



Addressing Budget Constraints through Testing

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Introduction

The increasing unrest of the economic climate is influencing business decision makers to take precautionary measures. Controlling the finances of the business has always been important but the shift in confidence means that those in charge now want more for their money. Financial prudence is forcing budgetary review. Departments are experiencing either a budget cut or a need to increase output with only the same amount of spend.

IT departments are amongst those suffering; with pressure to improve productivity and efficiency without additional funds. CIOs and IT Managers need to address this sooner rather than later as for many, key delivery targets still need to be achieved regardless of budgetary constraints.

Major programs of IT change require verification to ensure the specified requirements are delivered, that any risks are understood and, most importantly, that the program will deliver the desired business benefit. This is done through software testing, but historically, companies have placed less emphasis on it, often treating it as an activity to tag on at the end of a project. So when projects start running behind schedule or start exceeding predicted costs, testing may be the first element to be reduced in terms of time or financing.

This short sighted approach can lead to much larger problems further down the line when functionality is not what is required or when systems totally crash. Organizations can suffer greatly in terms of lost revenue and brand damage so limiting testing is not the best way to control the budget of a project – remedial work will inevitably cost more.

Instead, testing can be adapted to lead to a greater reduction in defects, increased productivity, reduced testing costs and even a reduction in time to market. Several operational changes can enable this:

Reviewing Test Processes

A review of the testing processes already in place within your organization can highlight – through a short period of analysis – areas where improvements can be made. When testing appears to require more resources, it may be the case that redefinition of roles and responsibilities could cover any gaps. Improving scheduling of test releases can also help structure testing so timings do not slip. Attaching deliverables to them can further enforce productivity as there will be tangible outcomes helping towards project completion.

Changing testing processes to a risk based approach can also aid productivity. Areas that pose the greatest risk could be focussed on first. Finding defects that will have the largest impact on an application earlier means amends can be made earlier, which means less of the code needs to be rewritten.

Streamlining testing and ensuring it is meeting business requirements can be achieved through a review process. Targets are more likely to be hit meaning the testing will run on budget and with the correct structuring, improved efficiency could be experienced.

Review of the testing however must be coupled with a program of improvement as the review will merely highlight the areas that could change. A comprehensive review will suggest recommendations for a change in process and will offer advice as to how to achieve them.

As an example, introducing Static Testing into the process has significant time and cost saving benefits. The British Computer Society estimates that for a 3% investment of the overall project budget in Static Testing, 70% of defects can be found by eradicating assumptions and ambiguity from documents before a line of code is written or a system is configured.

Offshoring

An effective way of producing cost savings or achieving more within the same budget would be to offshore testing which is currently delivered onshore. Choosing an experienced supplier who can advise on the most effective approach allows benefits to be identified and achieved quickly. Changing the delivery model in its entirety would not afford the organization cost savings in the short term – the savings would be realized over a much longer period and it will require significant investment to execute properly.

So, if immediate economies are required it would be possible to start offshoring different elements, rather than everything in a single implementation. For example, performance or regression testing could be carried out from offshore as an initial step whilst the plans are being drawn up to gradually move everything offshore.

The time difference can also be advantageous to drive down defect resolution cycles. The code can be written during the day by the developers and then sent offshore for testing 'overnight'. Any problems can therefore be identified for the developers to address next working day, reducing time scales significantly. This is particularly relevant and highly effective within an Agile development program.

In the long term the initial offshore model can be matured and optimized to make capital available within the budget to derive additional business benefit. There is however, a risk that the projected cost savings will not be achieved if not closely managed.

Test Automation

The move to test automation should be more focussed towards saving the company money over a longer period as it is a much more strategic change.

Changing to automation can lead to as much as an 80% reduction in time taken to test scenarios. This means much more could be completed within the previous time frame and also defects are found much earlier. If reusable test scripts are developed then future testing will continue with the same reduced time requirement. When coupled with manual testing, the testing becomes much more comprehensive, resulting in a reduction of defects and subsequently higher quality products.

Agile development can benefit greatly from automation as it means more of the code can be tested in shorter time frames and sent back to developers either for rework or to further develop. As Agile development is growing in popularity due to its benefits, a shift to automating testing would further support this.

Summary

These operational changes highlight just a few suggestions of how more can realistically be achieved with the same budget and in some cases within a reduced time frame (reducing costs). Pressure is being placed on decision makers and thus department heads to decrease costs or simply do more with the money that is available. With the current economic instability, organizations must deliver quick wins and restructure to start thinking strategically about how they can reduce costs of a project overall rather than just immediately as this usually compromises quality.

Proposing to invest in entirely new processes or to purchase tools may seem absurd when cost cutting seems to be the main business driver but the long term value, benefits and ultimately cost savings should not be overlooked.

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