

Process Improvement Management

An Offshore Perspective on Driving Down Cost, Increasing Quality,
and Reducing Risk



EXECUTIVE SUMMARY

This is a Series of informational papers developed by Keane to share knowledge on specific outsourcing issues that should be considered in today's business environment. This paper covers the topic of process improvement management in an offshore environment and is the third document in the series. The first two documents in this series explored the following topics:

- Offshore IT Outsourcing: An Integral Component of High-Performance IT Organizations
- Mission-Critical Application Management: Priority Candidate for Offshore Outsourcing

A fourth paper, Enterprise Resource Planning: An Offshore Perspective, is planned for future release.



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Abstract

This paper, the third in a series on offshore delivery, explores the role of process improvement management as an essential enabler of successful offshore Information Technology (IT) outsourcing. This paper will examine the role of process maturity in the offshore environment, and then discuss the benefits of hiring offshore outsourcing firms with the capability to provide a sound process infrastructure. This paper also describes how to identify and select an offshore vendor based on critical characteristics for effective offshore outsourcing.

This paper builds upon the topics discussed in the first two papers published as part of the series:

- Offshore IT Outsourcing: An Integral Component of High-Performance IT Organizations
- Mission-Critical Application Management: Priority Candidate for Offshore Outsourcing

The Role of Process Maturity In Offshore Outsourcing

While a primary and commonly recognized benefit of offshore IT outsourcing is the onetime cost saving it delivers, its true value is as a strategy for gaining and maintaining long-term competitive advantage through an overall program to build a high-performance IT organization.

High-performance IT organizations focus on continuous process improvement as a means to generate increased efficiency and quality. In an offshore outsourcing environment, this approach delivers sustained lower cost and continuously improved productivity. This dual benefit occurs when an organization leverages the software process maturity of an outsourcing partner to improve the effectiveness of its own internal IT functions and, importantly, to ensure that these improvements are sustained and long lasting.

To achieve maximum strategic and operational value, successful offshore

IT outsourcing requires a high level of software process maturity. The challenges of managing projects in a distributed environment on time, within budget, and with high standards for quality demand that both the client organization and the offshore partner function at high levels of efficiency, predictability, and reliability. High process maturity generates tangible business benefits, ensures greatly reduced risk of project failure, and provides significant enablers for meeting commitments.

The hallmarks of an organization benefiting from high process maturity are a well-defined software process infrastructure, a data-driven approach to measuring results, and a comprehensive strategy for managing change and driving continuous and lasting improvement.

The ability of a high-performance IT organization to drive continuous process improvement leads to increasing efficiency, productivity, and quality.

Improvement in quality reduces costs by eliminating unnecessary rework while increasing customer satisfaction. Effective, common processes bring flexibility and improved understanding of requirements and work style, which in turn leads to better alignment between the offshore partner and evolving client business objectives. Better visibility into efficient processes enhances management control. When coupled with meaningful performance data, it also allows for objective measurement of progress and provides a sound basis for adjustment, course correction, and improvement. Problems, bottlenecks, and opportunities for improvement are detected more quickly. Sound information, rather than guesswork, becomes the foundation for informed trade-offs in work distribution, service levels, and investment decisions.

When coupled with a rigorous methodology for knowledge transfer and a global delivery capability, a process improvement program results in

solutions that are custom tailored and have the flexibility to adapt smoothly to continual business and economic changes. The ability of organizations to adapt to change based upon experience and shared learning is fundamental to continuing success in a competitive environment.

Well-defined strategies for managing process and measuring results are critical building blocks of learning organizations. Such strategies enable the sharing of collective experience and use of that knowledge to create innovative solutions to business challenges that achieve quantifiable business benefits.

Process and measurement disciplines are therefore critical elements in the foundation of all quality improvement models. There are various quality models that outline the critical processes necessary for IT excellence. These are continually evolving, building on industry experience.

