How to Reduce Information Technology Costs Through Smart Testing Strategies

Applies to Communications, Manufacturing, Retail, Food Service, Financial, and Entertainment Industries

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Executive Summary

Major communications, manufacturing, retail, food service, financial services, and entertainment companies are developing new information technology products and applications that rely on mobile and cloud-based technology. The development of these new, transformational IT products means increasingly more attention being devoted to testing, as research shows testing budgets increased by 26 percent in 2014.

The traditional style of information technology development employed by many mid-to-large corporations is inefficient, as its very testing structure incorporates significant down time and wastage of manpower. This traditional style of in-house testing uses employees inefficiently and often requires large outlays for the acquisition of infrastructure.
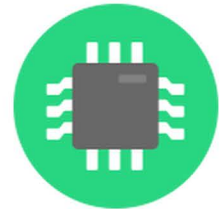
Testing On Demand and Test Department Outsourcing are innovative approaches that require different mindsets, but are, nonetheless, better options for mid-to-large information technology organizations that are to survive and thrive in today's development environment.

I NTRODUCTION

As organizations recover from the economic downturn of recent years, they are eyeing growth and are dedicating more resources to the development of mobile and cloud-based applications and systems, as well as those that rely on big data. But with this information technology development, come the near certainty of cost overruns, out-of-control timelines, and even the threat of eroding customer confidence if the applications and systems do not work as intended.

In some instances, these IT projects are leading to troubled balance sheets of these organizations, and even claiming the jobs of top managers all the way to the CEO. Escalating information technology costs are increasingly factors if these mid-to-large corporations face financial instability. The costs can lead to the most devastating and final impact: failure of the corporation.

Information technology cost overruns occur in many areas including testing, causing the overall project to spiral out of control, creating havoc not just in one department or area, but in the entire organization. It is imperative for top managers and organizational leaders to take steps to prevent or, in the instance of a project that is already under way, minimize the massive costs associated with these information technology projects as organizations demand a greater return on investment. Quality Assurance, while often seen as a cost center, can be a place to show this return on investment for organizations that are able to reduce their QA costs and improve the testing processes to produce better results.

Rethinking testing is a way to manage cost overruns, and, indeed, facilitate a reduction in overall cost in information technology development. Implementing cost-saving methods of testing has many benefits, including reduced employee time lost, lower employee payroll costs, improved quality of the product being tested, and lower infrastructure cost.

The Serious Impact of QA On the IT Budget

The cost to develop new products and implement new information technology changes across an organization almost always exceeds what has been projected and expected. It's not about whether the cost will be higher than budgeted; but rather, by how much the cost will exceed the budget.

Because information technology projects so often go over budget, the impact of these projects can often be felt across the entire organization. How so? While QA itself typically doesn't cause cost overruns, an ineffective QA process can be quite expensive. That is because the failure of the new product or application can be catastrophic for the entire organization, can be costly in loss of brand value, and can cause a loss of consumer trust, resulting in consumers fleeing the brand. The failure of the new IT product or application can be directly related to QA.

In a large, global study of information technology change initiatives, examining 1,471 projects, one report that appeared in the September 2011 issue of Harvard Business Review revealed that the average overage is 27 percent. But that was not the worst of it. According to the report, a significant number of projects exceeded their budgets by massive amounts — as much as 200 percent. In fact, one in six of the projects studied experienced these massive cost overruns of 200 percent, with a 70 percent schedule overrun[1].

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The impact of such overages in time and budget are quite real. In just one example, the state of Pennsylvania announced in 2013 that it would not renew its contract with IBM after the IT project it had contracted IBM to do ran 42 months behind schedule and $60 million over budget[2]. The Unemployment Compensation Modernization System was originally envisioned as an IT project to replace the legacy system with one based on new technology. The project went off track for several reasons, according to a study of its failings, but among those reasons was simply the fact that the software didn't work. According to a Carnegie Mellon study of why the project failed, "The UCMS R-3 software has a significantly higher defect density than industry benchmarks. The vast majority of these (86 percent) are Severity Level 2 (serious failure) defects, indicating the persistence of systemic problems over a sustained period of time. Fully 50 percent of these defects were discovered during User Acceptance Test; this late discovery of defects is symptomatic of an ineffective System Test."

In still another example, the 2013 rollout of the federal government's healthcare exchange website was plagued by seemingly constant quality and performance problems that forced the the administration to publicly address the technological shortcomings of the project.

