



A Buyer's Guide to Project Portfolio Management Systems

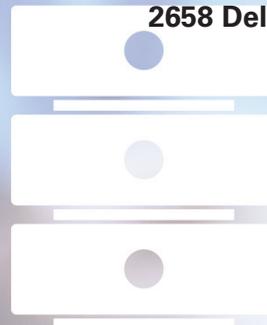


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| Introduction

As more and more companies have matured in their capabilities and commitment to quality, the presence of dedicated improvement staff and project teams has become a common sight. Improvement projects take organizational performance to new levels by improving processes, lowering costs, and enhancing customer satisfaction. The concept of “sustainable improvement capability” is not only an admirable vision; it has become a practical goal.

Concomitant with this evolution, the introduction to industry of Project Portfolio Management Systems (aka PPM Systems) truly represents a watershed event. Companies can finally bring “order to chaos” when the volume of improvement activity rises to the level that no single person can manage it all, let alone provide a simple overview of all the company is doing to improve.

This Guide will help organizations that are ready to make the investment in a PPM system. We also offer “Key Take-Aways” to aide in the practical use of this content.

Just as adherence to a proven method will produce a good result from any improvement project, our aim is to offer the reader an approach that will produce a good result from their selection of a system that offers comprehensive PPM management.

Definition

For those readers new to the subject of PPM, a definition is in order:

Project Portfolio Management (PPM) is the centralized management of processes, methods and technologies used by project managers and project management offices to analyze and collectively manage current or proposed projects based on numerous key characteristics.

The objectives of PPM are to determine the optimal resource mix for delivery and to schedule activities to best achieve an organization's operational and financial goals – while honoring constraints imposed by customers, strategic objectives, or external real-world factors.

Key Take-Away: PPM is a process that can be done manually or supported by technology, principally software applications that will guide, coordinate and manage the project activity. As will be seen, there is a significant return-on-investment from the use of an automated PPM system.

Evolution of PPM Systems

Purveyors of PPM systems come from a variety of backgrounds. This is an important observation because the heritage of the company that offers the system will say a lot about their understanding of this space, their commitment to it, and their ability to evolve with the needs of their customers.

It may seem obvious that many PPM systems evolved out of a simple project management application that grew from that foundation to accommodate the demands of customers that had taken the system as far as it can go. A company with experience in project management can do a reasonable job in managing the project side of things, but the “portfolio” may be lacking. More on this later when we discuss the features of a competent PPM.

While many vendors will have introduced a PPM as a byproduct of some earlier systems that were commercially offered, others will have tackled the development of a PPM from a blank slate and true “greenfield” effort. Their product roadmaps will clearly articulate their vision to create a PPM that will satisfy the needs of their target market. Buyers would be well served to challenge vendors by asking to see not only their product roadmap, but also a backward analysis of prior versions to validate vendor claims regarding their commitment to development.

Key Take-Away: Request a review of the PPM vendors' product roadmap to gain an understanding of the product's evolution, both backward and forwards.

Impact of PPM and PPM systems

The potential impact of a PPM system has been well documented. It would stand to reason that, if a system existed to make improvement activity more efficient, then the benefits of that improvement activity would be experienced faster and with greater frequency. Organizations that lack a PPM system often find that projects take too long to complete, if they are ever completed at all. A competent PPM system, on the other hand, allows an organization to complete more projects, more projects faster, and projects with greater returns. Greater returns are experienced because the system helps to prioritize improvement opportunities well in advance of them being sponsored in the first place.

In examining the impact of a PPM, it is important to be clear on how the return will be calculated. For organizations that have no intent to automate PPM, there is still ample evidence that the return is compelling even from a manual approach. A range of independent studies have already demonstrated that Lean and Six Sigma techniques, when deployed in a PPM environment, will produce returns up to 7:1 (*Source: Creative Healthcare*).