One of the most highly acclaimed quality models, the Software Engineering Institute's (SEI) Capability Maturity Model (CMM), is discussed in the following section of this document. The benefits of implementing one or more of these quality approaches or models include consistency, efficiency, improvements, shared lessons learned, and a common language of understanding. Deep understanding of process enables efficiency of execution, flexibility to make informed trade-offs, and the ability to manage commitments.

The Mature Process Infrastructure – Capability Requirements

In order to deliver the higher order benefits of process maturity, an offshore IT outsourcing partner must offer three key capabilities.

- Project management culture
- Quantitative measurement
- Demonstrated commitment to continuous improvement

First, the offshore partner must establish and institutionalize a defined software



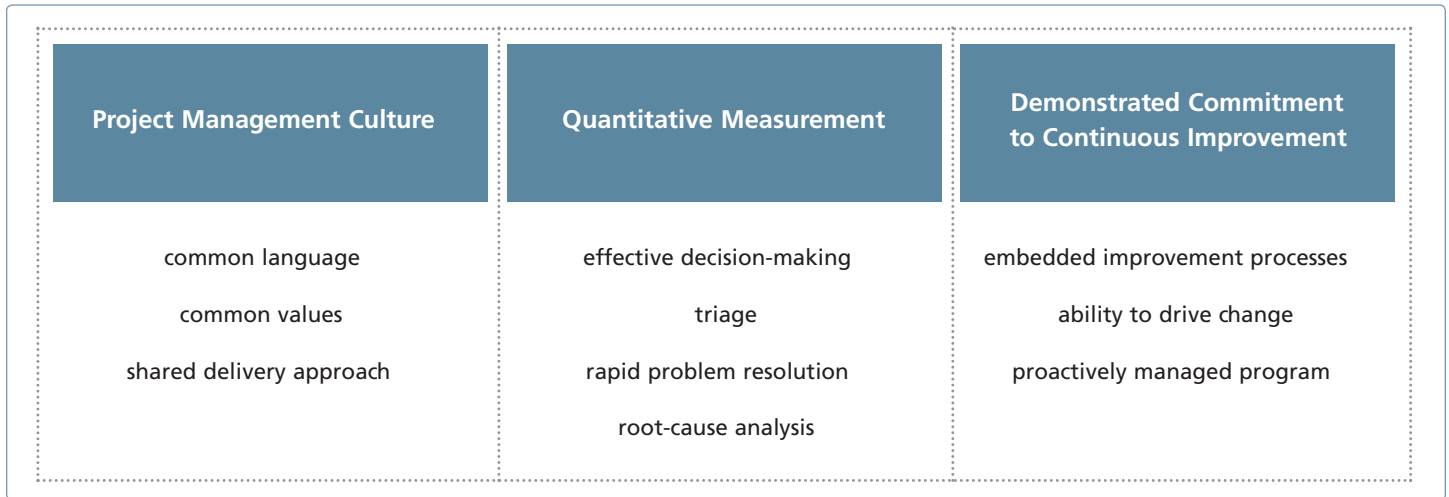


Figure 1 Mature Process Infrastructure: Key Capability Requirements

process infrastructure, or, a “project management culture.” This culture provides a common language of understanding that allows distributed teams to work together as one team sharing common values and beliefs on how to deliver successful results. Once installed, this process provides a powerful foundation for driving high-value benefits through continuous improvement.

Second, the offshore IT partner must have the ability to quantitatively understand the software process and the software products being built. Effective measurement informs and improves decision making so that critical trade-offs on projects can be made and problems resolved through an understanding of root causes. Decisions based upon sound data replace guesswork and the proverbial crystal ball.

Third, the offshore IT partner must be able to appropriately deploy both incremental, evolutionary change and innovative, revolutionary change in order to sustain long-term competitive business advantage.

Continuous improvement must be viewed and embraced as a core business function. Improvements to the standard process are proactively identified, prioritized, and managed as an ongoing

process supported by the offshore IT partner’s senior management.