Testing — or rather, failures in the testing process — can be attributed to many IT projects that eventually cost their organizations in revenue, reputation, and customers. Because of this, the need for better QA, specifically testing, is driving an upswing in the size of IT budgets. Testing is taking up a bigger slice of the IT budget, up from 18 percent in 2012 to 26 percent in 2014[3], and growing, according to the World Quality Report, a global research study that surveyed 1,543 IT directors/managers, QA directors/managers, CIOs, and vice presidents of applications.

With so many IT budgets growing — sometimes spiraling drastically out of control and losing hundreds of millions of dollars and some eventually costing the jobs of employees and top managers (including the CEOs) — it is imperative for IT organizations to understand the cost of QA on their budgets.

How QA Organization Impacts the Budget

Information technology projects go over budget for many predictable reasons, including QA costs that may include the use of the wrong employees or not having the right talent in place to do the job[4], cost of testing infrastructure, testing methodology, and poor process governance.

Employee Costs: An inexperienced QA manager or QA engineer can result in a project that extends well beyond the expected completion date and that incurs excessive and unexpected costs. The inexperience may result in decisions that a more knowledgeable QA manager or QA engineer would not make. The inexperience can also mean the QA manager or QA engineer may not be able to anticipate problems, and thus, may be unprepared for their certain arrival.

THE TESTING PROCESS TO MOVE IT DEVELOPMENT ALONG WILL CREATE ADDITIONAL OVERHEAD COSTS IF THE PROBLEM IS NOT MANAGED AND COMMUNICATION IS NOT EFFECTIVELY FACILITATED.

Testing Infrastructure: Testing infrastructure expenses also can cause the cost of developing a new product or application to exceed the project budget. Some testing infrastructure may be of limited ongoing use to the company, but the company must pay the significant cost of acquiring this infrastructure in order to properly test the prototype and all of its elements.

Testing Methodology: The use of an inappropriate or outdated testing methodology can contribute to project costs for many reasons, including adding to the employee cost due to how the employees are used. Under certain traditional testing methodologies, such as waterfall methodology, for example, the cost is incurred in how the employees' time is utilized. They sit idle for sometimes weeks or months at a time, waiting for the testing cycle to involve them. This means the company incurs a significant cost due to the necessity of paying employees who are at work, but not working, because of the structure of the testing methodology.

Process Governance: The testing process to move IT development along will create additional overhead costs if the process is not managed and communication is not effectively facilitated. A testing process that should take weeks may take months, for example, snowballing into missed timelines, revenue, etc.

Solutions: Testing On Demand and Test Department Outsourcing

One of the answers to out-of-control and over budget IT development projects is in addressing testing. Testing can be addressed in two ways: Testing On Demand (TOD) and Test Department Outsourcing (TDO). TOD and TDO address many of the pain points of mid-to-large corporations, when it comes to their information technology development needs.

TOD can slash QA spending on a given IT project by 30 to 50 percent, allowing the organization to realize a significant saving immediately. TOD, conducted by a dedicated outside team that specializes in testing, also can improve quality of the product because the team can employ the appropriate testing methodology and process governance to facilitate a reduction in cost, as well as improvement in the product.

TDO conducted by a team that specializes in testing, can present a cost saving related to infrastructure. Because the testing company specializes in testing of IT applications and systems, it has already procured the necessary infrastructure, thus saving the corporation the time and expense of purchasing costly infrastructure that may be of limited ongoing and future use.

TOD and TDO offer IT organizations viable and reliable ways to reduce costs and improve the quality of the product under development. TOD and TDO allow the client corporation to focus on what it does well, while leaving testing to a specialized outside team that can produce better results at a lower budgetary commitment.

How Testing On Demand Works

With TOD, testing staff are fully engaged only when testing is occurring on a project. The on-demand solution provider brings tools and test environments, as needed for the project. The testing provider employs its test methodology to ensure a structured testing process. The use of TOD saves the IT organization in budgetary costs related to testing personnel, tools, and infrastructure.

How Test Department Outsourcing Works

Under TDO, all aspects of QA would be done by the testing provider. This includes test planning, execution, resolution, production issue management, and more. All tools and test infrastructure would be provided by the outsourcing solution provider for test management. Testing would occur at the client's site or at the outsourcing provider's testing center. Testing location would be determined based on client preference. The use of TDO saves the IT organization in environment infrastructure, tools, and personnel costs.