When the benefits of PPM automation are added to this equation, the return become a little more ambiguous if we are not clear on how and what we are specifically measuring. Two independent studies make this point: one focuses on the increased return on investment from project work via automation (suggesting 50% improvement from the results of each project), the other looks at the ability to recover initial investment costs in the PPM (and suggests a return on that investment of 250%).

As will be seen, a comprehensive PPM will perform the same functions as found in the following applications:

- ⦿ Project Management and Tracking
- ⦿ Value Stream and Process Mapping
- ⦿ Performance Improvement Training
- ⦿ Statistical Analysis Tools
- ⦿ Document Management

Companies have the opportunity to suspend investments in these applications to the extent they are available within the PPM system. A recent study of PPM systems with an end user community of only 50 users found that the licensing organization was able to avoid \$250,000 in expenses by leveraging the PPM instead of the host of other complementary applications described above (*Source: Creato Performance Solutions*).

Key Take Away: There seems little doubt the investment in PPM automation will produce compelling returns almost any way you measure it.

Third Party Research into PPM Automation

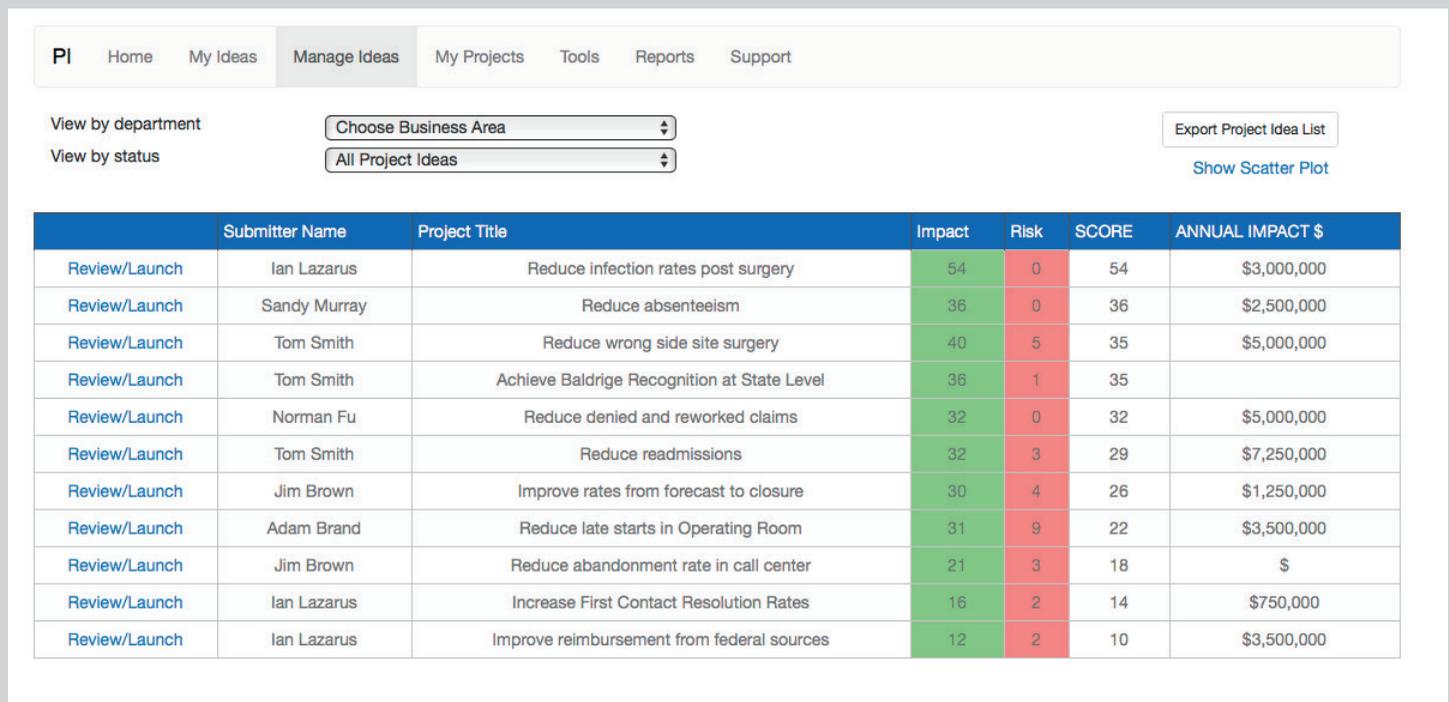
Aberdeen GP/CIO Mag.	PM Solutions Research	Forrester Research
Projects completed on time or early are 44% more likely with a PPM Tool		A comprehensive PPM tool investment is likely to provide an ROI of more than 250%
Projects completed on budget are 38% more likely with a PPM.	Strong correlation between use of PPM systems, maturity of PPM practices, and overall ROI reported from use of PPM as a management approach	A PPM can reduce the failure rate of projects undertaken by 15%
Increase probability of hitting expected ROI by 52% using a PPM.	Healthcare second only to financial industry to applying PPM practices (followed by information Systems, Manufacturing and Professional Services firms).	A PPM can reduce project cycle times by 10%
40% reduction in project failure using a PPM tool (CIO Magazine)	A survey of nearly 500 companies found 71% with formal portfolio project management processes in place. 83% of healthcare organizations surveyed plan to implement PPM in the next year.	A PPM makes everyone more productive by automating tasks and report production. Administrative management time on projects is accordingly reduced by about 25%
		SaaS model PPMs provide the highest return when evaluated over a 3-year horizon

