

March 13, 2006

The Forrester Wave™: Project Portfolio Management, Q1 2006

by Margo Visitation

TECH CHOICES

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The Forrester Wave™: Project Portfolio Management, Q1 2006

Primavera And PlanView Lead In Our Product Evaluation

by **Margo Visitation**

with Craig Symons, Lindsey Hogan, and Andrew Sahalie

EXECUTIVE SUMMARY

Project portfolio management (PPM) is a critical enabler for IT work delivery. For successful delivery, IT organizations must be able to visualize the requirements to meet objectives, determine the best combinations of new projects and existing systems to achieve the correct resource balance, and control unnecessary investments. To assess the state of the market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top PPM vendors across 94 criteria. The result: Best-of-breed still reigns. Primavera's and PlanView's functional depth, breadth, and work-specific or industry-specific solutions far outweigh generic IT work management requirements. Included in this report is an interactive vendor comparison tool that provides detailed product evaluations and customizable rankings.

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Forrester conducted demo evaluations in December 2005 and interviewed 41 vendor and user companies, including: Artemis International Solutions, Business Engine, CA, Compuware, IBM, ITM Software, Mercury Interactive, Microsoft, Oracle, Pacific Edge Software, PlanView, Primavera Systems, and SAP.

Related Research Documents

["Optimizing The IT Portfolio For Maximum Business Value"](#)

September 30, 2005, Best Practices

["Integrated IT Management Drives Efficiency"](#)

February 2, 2005, Forrester Big Idea

["Processes And Tools: The Nuts And Bolts Of Project Portfolio Management"](#)

April 11, 2003, Planning Assumption

PPM ENABLES SUCCESSFUL IT WORK DELIVERY

Fundamentally, PPM is a continuous loop of communication that enables an IT organization to collaboratively plan and determine its success or failure. For IT organizations to be successfully aligned with their business counterparts or local constituents, they must have a platform for collaborative planning that creates an avenue to foster that communication. This need for consolidated planning has created a strong desire for portfolio management tools and processes. According to a 2005 Forrester survey on IT portfolio management (ITPM), approximately 33% of the respondents said they had a portfolio process in place, 11% said they had no plans, and the remaining 56% were developing a portfolio process.¹ While the goal of ITPM is about realizing business value, 83% of the respondents are using portfolios for project prioritization.

What PPM Must Deliver

While having commercial tools in place isn't a prerequisite for developing PPM and ultimately ITPM practices, automation can increase the adoption and benefits realization by reducing administrative overhead in communication practices and by gathering real-time information to make proactive decisions instead of being reactive and uninformed. From a technology perspective, companies need the following from a PPM application:

- **Visibility.** To become a successful IT organization, visibility is critical for all IT processes, from strategic planning to work execution management. IT organizations must be able to see business objectives, monitor the demand pipeline, and manage potential risks and constraints.
- **Graphical and tabular portfolio analytics.** Being able to build models of portfolios for ad hoc analysis is critical, and graphical representation provides a quick view of investment comparison, while tabular views allow for more in-depth analysis. Maturity matters in selecting an application's methods for portfolio analysis. Low- to medium-maturity organizations require centralization and standardization of specific metrics, while more mature organizations need a more flexible feedback loop.² Scenario modeling is well suited to those organizations that are low- to medium-maturity in portfolio management because it controls the number of variables to better promote consistent analysis. More mature organizations require ad hoc portfolio creation and analysis for advanced portfolio evaluations.
- **Process automation that enables, not inhibits, planning and execution.** Planning and executing work requires processes on various levels. Regardless of maturity, organizations *can* be more efficient if management and communication functions like issue and risk management can be routed automatically to the relevant stakeholders. Automatic updates and the ability to escalate change requests to tasks enables project managers to keep project or work plans updated more efficiently.
- **More efficient management of IT work.** IT looks at spend in terms of new projects and maintenance, with almost three-quarters of the budget generally devoted to maintenance and

support.³ Factors like scope, cost, and risk will determine whether something is classified as a new project or as support of a service project, but fundamentally, all activity is work and needs to be managed and reported on. Applications must be able to easily differentiate between work and projects, associate workflow and methodology with these various work processes, and manage different work types for resources within the same application.