SEI CMM

These three key capabilities are described in detail in the SEI CMM¹, which, in its entirety, outlines a comprehensive framework for software process improvement. For an overview of the CMM, please refer to the Software Engineering Institute’s website at www.sei.cmu.edu. Levels 3 through 5 of the CMM, which are most relevant to this discussion, are described below.

Level 3 - Defined

The goal of Level 3 is to establish an infrastructure within the organization that institutionalizes effective software engineering and management processes across all projects. At this level, the processes for management and engineering activities have been formally defined, documented, and integrated into a standard process that is understood and followed by the organization’s staff when developing and maintaining software. Once an organization has reached this level, it has a foundation for continuous process improvement.

Level 4 - Managed

The goal of Level 4 is to establish a quantitative understanding of both the software process and the software

products. There are two key process areas in this level: Quantitative Process Management and

Software Quality Management. The purpose of Quantitative Process Management is to quantitatively control the process performance of the software project. The purpose of Software Quality Management is to develop a quantitative understanding of the quality of the project’s software products and achieve specific quality goals.

This level of process maturity focuses on the quality of the products delivered by each process. Detailed measures of the software process and product quality are collected and used to identify and correct issues with process performance. When new tools or processes are added, or adjustments are made to existing processes, measurement data enables the organization to assess the success of the adjustment.

Level 5 - Optimizing

The goal of Level 5 is to successfully implement a program that executes continuous and measurable software improvements within projects and across the organization. There are three key process areas in this level: Defect Prevention, Technology Change Management, and Process Change Management. The purpose of Defect



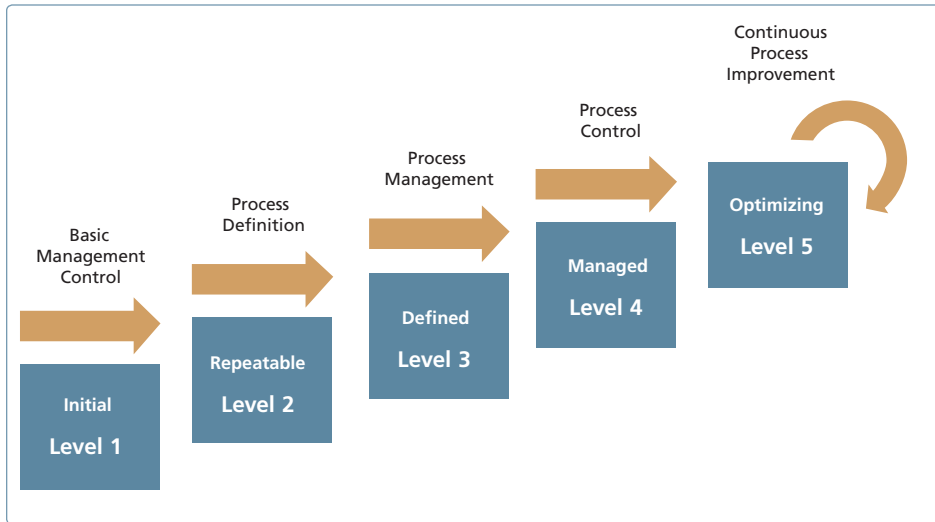


Figure 2 SEI Capability Maturity Model

The picture above illustrates the five CMM levels in the progression to mature, disciplined software processes. Each level brings a series of tangible improvements in the cost, efficiency, time-to-market, and quality of the organization's deliverables.

Prevention is to identify the root causes of defects and to prevent them from happening again. The purpose of Technology

Change Management is to identify new tools and techniques that are beneficial and to manage their effective transfer into the organization. The purpose of Process Change Management is to drive continuous improvement of the organization's software processes in order to improve software quality, increase productivity, and increase the speed at which products are delivered.