Features

A broad range of features have been added to PPM systems over the years since their initial introduction. In general, these features reflect not only the vendor's vision of how to practice PPM, but customer requested enhancements that improved the solution for all. It would be wise for the purchaser to investigate how responsive the vendor is to customer-requested enhancements by asking for specific examples of how the application has improved as a result of them.

What follows is a review of the most common and important features of a PPM System.

Idea management. At a minimum, a PPM will enable a user to submit an idea for review and approval by some representatives of management that can view prioritized ideas in a dynamic view. The ideas will be subject to criteria that will aid in comparing the merits of one idea to another. In order to normalize the quality of information coming into the system, the criteria will either be quantifiable in unambiguous terms, and/or management will be allowed to rescore ideas to avoid any personal bias or inaccurate information being included by the original author of the idea.



The screenshot displays a web application interface for PPM. At the top, there is a navigation bar with links: PI, Home, My Ideas, Manage Ideas (highlighted), My Projects, Tools, Reports, and Support. Below the navigation bar, there are filters for 'View by department' (Choose Business Area) and 'View by status' (All Project Ideas). There are also buttons for 'Export Project Idea List' and 'Show Scatter Plot'. The main content is a table with the following data:

	Submitter Name	Project Title	Impact	Risk	SCORE	ANNUAL IMPACT \$
Review/Launch	Ian Lazarus	Reduce infection rates post surgery	54	0	54	\$3,000,000
Review/Launch	Sandy Murray	Reduce absenteeism	36	0	36	\$2,500,000
Review/Launch	Tom Smith	Reduce wrong side site surgery	40	5	35	\$5,000,000
Review/Launch	Tom Smith	Achieve Baldrige Recognition at State Level	36	1	35	
Review/Launch	Norman Fu	Reduce denied and reworked claims	32	0	32	\$5,000,000
Review/Launch	Tom Smith	Reduce readmissions	32	3	29	\$7,250,000
Review/Launch	Jim Brown	Improve rates from forecast to closure	30	4	26	\$1,250,000
Review/Launch	Adam Brand	Reduce late starts in Operating Room	31	9	22	\$3,500,000
Review/Launch	Jim Brown	Reduce abandonment rate in call center	21	3	18	\$
Review/Launch	Ian Lazarus	Increase First Contact Resolution Rates	16	2	14	\$750,000
Review/Launch	Ian Lazarus	Improve reimbursement from federal sources	12	2	10	\$3,500,000

The whole area of "idea management" could be subject to further discussion beyond the simple capabilities described here. For example, PPMs can allow each end user to maintain their own personal queue of ideas that can be started, edited, submitted for review, and tracked so that the author will understand the ultimate disposition of their submission. Some companies may use this feature to reward the best ideas submitted by their staff. Further still, advanced PPMs support enhanced collaboration by creating a channel of communication between the author of an idea and members of management charged with its review. Moreover, social media channels are increasingly being leveraged to allow a larger audience to comment on an idea, expressing support or dissent, with the ability to score ideas using social media conventions (such as the "thumbs up").