- **Budget creation at various levels to forecast and track running costs.** PPM tools need not replace financials applications, but, depending on the size of the organization, they become critical for reporting on project and maintenance effort costs, creating project-level budgets for investment analysis, and resource forecasting and chargeback reporting or invoicing for IT services.
- **Various work- and investment-related reporting.** PPM tools are more than just project status reports, and they are being called on to report at the dashboard level to show progress, value, and usage at the portfolio level to determine the correct investment mix. At the team and project level, they are called upon to determine progress and issue management. Additionally, more mature organizations are looking for metrics reporting to determine the quality of their work.

THE PPM MARKET HAS BECOME THE ERP OF IT

PPM tools can create obvious opportunities for growth within IT organizations. As companies become more adept at leveraging PPM to better demonstrate value, as well as making quicker decisions to mitigate risks in project, service, or work delivery, the application's benefits become evident. However, the increasing functionality to cover more varied and strategic IT functions means that the applications are becoming more sophisticated, and therefore, successful adoption becomes more complex. Learning the functionality is critical, but even more important is integrating PPM into the fabric of day-to-day IT activities. Organizations trying to adopt PPM face many challenging issues:

- **Gathering the right kind of information.** The flexibility of PPM applications makes it tempting to gather every speck of potential data floating around an IT organization. However, it's imperative to focus on creating a pragmatic data set that is consistent with other tools that may share information. Replicating or importing data from HR and financials applications is critical to ensure that resource, budget, and billing data is consistent. For data that must be built within the application, it's critical to build consistent work initiation, work planning, and resource allocation data.
- **Ensuring that both business and IT are in the loop for strategic planning.** PPM can be marginally successful only if IT has input into the planning and tracking process. Role-based functionality is broad enough to extend controlled access to a broader range of stakeholders, and companies need to extend portfolio access to appropriate stakeholders to ensure that there is consensus for developing new investments.

- **Process maturity and cultural apprehension.** Just mentioning the acronym ERP can strike fear and pain into the hearts of IT managers everywhere. However, as PPM matures to include more levels of planning and work, it must also include the processes that support them. For true visibility, all forms of work must be captured at some level. Companies with less formal processes may find that adopting PPM tools requires process design or redesign, and because of that, the learning curve extends to include process adoption, in addition to just learning the tools. Increased focus on tracking for a company that is accustomed to being reactive will result in initial resistance. Almost every client reference interviewed for this report mentioned that if implementation had to be done over, they would double the amount of time spent on education and process design.

The PPM Market Today

PPM began as three separate markets with three distinct audiences that consolidated and converged into a single market. Desktop scheduling for single projects is dominated by Microsoft. Enterprise project management (EPM) is used primarily by the architecture, engineering, and construction market and is dominated by vendors like Primavera Systems and Artemis International Solutions. Professional services automation for services organizations is dominated by vendors like Niku (now part of CA), Changepoint (now part of Compuware), and Evolve Software (now part of Primavera Systems). We estimate that the enterprise PPM market was about \$625 million in 2005 and is represented by the following vendors:

- **The pure-play or best-of-breed vendors, which bring maturity and depth.** The vendors in this category — Artemis, Business Engine, ITM Software, Pacific Edge, PlanView, and Primavera — focus completely on all aspects of planning and delivery. Their strength lies in the planning. Whether analyzing portfolio data, project progress, or resource availability, the pure-play vendors provide functional depth that is well suited for mature organizations.
- **The ERP vendors, which leverage integration to provide breadth.** The power of PPM becomes clear when users are able to analyze demand against resource and cost data to better manage constraints. Vendors like Oracle and SAP enable customers to leverage data created elsewhere in the product suite for use in the PPM modules. Historically, the tradeoff was granular planning depth, but this is beginning to change as the vendors mature.
- **The solutions vendors, which target more specific project needs.** With the exception of Compuware, the development and solutions vendors — IBM, Mercury, and Microsoft — are where the ERP vendors were one to two years ago. Their offerings target audiences that are too low in the organization to be seen as strategic, or they focus too narrowly on a particular user base, such as development project teams.

PPM EVALUATION OVERVIEW

To assess the state of the PPM market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top PPM vendors.

