

# TEAM INTERNATIONAL

IT Solutions: On Time, On Target... Your TEAM

## Why Outsource Testing?



*TEAM International provides a brief overview of Outsourced QA & Testing and its advantages over the in-house QA & Testing efforts.*

## **Introduction**

Software testing is a vital phase in any software development project. Frequently changing requirements coupled with a reduced product development life cycle has increased the risk of application deployment before a product is ready for the market. According to a CIO survey, finding and fixing bugs accounts for almost 50 percent of the total cost of the software project. The same survey reveals that migration of the QA & Testing function to an offshore vendor can save companies up to 75 percent compared to in-house costs. Another survey conducted by the National Institute of Standards and Technology (NIST) finds that US companies spend as much as \$60 billion on fixing software defects at the post-release stage. This study also reveals that third party QA & Testing could have saved companies nearly \$20 billion.

The direct cost of quality in terms of staff time by itself is a compelling reason for considering a new business model for QA & Testing. More difficult to measure, though just as significant, is the lost revenue in terms of new business and current customer satisfaction that may have turned into increased revenue opportunities. Using an Offshore Outsourcing organization can reduce both direct staffing cost (by using less expensive resources overseas) and lost potential by assuring a higher quality product and ultimately more satisfied customers before the product is launched into the marketplace. Migration to a test driven lifecycle model with the goal of Independent Verification & Validation (IV&V) will give organizations that choose to focus on creating a culture of quality a competitive advantage in the marketplace.

## **Benefits of outsourced QA & Testing**

The objective of using Offshore Outsourcing is based on price arbitrage where lower cost resources are used to perform functions that would otherwise be more expensive when compared to domestic staffing. There are always tradeoffs in terms of which functions make sense to port overseas. When a function such as systems architecture is outsourced, many CIO's feel uncomfortable and perceive that they may be losing control of a strategic function or a core competency of the organization, QA & Testing is a prime candidate for outsourcing as the function is considered rote and not perceived by the average IT professional as a career path to greater responsibility within the organization. At the same time, the strategic importance of the QA & Testing function continues to increase in the enterprise in terms of the overall IT budget and the cost of releasing a defective product to the market.

The main benefits of outsourced QA & Testing can be divided into two categories: quantitative and qualitative.

### **Quantities Benefits:**

- **Reduced Cost**

Current economic conditions have forced organizations to focus on the bottom line. Top line revenues continue to be under pressure and cost reduction will be one of the areas where business leaders will focus. Focusing on cost reductions only takes a company so far. The best and brightest organizations are focusing on new product development to assure that once the

economy moves in the right direction they are poised to capitalize on new revenue opportunities. Based upon the statistics in the first paragraph, the cost of deploying a software product with significant defects has a staggering affect on both internal costs and marketplace perception. IT organizations that have their QA & Testing functions right-sized spend approximately 25% of the overall IT budget on QA & Testing. One of the main objectives of any outsourcing engagement is to reduce cost. Offshore outsourcing can bring experienced QA & Testers team to the table and save up to 75% of the overall QA & Testing budget. But the benefits don't stop simply at cost alone.

Having a third party perform the more mundane functions allows the organization to redirect resources toward new development projects that can positively impact bottom line revenue. Each stage of the Software Development Cycle (SDLC) requires a unique set of skills and competencies. What is one of the primary roles of the IT organization? Understanding the internal and external competitive landscape of the industry in which the organization operates and proactively developing products and services to create a competitive advantage. Outsourcing the QA & Testing function allows the organization to focus employees on core competencies while leaving the functional subject matter expertise of QA & Testing to the offshore firm. When Outsourcing the QA function, the QA Team should be viewed as an independent QA team to validate and ensure that the application/product is ready for market.

- **Cost Avoidance**

In a traditional waterfall model where an IT shop migrates through the SDLC in measured steps completing each phase, for example, Design, before passing the project to Coding & Implementation, the influence stakeholders have over cost is significantly reduced. When the IT shop adopts the Test Driven model, the development process is modified to allow for the creation of test cases during each phase of the SDLC. The earlier in the cycle a defect is identified, the less costly the defect is in terms of cost to the enterprise. For example, if a defect is found in the design phase, the cost to correct the defect is minimal. If the same defect makes it all the way through the SDLC and the software is deployed into production, the cost to correct is multiplied by a factor of ten. If a defect is caught in the implementation phase, the cost to correct is multiplied by a factor of five. It doesn't take a rocket scientist to figure out where the investment should be made.

### **Qualitative Benefits:**

- **Revenue Optimization**

Once the software product is marketed to end users, the informal evaluation by customers begins. As we all know, information travels over the worldwide web at the speed of light, in particular when it comes to product quality. The tech community is filled with user groups and associations performing real time informal product evaluations. When a product goes to market with significant defects, the negative comments move quickly throughout the user and prospect community. Though business leaders are pressed to deploy new capabilities at a breakneck pace, quality needs to be at the forefront of thought leadership. The best way to reduce the probability of significant software defects negatively impacting perception and sales is to have a robust third-party QA & Testing process. Investing in quality processes increases both current customer satisfaction and the probability of closing new business.

- **Independent Verification & Validation (IV&V)**

Much has been written about the maturity model related to QA & Testing. The final stage of the maturity model is Independent Verification & Validation. Organizations that invest in quality come to the conclusion that to institutionalize quality processes means separate processes and people, coupled with using an independent third party to perform the function. An independent third party has many advantages, the first being that they are compensated to perform the function properly and their existence relies upon quality and process. Secondly, since another organization is contracted to perform the function, separate processes and people are performing the tasks by design. And thirdly, the Outsourcing Company already has mature processes and after knowledge transfer the QA & Testing team will be up and running quickly.

- **Decreased Defects/Increased Application Quality**

Mature processes capable of moving the enterprise toward IV&V are vital to the success of an outsourcing QA Project. Problem/defect identification and documentation are best performed by an organization familiar with process quality improvement. In software development one of the certifications that a potential outsourcing customer needs to look for is the Capability Maturity Model Integration (CMMI). CMMI in software engineering and organizational development is a process improvement approach, that wants to provide organizations with the essential elements of effective process improvement. It can be used to guide process improvement across a project, a division, or an entire organization. CMMI helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes. Organizations that have received CMMI certification, minimally level 3, already have mature processes and are more capable of integrating provider processes with customer processes. This is a very important component of the contracting process and is a predictor of successful outsourcing initiatives. Partnering with a certified vendor means immediate focus on project quality, correctness, compliance with the customer requirements and elimination of budget overruns.

## **Conclusion**

Corporations around the globe are under pressure to survive in a harsh economic environment. Outsourcing has become main stream for many industries and particularly in the area of software development. When economic times are difficult, reducing cost while increasing quality is a value equation that cannot be ignored. For organizations assessing outsourcing strategies for the first time, focusing on QA & Testing is an easy place to start. For Organizations that have developed sourcing strategies, segregating the QA & Testing function and contracting with another supplier can significantly increase product quality. Migrating to a Test Driven QA Process with the goal of reaching the pinnacle of the maturity model, IV&V, will build credibility within the organization and outside, where it counts most, marketplace perception. Reducing staffing costs, increasing product quality and avoiding the expensive cost of post deployment errors can only assist growing a profitable business.

Based on materials from CIO.Com <[www.cio.com](http://www.cio.com)> and Computer World <[www.computerworld.com](http://www.computerworld.com)>.