From Ideas to Projects. One of PPMs greatest contributions is to ensure that organizations not only “do things right,” but that they further “do the right things.” Industry is replete with examples of projects sponsored of marginal value because of the compelling imperative to improve. A PPM guides the selection of the most important areas in which to improve through the prioritization process incorporated in the system.

On reviewing the ideas submitted by end users, managers should be offered a range of options. The best ideas can be approved outright and assigned to staff. Incomplete ideas or those requiring further examination can be deferred. Ideally, the end user is advised of the deferral and given the opportunity to submit a better business case for the improvement opportunity. On launching any projects, the idea is advanced and removed from the idea portal. This becomes the formal handoff of the idea to a project leader whose work on the project will become tracked further by the PPM.

PI Home My Ideas Manage Ideas My Projects Tools Reports Support					
Project Status: <input type="text" value="Active"/>					Project Folder Template (download)
	Project Title	Annual Impact \$	Project Champion	Project Leader	Status
Drive this Project	Achieve ISO-9001 certification for Knoxville plant	\$	Anne Cruz	Tom Smith	Active
Drive this Project	Improve Forms Collection Process	\$1,500,000	Iain Smith	Jim Brown	Active
Drive this Project	Locate real estate for 200K receivers	\$	Tom Smith	Ian Lazarus	Active
Drive this Project	Reduce cycle time for Onboarding New Staff	\$450,000	Greg Meyer	Tom Smith	Active
Drive this Project	Reduce Days in Accounts Receivable [Kaizen]	\$4,500,000	John Watson	Jim Brown	Active
Drive this Project	Reduce factory injuries	\$	Adam Brand	Tom Smith	Active
Drive this Project	Reduce rescheduling of client visits	\$1,230,000	Jim Brown	Jim Beczkiewicz	Active
Drive this Project	Reduce spend on temp labor	\$8,500,000	Jim Beczkiewicz	Greg Meyer	Active
Drive this Project	Reduce time to market for new products	\$25,000,000	John Watson	Tom Smith	Active

Project Management. It will be the project management features that are emphasized by most vendors of PPM systems, and for good reason. Projects will succeed or fail based on the quality of these features, and the purchaser should ensure compatibility of the PPM’s approach to project management with the organization’s existing capabilities in performance improvement, as well as their culture and attitudes toward creating a vision of excellence for their organization. Said another way, management should be comfortable that the PPM will establish the necessary transparency and accountability functions to both support and ensure desired results from each and every project that is resourced.

Having laid this foundation, lets look at some of the features one might expect from a PPM as it relates to the management of live projects:

- ⦿ Assignment of Project to a Project Leader and/or Team (each user maintains their own queue)
- ⦿ Ability to define specific improvement methodology to be employed (Lean, Six Sigma, PDCA/PDSA, etc), with protocols to guide the work based on method chosen
- ⦿ Ability to leverage the system to create a new protocol or method, to adopt a protocol that is already in use within the organization, and/or to modify existing protocols already written into the application
- ⦿ Complementary tools - ideally suggested as needed – within the application and accessible as the project work is undertaken. For example, if the project work calls for a “value stream analysis” based on the method, the application would ideally recommend the tool and provide ready access to it.

- Complementary training. Organizations that have taken organizational excellence as far as it can go already have made the argument that performance improvement is everybody's responsibility. Moreover, these organizations almost always have staff that is either in training for performance improvement, or recently graduated from such programs. Given this, a PPM must recognize the broad range of experience that staff brings to the process of improvement. The most highly evolved PPMs will provide just-in-time training to "raise all boats" in their improvement capability.