Key Factors for a Testing On Demand or Test Department Outsourcing Provider

TOD and TDO are options for organizations that are developing products that need to be checked for efficacy, usability, and unexpected outcomes. When testing is necessary to assure the quality of the product and that the promised experience or result will occur for the end user.

Due to the sensitive and confidential nature of many information technology projects, key factors should be considered:

1. **Understanding of the role of testing**. A testing solution provider should understand the overall role of testing, as demonstrated by a history of testing experience and client engagements.

2. **Location of the testing facility**. Will the testing be done on-site, in a rural facility, or in a distant geographic location? Having a U.S.-based rural testing facility can be beneficial to corporations with offices in the United States. This allows for the convenience of planned as well as short-notice visits, ease of communication, support of government contracts and a higher level of intellectual property protection.

3. **Confidentiality**. The testing solution provider must provide an assurance of confidentiality, due to the sensitive nature of the client's products and services. This may mean having dedicated secured testing spaces, various levels of government security clearances, and a strict NDA process.

4. **Process governance**. The testing solution must provide a quality testing process that mitigates the common challenges of testing, relative to personnel, communication, and execution of testing methodology.

Conclusion

Mid-to-large IT organizations are facing increasing challenges that threaten their viability. One of the areas that is causing strain is in IT development. This area is burdened with runaway costs in time, manpower, and financial resources. A significant way to address this issue is through the management and governance of the QA process.

Mid-to-large corporations must shift from in-house testing teams to Testing On Demand and Test Department Outsourcing, if they are to realize significant savings to their IT development budgets.

This shift can save them 30 to 50 percent in QA budgetary costs, and can reduce their payrolls, need for expensive infrastructure and equipment, and create more efficiency in their operations.

Any company that is doing IT development and needs to reduce its overall IT budget can benefit from Testing On Demand and Test Department Outsourcing.

Learn How to Increase Quality, Lower Testing Cost, and Improve Your Existing QA Process

To learn how to improve your organization's IT testing, email info@omnisourcing.net or call (800) 617-0020 to request more information.

ABOUT

Omni Sourcing, Inc. (Omni) is an information technology services company with a vision to deliver quality services and business solution strategies with its domestic rural outsourcing model.

Omni is focused on providing systems integration and outsourcing services leveraging rural resources in Mississippi to provide business value. Omni's training and delivery model provides superior quality and services at cost-effective pricing for public, private, local, and global technology clients.

Qualified, knowledgeable resources are leveraged through access to the five universities in the Jackson Metroplex and eight other universities in the State of Mississippi.

Omni's management team combines more than 45 years of consulting and industry experience in the delivery of business services and solutions.
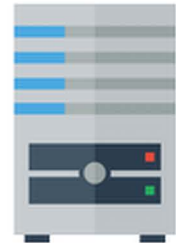
As a provider of Testing On Demand and Test Department Outsourcing, Omni helps mid-to-large IT organizations improve the quality of the information technology products they develop, while also reducing their QA budgets.

The innovative Omni Testing Center in Jackson, Mississippi is a 190,000-square-foot facility with the capability to deliver quality services and experience for clients. The facility provides flexibility with network access allowing cloud enablement and environment virtualization.

Key highlights of the Omni Testing Center are:
1. Power, communications, network, and server redundancy
2. Fiber backbone throughout building
3. 24/7 physical security with perimeter fencing

Omni has offices in Dallas, Texas and Jackson, Mississippi.

Footnotes

[1] Brent Flyvbjerg and Alexander Budzier. Why your IT project may be riskier than you think. Harvard Business Review. September 2011. Retrieved from https://hbr.org/2011/09/why-your-it-project-may-be-riskier-than-you-think [Page 3]

[2] Chris Kanaracus. State dumping IBM after IT project runs 42 months late, $60 million over budget. Retrieved from http://www.infoworld.com/article/2611125/technology-consulting/state-dumping-ibm-after-it-project-runs-42-months-late---60-million-over-budge.html [Page 3]

[3] Capgemini, Sogeti, HP. World Quality Report 2014-15. Retrieved from http://www.capgemini.com/thought-leadership/world-quality-report-2014-15# [Page 4]

[4] Genae Valecia Hinesman. 10 reasons why projects go over budget. Houston Chronicle. Retrieved from http://smallbusiness.chron.com/10-reasons-projects-above-budget-40886.html [Page 5]