the significant growth of project management offices in the last decade, organizations are still struggling with verifying the value of their PMOs. The results from this research suggest that merely implementing a PMO is not a panacea. Instead, it is PMO maturity that makes a difference to the organization. As PMOs become more mature, our data suggests, organizational success metrics improve. In addition, the mature PMO takes on more roles—in both portfolio management and people management, thus elevating its value to the organization.

Best Practice Benchmarks

- As PMOs mature, they are significantly better at meeting critical success factors, including having effective sponsorship, accountability, competent staff, quality leadership, and demonstrated value. They also have significantly fewer challenges, including stakeholder acceptance, appropriate funding, demonstration of value, role clarification, conflicting authority, and consistent application of processes.

- High-performing organizations have larger PMOs (30% more staff) and rely on more specialized roles (they have more staff performing those roles), including mentors (136% increase), team leads (467% increase), planners (147% increase), controllers (116% increase) and relationship managers (698% increase).

- High-performing organizations are more likely to have an enterprise PMO (66% of high-performing organizations have EPMOs compared to only 49% of low performing organizations); they are also more likely to have steering committees (65% vs. 52%).

- PMOs have been in place longer in high-performing organizations (5 years) than in low-performing organizations (4 years).

- PMO functions performed significantly more by high-performing organizations include strategy formulation, portfolio risk management, benefits realization analysis, contract preparation, outsourcing, project opportunity process development, resource assignment process development, management of a staff of project planners/controllers and business relationship managers, and resource identification and optimization.

- High-performing organizations outsource 135% more often than low-performing organizations.

- High-performing organizations evaluate project manager and team competency significantly more often than low performing organizations.

Strategy & Projects

Organizations create initiatives, comprising any number of portfolios of programs and projects that become the vehicles for executing their strategy. For this report we researched the literature to identify best practices in eight components of strategy execution—governance, strategy management processes, portfolio management processes, project management processes, structure, information technology, people, culture—to determine the extent to which organizations use these practices. Our research shows that high-performing organizations use Strategy & Projects best practices more than other organizations, consistently and significantly.

Best Practice Benchmarks
The following best practices were used significantly more often by high-performing organizations than other organizations. IT best practices in particular set high performers apart. The practices are listed in order of their significance:

1. IT tools integrate strategy execution management, portfolio management, program/project management, and performance management functions.
2. IT tools are used to develop alternative strategic and project portfolio scenarios.
3. Project management is clearly established and embedded within the organization’s business management structure.
4. IT tools provide information on the availability of resources.
5. Senior management consistently rewards successful project behaviors.
6. The enterprise project office allows the organization to manage its entire collection of projects as one or more interrelated portfolios.
7. Program/project performance feedback is used for managing strategy execution.
8. IT tools provide the capability to monitor and control risks, issues, and financials across portfolios.
9. Project management is valued throughout the organization.
10. IT tools enable appropriate communication of strategy and strategic performance throughout the strategic management chain, both top-to-bottom and bottom-to-top.
11. The company has an organizational structure (strategic project office, steering committee, etc.) that is responsible for managing strategy execution.
12. Performance management reviews are structured to reward or correct individual performance based on the employee’s contribution to strategic objectives.

Project Management Maturity

Our research benchmarks organizations’ maturity in the PMBOK® Guide’s nine project management knowledge areas, generally accepted as critical to successful project completion. More importantly, the research confirms the hypothesis that there is organizational and project management performance improvement if organizations improve their project management maturity.

Best Practice Benchmarks

» Improving the organization’s level of project management maturity results in significant performance benefits, especially in customer satisfaction (45% of organizations showed greater than 10% improvement in customer satisfaction, and almost 30% of organizations showed more than 25% improvement).

» The higher the level of project management maturity, the better the performance, in all areas measured.

» All organizations, including high-performers, are consistently low in maturity in all knowledge areas, and they are poorest at risk and human resource management.

» Overall project management maturity grew by 26% from 2001 to 2006, and the biggest improvements in maturity were in risk management, followed by procurement management and cost management.

» Given that the importance of project management to organizations has become fairly well documented in the management literature over the past five years, it is surprising that over 30% of organizations have shown no improvement in their project management practices.

» High-performing organizations are significantly more mature (average level of maturity - 2.05) in their project management practices than organizations in general (average level of maturity - 1.49) and they are significantly more mature than other organizations in all project management knowledge areas.

» The most significant difference between high- and low-performing organizations is in allocating resources optimally and in estimating accurately.

» High-performing organizations are very good at satisfying project customers and in completing projects on schedule.

» A significant percentage (23%) of high-performing organizations are at Level 5 maturity in quality management.