Evaluation Criteria

After examining past research, user need assessments, and vendor and expert interviews, Forrester developed a comprehensive set of evaluation criteria (see Figure 1). We evaluated vendors against 94 criteria, which we grouped into three high-level buckets:

- **Current offering.** A vendor's position on the vertical axis of the Forrester Wave™ graphic indicates the strength of its product features. The Forrester Wave includes only PPM products generally available to customers on or before December 31, 2005. The specific evaluation criteria for comparing the 13 vendors included demand management, portfolio management, project management, resource management, financial management, workflow, methodology, and reporting.
- **Strategy.** A vendor's position on the horizontal axis indicates the strength of its product and corporate strategy, as well as its product costs and financial strength. Product costs are indicated by list prices, entry-level pricing, and average deal sizes.
- **Market presence.** The size of the vendor's dot on the chart indicates its market presence. Forrester measures each vendor's market presence by the size of its installed base, number of employees, number and type of partners, and the implementation and training services it offers to customers. The most important of these criteria for clients to use are the number of customers and partners for each vendor. Partners are particularly important in filling gaps and creating solutions in platform markets.

These rankings are heavily influenced by the amount of information provided by the vendors themselves. Vendors that provide complete information usually get higher scores than vendors that don't. Thus, for example, Compuware's market presence score is lower than one would expect, despite it being one of the longtime leaders in the PPM space. Compuware chose not to provide critical information that may have raised its score.

Figure 1 Evaluation Criteria

CURRENT OFFERING	
Demand management	How well does the application process demand for new work?
Portfolio management	How well does the product support the creation of new portfolios and analysis of existing portfolios?
Project management	How well does the product support the creation of new projects and the management/tracking of existing projects?
Resource management	How well does the product support resource forecasting, allocation, and tracking?
Financial management	How well does the product support the creation and management of budgets?
Methodology	How well does the product support the creation and configuration of methodology?
Workflow	How well does the product create and handle workflow?
Reporting	How well does the product support various printing requirements?
Integrated IT management	How well positioned is the product to offer IIM?
Application technology	What types of application technology are required to implement this product?
STRATEGY	
Product strategy	What is the product strategy?
Corporate strategy	What is the corporate strategy with regard to this product?
Financial resources to support strategy	Is the vendor profitable, and what is the vendor's cash flow? Does the company have sufficient revenues, profits, and cashflow to support its strategies?
Cost	What is the cost of this product?
MARKET PRESENCE	
Installed base	How large is the vendor's installed base of customers for this product and for all products?
Revenue	What is the vendor's revenue over the past four quarters?
Revenue growth	What is the vendor's year-over-year revenue growth over the past four quarters?
International presence	How much of the vendor's revenue comes from the vendor's headquarters' market?
Systems integrators	How many integrator partners have completed three or more deployments of any version of this product in the past 18 months?
Services	How strong are the vendor's implementation and training services?
Employees	How many engineers does the vendor have dedicated to this product? How big is the vendor's sales presence?
Technology partners	How strongly do technology partners support this product?

Source: Forrester Research, Inc.

Evaluated Vendors

Forrester included 13 vendors in the assessment: Artemis, Business Engine, CA, Compuware, IBM, ITM Software, Mercury Interactive, Microsoft, Oracle, Pacific Edge, PlanView, Primavera Systems, and SAP. Each of these vendors has:

- **A full spectrum of work planning functionality.** From portfolio management to work management and time tracking, these vendors provide the functionality necessary to initiate, evaluate, and assign work. Their applications offer the ability to create work plans at varying levels of granularity, tracking and collection of actual effort and cost, and the ability to forecast resource requirements.
- **Comprehensive portfolio planning functionality.** The key to creating successful portfolio management is having a strong process and methodology executed within a supportive culture. Sustaining it becomes much easier when there are several factors in place: a repository to support a single source of truth and controlled entry, dashboards and reports that show varying levels of portfolio detail, and the ability to click through to underlying data as required.