The screenshot shows a PPM system interface with a navigation bar at the top containing: PI, Home, My Ideas, Manage Ideas, My Projects, Tools (highlighted), Reports, and Support. Below the navigation bar are five main tool categories, each in a separate box:

- Define**
 - Project Selection**
 - Pareto Analysis
 - Value Stream Map
 - Multi-Vote CE-Matrix
 - Force Field Analysis
 - Process Flow
 - Relationship Studies
 - Threat/Opportunity Matrix
 - Project Scoping**
 - Picture Frame
 - SIPOC Analysis
 - COPQ Analysis
 - Project Definition**
 - CTQ Analysis
 - Stakeholder Analysis
 - Gantt Chart
- Measure**
 - Descriptive Statistics**
 - Histogram
 - Box Plot
 - Measurement Analysis**
 - Gage R&R (Attribute)
 - Gage R&R (Variable)
 - Baseline Analysis**
 - Pareto Analysis
 - Capability Analysis (Att)
 - Capability Analysis (Var)
 - Noise Factor Analysis
 - COPQ Analysis
- Analyze**
 - Study Process**
 - Macro Map
 - Process Flow Diagram
 - Spaghetti Diagram
 - Brainstorm Causes**
 - Fishbone Diagram
 - FMEA
 - CE Matrix
 - Root Cause Analysis**
 - 1 Sample (Attribute)
 - 2 Sample (Attribute)
 - 1 Sample (Variable)
 - 2 Sample (Variable)
 - Noise Factor Analysis
 - Value Stream Map
 - Lean Analysis
 - Swim Lane Analysis
 - KAIZEN Workbook
 - 5 Whys Analysis
 - ANOVA
 - CHI Square
- Improve**
 - Improve Process**
 - FMEA Risk Analysis
 - FFA Risk Analysis
 - Optimization
 - Threat/Opportunity Matrix
 - Pay Off Matrix
 - Confirm Improvements**
 - Capability (Attribute)
 - Capability (Variable)
 - Pareto Analysis
 - Value Stream Map
 - COPQ Analysis
 - Side Effect Analysis**
 - 1 Sample (Attribute)
 - 2 Sample (Attribute)
 - 1 Sample (Variable)
 - 2 Sample (Variable)
- Control**
 - Control Plan**
 - SPC Selection Tool
 - Control Plan
 - Control Process**
 - c-Chart
 - u-Chart
 - np-Chart
 - p-Chart
 - IMR-Chart
 - XbarR-Chart
 - Audit Sheet
 - Close Project**
 - Closure Form