Troubled Projects

How many projects are troubled? Can they be recovered, or are they doomed to fail? How do organizations recognize troubled projects in time to recover them? Do they have standard processes for recovering these troubled projects? And what are the root sources of troubled projects? These and other findings are showcased in our research on best practices in identifying and recovering troubled projects.

Best Practice Benchmarks

» Of the organizations surveyed, 47% of their projects were troubled, troubled and recovered, or troubled and failed. Over a 12-month period 1,830 out of 3,874 projects that closed were troubled — organizations averaged closing $65 million worth of projects, with $30 million of those projects at risk of failing.

» Issues around meeting schedule requirements appear to be the most significant symptoms of troubled projects, with risk to benefit delivery critical as well. The top five symptoms were:
  » Critical issues in meeting milestones or completing deliverables
  » High risk to the project’s likelihood in delivering anticipated benefits
  » The project was forecasted to be unacceptably behind schedule at completion
  » The project was unacceptably behind planned schedule
  » There were critical and/or significantly growing technical issues with the project.

» Most organizations don’t have a standard process for recovering projects once they are identified as troubled — only 24% of organizations have a standard for recovering those troubled projects (and 31% have no process at all). Those organizations with a standard recovery process had 83% more projects that were successful, 195% fewer projects that remained troubled, and 120% fewer projects that failed, than those organizations without a recovery process.

» Issues around poor communication and poor project management processes are the primary root causes of troubled projects.

» Project recovery interventions are highly successful. They may consist of any number of actions — redefining the project, changing leadership on the project, adding resources, improving project management practices — that ultimately lead to project success. Project recovery interventions led to successful completion in 80% of organizations, either with the projects recovered and completed successfully (in 43% of organizations) or by setting new project expectations and meeting those new requirements successfully (in 37% of organizations).

High-Performance Project Teams

In today’s rapidly changing business environments, organizations carry out a significant portion of their work efforts using project teams. Our research underscores the value of using team best practices in managing project teams.

Best Practice Benchmarks

The following best practices were used significantly more often by high-performing organizations than other organizations. Team recognition and rewards best practices in particular set high performers apart. Listed in order of their significance:

» There are formal processes for opting out of teams.
» Team performance measures are used as part of a team reward and appraisal system.
» Team members provide recognition and rewards to each other for effective performance.
» Teams have adequate resources (money, time, people).
» Team members are involved in hiring, training, and disciplining team members.
» Team members understand contemporary project management principles.
» Team members are willing to make all the necessary key decisions and be held accountable for them.
» The organizational culture supports and encourages team empowerment, experimentation, creativity and innovation.
» Teams regularly review compliance with their rules.

The following best practices were significantly more often not used by low-performing organizations than other organizations. Organizational climate best practices in particular set low performers apart. Listed in order of their significance:

» Teams have the right mix of members to achieve project success.
» The organization provides the tools needed to foster the work of teams.
» Team leaders function effectively.
» Senior management encourages continuous improvement of methods and processes.
» The organizational culture supports and encourages team empowerment, experimentation, creativity and innovation.
» Senior management creates the necessary organizational environment to make effective teams the norm.

About PM Solutions

PM Solutions is a project management firm helping organizations execute, govern, and measure their portfolios to improve business performance. We are the leader in applying project and portfolio management processes and practices to drive operational efficiency for our clients.

Founded in 1996 by J. Kent Crawford, PMP®, the former president and chair of the Project Management Institute (PMI®), PM Solutions delivers expert project management services to help organizations and its people perform to maximum potential. Our targeted offerings address business needs in the following areas:

» Organizational Improvement
» Project Execution
» Learning & Development

Why PM Solutions

Our proven ability to deliver against business priorities ranging from organizational process improvements to the execution of mission-critical projects is why PM Solutions is trusted by top organizations around the world.

PM Solutions’ experts have an extensive network of company-backed resources and assets to draw from when delivering solutions to our clients. Our research and benchmarking allows us to stay on the forefront of trends and be adaptive with new approaches that positively impact our clients across industries.

Our commitment to quality includes executive oversight on every engagement and unparalleled attentiveness to the relationship we forge with each of our clients.

Value Proposition

For PM Solutions, it’s not enough to merely perform well and provide focused services. To build a trusted partnership with our clients, we have a vested interest in demonstrating that the services we provide actually improve our clients’ business performance in measurable ways. We are proud to have helped lead initiatives for our clients that resulted in double-digit process maturity improvement, time-to-market acceleration enabling direct revenue growth, and on-time delivery of multi-million dollar programs for new manufacturing facilities, regulatory compliance, and data center consolidation, to name just a few.
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