Organizations at this level focus their efforts on continuous process improvement. They have the capability and motivation to proactively address the strengths and weaknesses of their processes and successfully exploit innovations in software engineering. Rather than simply correcting defects as they are found, quality efforts focus on preventing the creation of future defects by identifying and addressing the root causes of those defects.

Successful efforts to establish a high-performance organization must focus on demonstrable results. Roger Pressman, a leading author on software

measurement, says, "If you do not have demonstrable evidence that you can build software faster, with better quality, and less effort, then you are vulnerable to someone who does."²

In fact, there is ample evidence from a variety of industry sources demonstrating that efforts to improve process discipline can lead to significant and measurable results. Studies by the Software Engineering Institute (SEI) at Carnegie Mellon University cite major improvements in project schedule, effort, defects, and cost.³ Other independent studies demonstrate similar improvements and a high correlation to increasingly higher levels of process maturity.⁴

Managing Process Improvement in the Offshore Environment

Process maturity plays a specific and critical role in offshore applications outsourcing particularly in terms of quality, management, and delivery.

Proven Processes

Building a unified team that effectively coordinates activities to achieve common goals that span multiple boundaries imposed by time, geography, and culture requires a robust management process

and a strong quality-focused culture. High-performance offshore IT partners use proven process disciplines to not only manage these challenges, but exploit them.

When undertaking an offshore project, it is critical to start with a foundation of proven processes that have withstood the test of time. This is the wrong time to reinvent the wheel. Energy and attention should instead be directed toward managing expectations, maintaining business alignment, overcoming geographical and time differentials, as well as cultural and organizational boundaries. Partitioning, coordinating, tracking, and effectively communicating work typically challenge organizations in the everyday work environment. When layered on top of an offshore project, these factors need to be carefully managed, yet not become a distraction. The solid foundation of a mature partner's proven processes and quality systems ensures effective response to these factors as part of ongoing management process.

CMM

If an organization is to leverage the value of a quality model, such as the CMM in an offshore environment, it must recognize both the risks and opportunities when a Level 1 client organization (from a process and metrics perspective) interfaces with a Level 5 offshore IT partner. Although there is the possibility that the offshore partner will be held back by the lower level of maturity of the client firm, this is more than offset by the potential opportunity for the client organization to raise its internal IT level of process maturity. Working with an offshore partner to raise process maturity pays double dividend – it increases the efficiency of the specific engagement and raises the performance of the entire client IT organization.

High Process Maturity Culture

The notion of a high process maturity culture shared across a global



organization has powerful implications. Partnering with a “high process maturity” offshore outsourcing team can provide a bridge to greater process improvement for a client organization wanting to leverage the benefits across all of IT. Client and partner organizations that are not only capable of managing the challenges inherent in offshore delivery, but of exploiting them, are distinguished by their quality culture and by their processes and people. Truly great organizations invariably are built upon a strong foundation of cultural support systems – those systems throughout the organization that strengthen its foundation roots (e.g., project management, continuous improvement management, measurement). You cannot buy a culture. You must build it, nurture it, and grow it step by step.

This shared fabric of the client-partner organization allows virtual teams to work and act together as one. It provides a common language that unifies and empowers, and can be a major advantage in bridging the challenges of offshore outsourcing. Individuals from different backgrounds, who may never have worked together before, can join together as a team based on shared values. This enables team members to quickly focus on solving the business problem at hand without having to learn a whole new way of doing things.

Distributed Team Management

Proven processes are critical to successful distributed team management in the offshore environment. Distributed team management involves processes for planning, directing, and controlling the efficient flow of work across many outsourcing options, including on-site, off-site, near-shore, and offshore.

The goal is to ensure the use of common processes, management disciplines, methodologies, and metrics to provide consistent, high-quality delivery regardless of where the work is performed. These processes must be shared by all members of the team across

the client-partner organization and must incorporate the best practices of all so that the sum is greater than the parts. Projects must be managed according to a common set of methods, standards, and metrics that allow tailoring to unique requirements and that are robust enough to scale across multiple teams and multiple locations. The methodology must be flexible enough so that work can be redistributed if necessary to take advantage of changes in the business environment.