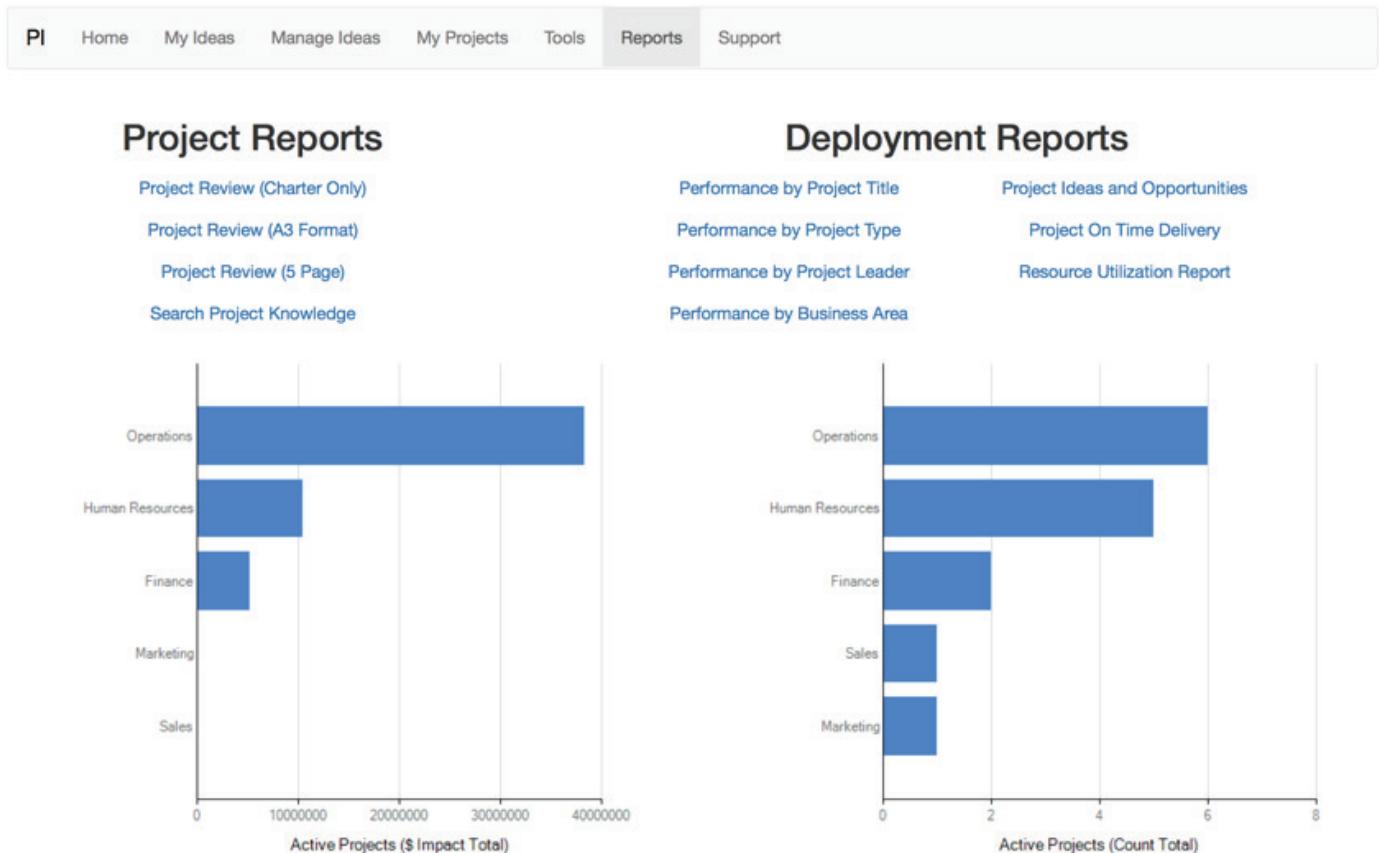
- Automated Alerts. It is all well and good to be able to show a report with multiple live projects, but if the projects are not proceeding due to other demands on staff time, then the investment in a PPM will produce disappointing results. Many PPM vendors have recognized this and enhanced their application to provide a range of automated features to keep staff engaged in the process of improvement. These automated features work on a set schedule that can be activated or de-activated at the option of the customer.

Examples include:

- Summary reports for management to make progress (or lack of it) visible to stakeholders
- Advice to Project Leaders on a regular basis in regard to projects that are approaching milestones or running behind
- Alert that active projects are missing critical data

- Reporting. A PPM will offer insight into all improvement activity in an organization, but unless that reporting portal is flexible, it will frustrate management’s efforts to fully understand what is going on. Standard reports should include, at a minimum:
 - Total activity by business area
 - Total activity by project leader
 - Progress of projects in flight
 - Resource utilization (number of projects by person)
 - Return on Investment by department and leader (for completed projects)

In addition to standard reports accessible from a reporting portal, the PPM should produce summary reports on demand for each active project. This may take the form of an “A3 report,” a common reporting framework, or some other simple reporting format. By creating reports in real-time, the customer experiences the benefit referred to in the Forrester Report by minimizing up to 25% the amount of time currently spent on manual report production.



Key Take Away: Take inventory of all your needs from a PPM, and consider using this Guide to format an RFP. Ensure any vendor being considered can meet the minimum requirements suggested here. Require a demonstration to validate these capabilities.