EVALUATION ANALYSIS

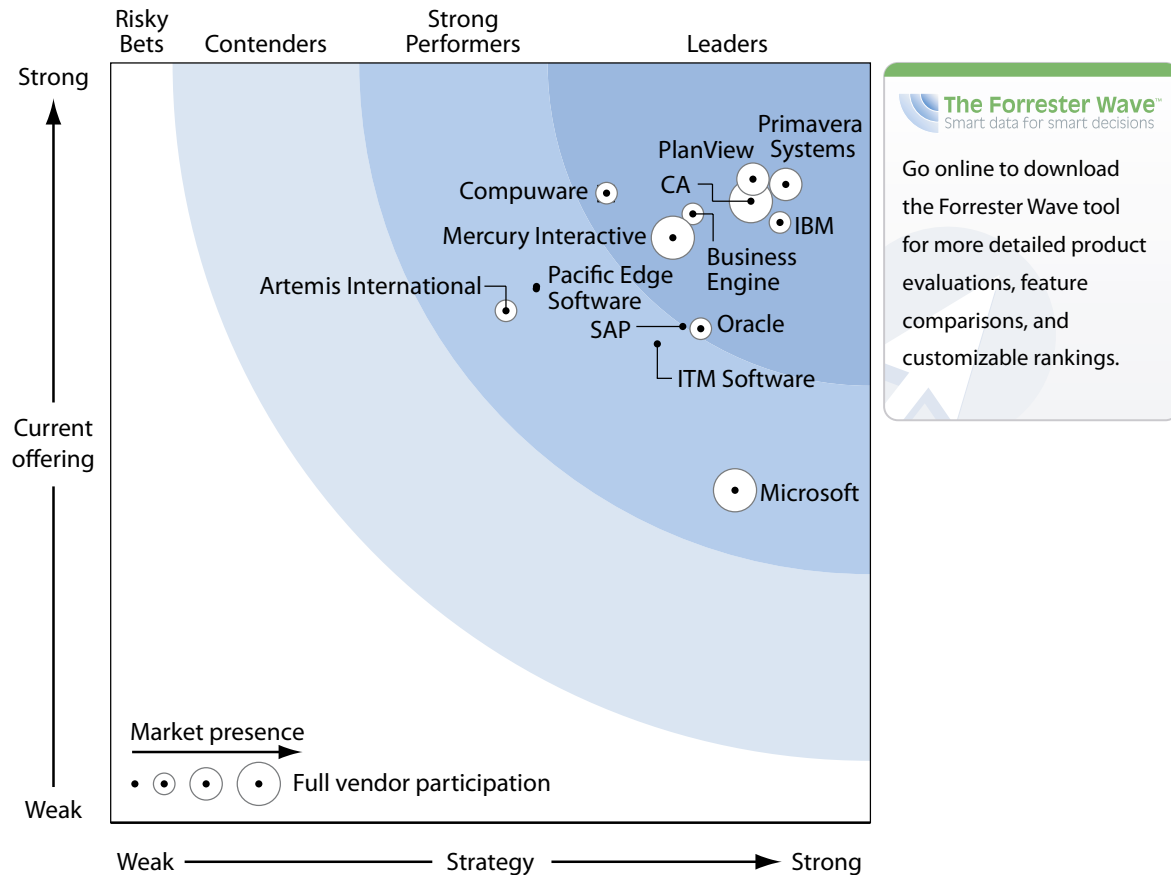
The evaluation uncovered a market in which (see Figure 2):

- **Vertical emphasis or maturity is a critical element.** Vendors like Artemis, Oracle, Primavera, and SAP provide industry-specific offerings in terms of planning depth, methodology, and workflow support or targeted functionality. Generic IT functionality and methodology cover some projects, but they cannot encompass all industry-specific needs. Methodology that is more generic in nature is becoming separated by maturity levels; functionality is introduced based on a customer's ability to handle it.
- **Projects and programs are only part of what IT needs to manage effectively.** Project depth is sufficient and preferred for large, complex programs. However, when the majority of project life cycles are becoming shorter and not longer, the need for flexible scheduling and work allocation becomes evident. Vendors like CA, Compuware, Mercury, and PlanView received high marks for demand management and work planning that is flexible and can be used in a variety of IT organizations.
- **Revenue and awareness are not one and the same.** Without a doubt, vendors like CA, IBM, Microsoft, Oracle, and SAP are the revenue behemoths, but they are not the visionaries in the market. They target a specific subset of the PPM market, offer too narrow a product for broad enterprise use, or lack functional maturity. With the exception of CA (and that is due to the Niku acquisition), it's the smaller, more focused, pure-play vendors that have the highest awareness in the PPM market.

- Integrated IT management is coming closer to becoming a reality.** At least from the demand side, that is. Customers are demanding more visibility to balance demand with organizational and budgetary constraints. This means expanding dashboards and planning beyond strategic portfolio creation or project status to include production performance data, development progress or quality criteria, and application portfolio management (APM) data. Compuware currently provides the most data integration out of the box (if you're using Vantage). However, CA, IBM, and PlanView have made integration options standard.