Distributed team management capabilities must support, and be threaded through, the entire lifecycle of an outsourcing engagement from initiation through to the end of the project. Pre-engagement initiation activities must be performed to provide due diligence and to validate costing and staffing requirements. Staff acquisition and training must be planned for, as well as knowledge acquisition related to applications and other critical expertise. Robust processes for maintenance support, project support, and customer support all must co-exist effectively.

Process and metrics must be capable of providing performance-based reporting to management through Service Level Agreements, IT Dashboards, and Balanced Scorecards. Project control and reporting quality standards must be defined and enforced. Communications planning and execution must be coordinated across all engagement stakeholders. Continual assessment and improvement of both the processes and products must be assured throughout the engagement. If necessary, sub-contractor relationships and inter-group coordination must be managed effectively.

Leadership

A process is only as strong as the competencies of the people who are responsible for execution. Leadership in a distributed team environment is particularly challenging and builds upon project management skills as

a foundation. Traditional project management competencies such as problem solving, achievement orientation, interpersonal influence, team building, and managerial identity are all necessary, but not necessarily sufficient. In addition to these skills, management of offshore initiatives also requires a significant depth and breadth of leadership and organizational change management skills.

In many cases, the introduction of offshore outsourcing as an approach represents a significant source of environmental change and potential job-related stress to individuals who may not be familiar or comfortable with it. These factors can result in a reduction in team effort and undesirable obstacles that can jeopardize the success of project goals. Leaders on an outsourcing engagement must be capable of communicating a shared vision for the project and have the personal leadership skills to foster and develop the necessary level of collaboration and teamwork. Leadership must proactively identify potential obstacles to change, then develop strategies to manage and overcome these challenges through continual, effective, and targeted communication.

Effective leadership in offshore outsourcing requires a knowledge and understanding of how automated tools and technology can enhance and improve engagement performance. Project planning, monitoring, control, and reporting are key areas requiring the knowledge of computer-assisted tools. Tools for estimating, in-flight forecasting, and re-estimating are also necessary. Project management tools must be capable of being tailored to different environments to include not only application development projects but also maintenance and enhancements. Executive information requirements for roll-up and drill-down must also be addressed. Call tracking is another area where automation can play a critical role by enabling timely management of issues



and assisting with root-cause analysis. The ability to share best practices and lessons learned efficiently through knowledge management technologies and disciplines is a fundamental enabler of continuous improvement.

Offshore Partner Characteristics

As discussed in previous papers, IT outsourcing is not a fad, and it is not just a method of gaining a one-time cost advantage. IT outsourcing is an effective strategy for gaining and maintaining competitive advantage when executed as part of an overall program to build a high-performance IT organization. An offshore outsourcing partner should be viewed as a true partner, a critical member of the IT organization's highperformance team. When offshore outsourcing was in its infancy, there was a tendency to isolate a particular project or projects offshore for the lowest price possible, and then use contractual and customer/vendor pressure to correct any problems. While this strategy may solve a company's short-term issues with cost pressures, it does not position that company to fully leverage the powerful value of working with a full-service outsourcing firm.