PPM Integration. As with most technology applications, integration with complementary and supporting systems cannot be ignored. It would be better to have a free-standing PPM system than none at all, but far better to have it integrated with or inclusive of a document management system that can accommodate documentation while indexing the files as they are created.

The critical importance of this is often overlooked as momentum builds to make a selection of a PPM, however if a PPM system cannot integrate with a document management system then it remains the task of the customer to rectify this problem.

Why is it so important to integrate with a document management system? First of all, as project work is complete, it adds to the already growing archive of other completed projects, giving rise to an institutional memory of an organization's journey to achieving sustainable improvements across the enterprise. When done properly, this work is indexed for easy retrieval over time, allowing staff to readily review information on past efforts.

The benefits do not end here. Often, an organization continues to support multiple applications and file formats, and a document management system is designed to accommodate these various file formats even if the PPM system is not. Indeed, integration between a PPM and document management system offers an organization tremendous flexibility in how it organizes and indexes its improvement work.

Key Take-Away. Ensure that a document management system is either included in your PPM system or it is capable to integrate with existing systems out-of-the-box.

Support. Most PPM systems today are offered as hosted solutions. There is nothing inherently wrong with licensing this option, and in fact, Forrester Research has acknowledged that over a 3-year period, a SaaS (Software-as-a-Service) approach offers the highest possible return on investment. As a hosted solution, there will be an annual fee payable for ongoing support.

The following support services should be offered as part of a SaaS implementation:

- Hosted solution with 99+% uptime
- Technical support with escalation protocols
- Customization as needed for nominal fee
- Minor enhancements and improvements

Vendors must be transparent in terms of the accessibility they will guarantee to their application, the process for obtaining support and escalation for major technical problems encountered, and the procedure for obtaining customizations and enhancements.

Many organizations may have an IT function that is responsible for approving the implementation of new applications. Because the PPM is most likely to be offered as a hosted solution and is not considered a “mission-critical” application, the IT department is relieved of the need to devote resources to the implementation or support of the product. They may, however, still require involvement in the procurement process to ensure the application is of high integrity and with proper security protocols to mitigate any risk of data breach.

Key Take-Away. Determine what role your IT department intends to play in the procurement process for a PPM system, then read the fine print for PPM support offered by the vendor to ensure all ongoing needs will be met and properly funded.

| Conclusion

If you work in an organization where there are individuals and/or teams working on improvement projects, then your organization would most certainly benefit from a PPM system.

Creto Performance Solutions offers a premier PPM solution in the COMPASS® Quality Management System. We’ve attached COMPASS functional specifications to this Buying Guide and invite you to use it as the basis for your own journey to excellence in project portfolio management. For more information on COMPASS or any other Creto performance solutions, please contact us.

| References

- 1 “The State of Project Portfolio Management,” 2013. PM Solutions Research (white paper)
- 2 “The ROI of Project Portfolio Management Tools,” May 8, 2009, Forrester Research (white paper)
- 3 “Delivering on Strategy: The Power of Project Portfolio Management,” November 2015, Project Management Institute and Deloitte (white paper)
- 4 “Investing in Quality through Project Portfolio Management,” November 9, 2015 *Becker’s Hospital Review*
- 5 “Portfolio Management Transformation, How to effectively screen and align your program portfolio with strategic objectives,” 2015, Ernst & Young (white paper)
- 6 “Creto study of Lean and Six Sigma demonstrates returns of 7:1,” March 12, 2002 (press release)
- 7 “Managing the Project Portfolio to Improve Profits,” December 8, 2014, The Aberdeen Group (white paper)

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About Creato Performance Solutions

Creato believes leaders should have all the tools they need to excel in their mission. Creato's vision is to be the leading provider of performance improvement methodologies to industry, a trusted consulting partner, and thought leader to companies devoted to organizational excellence.

For nearly 20 years, Creato Performance Solutions has been working with organizations to expand their improvement capability. Those efforts started with the application of Lean and Six Sigma principles in addressing the throughput challenges of hospitals, and later took the form of Lean and Six Sigma training and certification for a broad range of organizations in a range of key vertical markets where a strong commitment exists to organizational excellence.