This evaluation of the PPM market is intended to be a starting point only. Readers are encouraged to view detailed product evaluations and adapt the criteria weighting to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool.

Figure 2 Forrester Wave™: Project Portfolio Management, Q1 '06



Source: Forrester Research, Inc.

Figure 2 Forrester Wave™: Project Portfolio Management, Q1 '06 (Cont.)

	Forrester's Weighting	Artemis	Business Engine	CA	Compuware	IBM	ITM Software	Mercury Interactive	Microsoft	Oracle	Pacific Edge	PlanView	Primavera	SAP
CURRENT OFFERING	50%	3.37	4.00	4.12	4.14	3.95	3.14	3.85	2.17	3.25	3.52	4.24	4.19	3.26
Demand management	5%	4.00	5.00	4.00	5.00	4.00	3.70	4.00	1.90	4.00	4.00	5.00	4.80	4.00
Portfolio management	20%	3.05	3.90	4.20	4.25	4.00	4.50	4.05	1.35	2.60	4.30	4.65	4.85	3.30
Project management	10%	3.40	3.80	4.35	4.70	3.70	3.05	4.20	3.50	3.70	3.45	4.20	3.50	2.75
Resource management	10%	4.50	4.80	4.70	5.00	4.80	1.90	4.10	3.80	3.55	4.40	4.70	4.80	4.65
Financial management	10%	4.60	5.00	4.05	4.20	3.30	3.35	3.30	1.70	5.00	2.95	3.95	4.70	4.00
Methodology	15%	2.60	4.80	4.70	3.40	5.00	2.80	3.70	2.70	3.10	4.00	5.00	4.70	2.20
Workflow	10%	3.85	4.85	4.25	4.00	4.50	3.75	4.75	1.40	3.50	4.10	4.70	4.10	3.50
Reporting	5%	4.60	3.25	4.75	5.00	4.35	3.75	4.50	3.65	3.10	4.05	4.05	4.35	3.80
Integrated IT management	10%	1.60	1.30	2.30	4.30	1.60	0.95	2.90	0.60	2.00	0.95	2.20	2.00	2.30
Application technology	5%	2.90	2.30	3.50	1.10	3.80	2.90	2.60	2.40	2.60	1.40	2.60	3.00	3.20
STRATEGY	50%	2.60	3.83	4.22	3.26	4.40	3.60	3.70	4.10	3.96	2.80	4.24	4.44	3.76
Product strategy	40%	2.90	4.80	4.20	3.30	4.80	4.80	4.00	4.60	5.00	2.90	4.80	5.00	5.00
Corporate strategy	20%	4.20	3.80	4.20	1.20	2.40	4.40	3.00	1.80	3.80	4.20	4.60	4.20	3.80
Financial resources to support strategy	20%	0.00	3.00	5.00	5.00	5.00	2.00	5.00	5.00	5.00	0.00	4.00	4.00	5.00
Cost	20%	3.00	2.75	3.50	3.50	5.00	2.00	2.50	4.50	1.00	4.00	3.00	4.00	0.00
MARKET PRESENCE	0%	2.26	2.79	4.33	2.19	2.65	1.79	4.12	4.35	2.85	1.40	3.10	3.14	1.80
Installed base	30%	2.65	3.70	4.75	1.00	1.00	1.25	3.50	3.75	1.25	2.60	3.95	3.00	2.60
Revenue	20%	1.00	0.00	4.00	5.00	5.00	0.00	4.00	4.00	5.00	0.00	1.00	2.00	0.00
Revenue growth	20%	0.00	5.00	5.00	1.00	2.00	5.00	5.00	5.00	4.00	0.00	5.00	4.00	0.00
International presence	5%	5.00	2.00	4.00	3.00	4.00	3.00	5.00	5.00	3.00	2.00	3.00	5.00	5.00
Systems integrators	10%	5.00	3.00	3.00	3.00	2.00	0.00	5.00	5.00	3.00	4.00	0.00	3.00	4.00
Services	10%	3.60	1.80	3.80	1.60	3.00	1.80	4.40	4.20	1.20	1.20	4.00	2.80	1.20
Employees	5%	3.00	2.00	4.40	1.60	5.00	1.60	1.60	5.00	2.00	0.00	3.20	4.20	5.00
Technology partners	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