In building high-performance teams, it is acknowledged that each team member brings value to the group that can result in a higher team performance than the sum of the individual team players. This phenomenon does not occur naturally with all teams. The team must openly respect and treat all team members as equals, tapping into the contributions of all players. This same factor applies when adopting an offshore services provider, or any outsourcing provider, as a team member within the IT organization. The following elements are critical to theselection process in order to establish and maintain a successful relationship with an offshore provider:

- Quality culture fit
- Maturity and stability of offshore operations
- Ability to bridge culture and process

gaps

- Flexibility of service provision
- Process and metrics-driven

In addition, a potential offshore IT outsourcing partner should be able to demonstrate yearover- year productivity improvements that outpace the rate of improvement reported in the industry. By so doing, the offshore partner should be able to deliver a number of quantifiable business benefits to clients,including:

- Significant cost reduction over current baseline costs
- Continuous improvement in throughput and quality
- Minimized time-to-market for products
- Efficient use of resources
- Improved customer satisfaction
- Enhanced decision-making capabilities

Process improvement management is a core competency and fundamental building block that will enable a qualified offshore partner to deliver these benefits.

Summary and Conclusion

Successful offshore IT outsourcing requires a high level of organizational maturity, particularly in process and measurement capabilities, in order to meet the challenges of distributed project management and to ensure high-quality delivery and sustained business advantage. It is critical to not only understand the quality certification level and metric of the offshore facility, but also how to take advantage of the offshore facility's process improvement management capabilities to help raise internal, organizational process maturity. If the client firm can partner with the offshore provider to leverage this higher level of process maturity, the result will be increased efficiency and effectiveness of not just the engagement, but also of the client IT organization.

Expected Quantifiable Business Benefits	Requirements for Characteristics of an Offshore Vendor
<ul style="list-style-type: none"> • Significant cost reduction over current baseline costs • Continuous improvement in throughput and quality • Minimized time-to-market for products • Efficient use of resources • Improved customer satisfaction • Enhanced decision-making capabilities 	<ul style="list-style-type: none"> • Quality culture fit • Maturity and stability of offshore operations • Ability to bridge culture and process gaps • Flexibility of service provision • Process and metrics-driven

Figure 3 Selection Criteria for an Offshore Partner



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 2. Roger Pressman Associates, Inc. <http://www.rspa.com>
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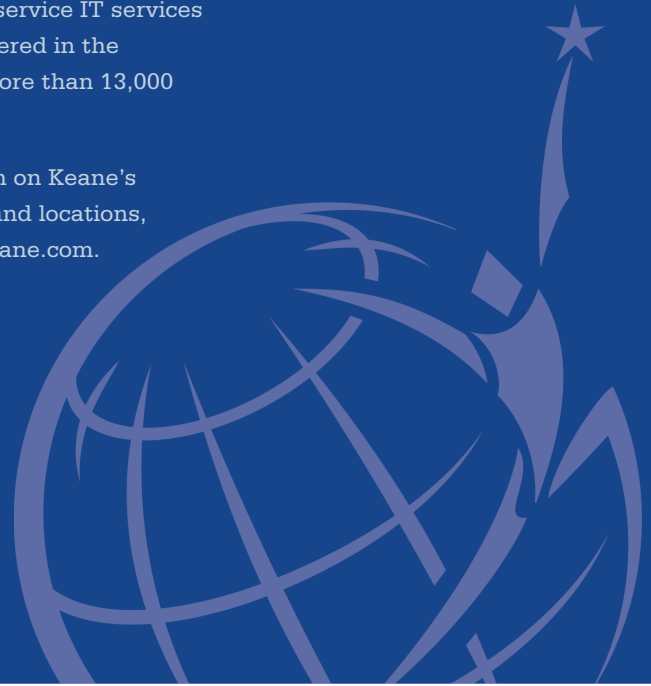


About Keane

Keane partners with businesses and government agencies to *optimize* IT investments by delivering exceptional operation, maintenance, and evolution of mission-critical systems and business processes. Keane helps clients realize the greatest value from their IT investments by leveraging an insider's hands-on understanding of the nuances and subtleties of their applications, processes and infrastructure making the recommendations we give more actionable, the work we do more pragmatic, and the results realized more measurable.

In business since 1965, Keane is an agile, mid-sized, full service IT services firm with headquarters in the United States and more than 13,000 employees globally.

For more information on Keane's services, solutions, and locations, please visit www.keane.com.



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