Creato's training programs have been endorsed by the American Society for Quality (ASQ) and the American College of Healthcare Executives (ACHE), where their online courses are offered. Since Creato's online programs were originally offered, several hundred professionals have completed their education in Lean and Six Sigma.

Creato has worked with some of the largest and most prestigious organizations in the U.S., including four winners of the national Malcolm Baldrige Award. Creato's training programs have been used by students as far away as Europe, Africa and Asia.

In 1999, Creato introduced Lean and Six Sigma to the healthcare industry, and by 2011, it was clear that companies were using the methods with great results. However, the growth in improvement capability created another problem: bringing order to chaos. Out of this gap grew the need for COMPASS®, a project portfolio management (PPM) systems that unifies management and staff around the improvement opportunities in their organization.

With the addition of COMPASS to its product portfolio, Creato can offer the full range of resources to organizations seeking to boost their improvement capability, from small "proof of concept" engagements to a full, turnkey approach.

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Summary of Key PPM Features—Derived from Compass® Specifications

Idea Portal

- Compose, Save & Edit
- Ranking based on discrete criteria
- Criteria customizable
- Personal Queue Tracking
- Unlimited user access

Idea Management

- Automatic Prioritization
- Dynamic sorting
- Impact/Risk Matrix
- Edit Scoring
- Send Feedback
- Disposition Tracking

Improvement Methodologies

- 5S (with audit feature)
- A3
- Lean
- DMAIC
- Kaizen
- PDCA
- Additional methods at option of customer

Project Management

- Guided by Methodology
- JIT tools and training
- Automatic Stakeholder updates
- Milestone tracking & reporting
- Automatic Project Progress Updates
- Document management integration

Document Management

- Links to customer intranet
- SharePoint integration with single sign-on
- SharePoint configuration

Just-in-Time Lean Training

- Overview
 - ASQ-endorsed Body of Knowledge (BOK)
 - Professional Audio
 - Multi-media presentation
 - Learning Games
- Modules
 - Lean overview
 - Six Sigma overview
 - Overview of Tools
 - Common cause variation
 - Special cause variation
 - Project Selection
 - Project Management
 - Voice of the Customer
 - Value Stream Analysis
 - Current vs. Future State
 - Human Factors Design
 - Piloting Improvements
 - Control Plans & Charts
 - Sustaining

Reports

- Overview Dashboard
- All Project Charters
- Project Review in A3
- Full Project Overview
- Deployment Reports
 - Performance by Project
 - Performance by Method
 - Performance by Leader
 - Performance by Department
- Resource Utilization
- On Time Performance
- Global Search

Tools

- Define Tools
- Pareto
 - Value-Stream
 - Multi-Vote CE
 - Force Field
 - Process Flow
 - Relationship study
- SWOT
- Scoping Tools
 - Picture Frame
 - SIPOC
 - COPQ
- Project Charter
 - CTQ Analysis
 - Stakeholder Analysis
 - Gantt Chart
- Measure Tools
 - Histogram
 - Box Plot
 - Gage R&R Tools
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- Baseline Analysis
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 - COPQ Analysis
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 - Spaghetti Diagram
 - Fishbone Diagram
 - FMEA
 - CE Matrix

Root Cause Analysis

- 1 Sample T Tests
- 2 Sample T Tests
- Value Stream Analysis
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- 5Y Analysis
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- Improvement Tools
 - Simulation Tools
 - FMEA Risk Analysis
 - FFA Risk Analysis
 - Optimization
 - Threat/Opportunity
 - Pay Off Matrix
- Control Tools
 - SPC Selection Tool
 - Control Plan
 - c-Chart
 - u-Chart
 - np-Chart
 - p-Chart
 - IMR Chart
 - XbarR Chart
 - Audit Sheet
 - Project Closure Document

Optional Modules

- Balanced Scorecard
- CAPA Management
- SharePoint sublicense