VENDOR PROFILES

Leaders

- **Primavera and PlanView lead the pack.** These best-of-breed vendors continue to offer the broadest choices in functionality, as well as the ability to configure planning and tracking depth for a wide range of organizational maturity levels. Primavera leads by delivering scalability and analytic flexibility in a role- and industry-based solution.⁴ PlanView's continued strength in resource management and strategic approach makes PPM a holistic part of IT management.⁵ Both Primavera and PlanView support the ability to manage projects of varying levels of complexity. Their foundations are in tactical planning, but they have expanded to include strategic planning and either IT or specific business process support that make them the strongest choices for mature organizations.
- **Business Engine, CA, and IBM offer competitive options.** Business Engine has been building solid solutions for financially driven IT for a number of years. While the vendor experienced more headline-grabbing drama for management high jinks than for its functional strength, 2005 saw Business Engine getting back on the right track in terms of vision and product redesign.⁶ CA and IBM benefited from acquiring smaller best-of-breed vendors with strong functional foundations; leveraging integration to other products in their suites makes them attractive to existing customers or to new customers with different interests. CA is particularly well suited for strategically thinking IT organizations that want tactical planning and tracking strength, and it is the best-positioned of the suite vendors to move into a top position.⁷ For IBM to move up, it already possesses the functionality but needs to develop the strategic vision to be attractive to companies looking for strong portfolio management.⁸
- **Mercury is heading up the PPM ladder.** Mercury is a serious competitor, offering solid functionality in demand, portfolio, and resource management. Mercury's IT Governance has come along since the Kintana days; the current product is a sound performer that is able to handle a wide range of planning, from strategic to tactical. The vendor is going through a challenging period while it proceeds with relisting, but this shouldn't detract from how well the product performs.⁹
- **Compuware is a Leader, especially in integrated IT management.** Compuware's ChangePoint solution offers strong functionality across all areas of PPM. Its visionary stake in integrated IT management (IIM) brings in vital information from across multiple areas of IT such as operations and development teams, which enables a company to get a broad view of all of its work and resource requirements. Its emphasis on collecting business-specific metrics through such areas as quality management and surveys makes Compuware a solid choice for value-driven organizations.¹⁰

- **Oracle's revenue, not its functionality, drives it into the Leader category.** Oracle's project management offering is a solid choice for business-driven project and program management. Its financials are among the most robust of the vendor offerings; however, it must continue to mature its day-to-day planning functionality to be a realistic choice for IT organizations that emphasize small to medium-size projects over large development programs.¹¹

Strong Performers

- **Pacific Edge is a solid, middle-of-the-pack performer.** By finally integrating Portfolio Edge and Project Office into a single offering called Mariner, Pacific Edge has gotten back on track to provide a reliable offering for midsize organizations that don't require Primavera or PlanView's heavy lifting. The vendor's services and maturity assessments are an added bonus for companies looking to get quicker return on their investment by placing pragmatism over bells and whistles. The product does need to expand in financial management but is still a solid choice for companies that aren't ready for a very high level of tracking today.¹²
- **ITM is a visionary but needs to mature.** ITM is the first vendor to really look at running IT like a business, and for companies that are willing to sacrifice day-to-day tactical strength for robust strategic planning, it is a great choice. ITM starts with the right foundation — literally — to establish critical relationships to keep IT managers on top of fluctuating priorities. For long-term viability, the vendor must continue to mature its tracking functionality and obtain increased visibility, or it will be a likely acquisition candidate.¹³
- **SAP offers competent solutions for existing customers.** SAP has a huge existing client base that can benefit from the visibility that its PPM offerings bring. The vendor is evolving xRPM to be a viable offering against the best-of-breed vendors and will eventually become a strong competitor.¹⁴
- **Artemis offers portfolio depth and planning strength.** Artemis has portfolio depth and is a solid strategic planner. While it is possible to track nonproject work for support and work tasks outside of projects, its strength remains in its core project management capabilities. Artemis has a solid audience with its legacy products and is trying to expand its customer base with Artemis7. While the new products are good for companies that place a high priority on strategic planning, the vendor is struggling to create visibility outside of its core program-centric markets and in North America.¹⁵
- **Microsoft lacks the flexibility to manage all aspects of IT — for now.** Microsoft is the most project-centric of the firms we evaluated, but it is the sleeping giant in this market. It is too project-centric for most IT organizations, and it relies too much on development of custom interfaces. However, since the development of this report, Microsoft acquired UMT, which is an extremely positive sign, and it may eventually cause dramatic changes in the market.¹⁶

SUPPLEMENTAL MATERIAL

Online Resource

The online version of Figure 2 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution:

- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.
- **Product demos.** We asked vendors to conduct demonstrations of their product's functionality. We used findings from these product demos to validate details of each vendor's product capabilities.
- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with each vendor's current customers.

Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and readers are encouraged to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve.

ENDNOTES

- ¹ Companies are creating portfolio management processes with the hopes of improving alignment with the business and better demonstrating the value of IT to the business. However, the firms we surveyed are on the lower end of the maturity scale. See the September 30, 2005, Best Practices [“Optimizing The IT Portfolio For Maximum Business Value.”](#)
- ² Successful implementation practices for portfolio management practices depend greatly on a company’s maturity level for various project selection and execution processes. Companies with lower maturity levels need to think tactically, focusing on consolidation and standards, while those with medium to higher maturity levels should focus on creating avenues for communication and processes for measurement and reporting. Source: “Best Practices in IT Portfolio Management,” *MIT Sloan Management Review*, Spring 2004 (<http://sloanreview.mit.edu/smr/issue/2004/spring/09/>).
- ³ In 2005, IT shifted to spending more on new development, but it is still expected to allocate about 76% of its budget for support and maintenance. See the December 15, 2004, Data Overview [“2005 Enterprise IT Outlook: Business Technographics North America.”](#)
- ⁴ View the vendor summary for more detailed analysis on how Primavera fared in this evaluation. See the March 13, 2006, Tech Choices [“Primavera Is The Market Leader In The PPM Market.”](#)
- ⁵ View the vendor summary for more detailed analysis on how PlanView fared in this evaluation. See the March 13, 2006, Tech Choices [“PlanView Is A Visionary With Substance In The PPM Market.”](#)
- ⁶ View the vendor summary for more detailed analysis on how Business Engine fared in this evaluation. See the March 13, 2006, Tech Choices [“Business Engine Makes The Right Moves But Needs To Get More Visibility In The PPM Market.”](#)
- ⁷ View the vendor summary for more detailed analysis on how CA fared in this evaluation. See the March 13, 2006, Tech Choices [“CA Is In Prime Position For IIM In The PPM Market.”](#)
- ⁸ View the vendor summary for more detailed analysis on how IBM fared in this evaluation. See the March 13, 2006, Tech Choices [“IBM Is Finally Focusing On Strategic Planning In The PPM Market.”](#)
- ⁹ View the vendor summary for more detailed analysis on how Mercury fared in this evaluation. See the March 13, 2006, Tech Choices [“Mercury Is A Solid Performer In The PPM Market.”](#)
- ¹⁰ View the vendor summary for more detailed analysis on how Compuware fared in this evaluation. See the March 13, 2006, Tech Choices [“Compuware’s Strong Use Of Integration Makes It A Leader In The PPM Market.”](#)
- ¹¹ View the vendor summary for more detailed analysis on how Oracle fared in this evaluation. See the March 13, 2006, Tech Choices [“Oracle Offers Integration In The PPM Market.”](#)
- ¹² View the vendor summary for more detailed analysis on how Pacific Edge fared in this evaluation. See the March 13, 2006, Tech Choices [“Pacific Edge Has Potential To Be A Strong Player In The PPM Market.”](#)

¹³ View the vendor summary for more detailed analysis on how ITM fared in this evaluation. See the March 13, 2006, Tech Choices “[ITM Has The Right Foundation, Needs To Mature In The PPM Market](#).”

¹⁴ View the vendor summary for more detailed analysis on how SAP fared in this evaluation. See the March 13, 2006, Tech Choices “[SAP Is Almost Ready To Be A Tough Competitor In The PPM Market](#).”

¹⁵ View the vendor summary for more detailed analysis on how Artemis fared in this evaluation. See the March 13, 2006, Tech Choices “[Artemis Shows Promise But Needs To Shine In The Crowded PPM Market](#).”

¹⁶ View the vendor summary for more detailed analysis on how Microsoft fared in this evaluation. See the March 13, 2006, Tech Choices “[Microsoft Is Too Narrowly Focused In The PPM Market, But UMT Acquisition Changes Things](#).”

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Helping Business Thrive On Technology Change

Headquarters

Forrester Research, Inc.
400 Technology Square
Cambridge, MA 02139 USA
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