

Scintel Knowledge Series: Quality Assurance

CREATING A CULTURE OF QUALITY

Five Recommendations to Make “Quality” the Rallying Cry in Your Organization

“Quality is not an act. It’s a habit.” So said Aristotle and repeated – in some form – by a long line of dedicated quality practitioners who followed behind him. From guilds in the Middle Ages through automation in the Industrial Revolution and assembly lines in World War I and on into quality circles, Total Quality Management and the Lean Six Sigma, the pursuit of quality is not new. What has changed is the wide array of testing, tools and practices within the IT industry that is transforming the way companies and their employees think about quality.

A PASSION FOR PREVENTION

A defect identified once a system is in place can have critical repercussions for a company, not only impacting time to market, but also resources, ROI, customer confidence and, ultimately, brand value. Just ask any one of the hundreds of organizations that made headlines this past year from industries as diverse as auto manufacturers to food distributors to consumer products. They will likely tell you that the best strategy when it comes to defects is to prevent them from happening in the first place.

PROMOTING A QUALITY CULTURE – FIVE BEST PRACTICE STRATEGIES

A quality culture begins with integrating quality across your IT organization, from requirements, design, development, quality assurance, security and compliance to deployment. It’s an environment where everyone shares a commitment to preventing defects, rather than just correcting them. It also reflects a team vision for continuously doing things better and smarter.

Here are five best practice strategies for creating a culture of quality within your IT organization.

BEST PRACTICE #1 – TEST EARLY AND OFTEN.

Since 20-40% of defects eventually track back to the requirements phase, it makes sense to start testing early before the first line of code is ever written. Static testing is an industry-leading process that offers an early warning system for defects by ensuring requirements are robust, stable and free from ambiguity or perception issues.

Static testing operates on the SMART principle, evaluating every requirement to determine if each is specific, measurable, achievable, relevant and test-able. In the short-term, results from static testing can help the development team write stronger code and the testing team build better test cases. In the long-term, static testing can significantly prevent defects down the line that can bring a company's systems to a screeching halt.

Testing after development forces companies to ask, "How many defects do we have?" Testing before development transforms the question into "How many defects did we prevent?"

BEST PRACTICE #2 – KNOW WHEN, AND WHEN NOT, TO AUTOMATE.

There is a tendency within organizations to work toward automating all testing, but in reality somewhere up to 60-70% automation is possible. After that point, automated testing tends to result in lost efficiencies and increased costs. Of course, the optimum mix will depend upon your organization, your users and your needs. A good testing "fit" ensures proper utilization of resources and tools.

Another myth surrounding automated testing is that it's no problem to automate at any point in the SDLC. In fact, it is a problem. Different tests require different tools and resources. These need to be taken into account and budgeted for up front. It's critical that organizations let their individual requirements guide their choice of automation tool, not an internal resource or external vendor.

Finally, in developing the best mix of automated and traditional testing, it's important to remember that a single test will not deliver an immediate return on investment. It typically takes three cycles (and sometimes more) Plan – and budget – accordingly, and the long-term gains will be worth the short-term investment.

BEST PRACTICE #3 – SHIFT FROM "CORRECTIVE" TO A "PREVENTIVE" VALIDATION.

In most organizations, developers write the code, test to see if it performs to their perception of the requirements and make adjustments where necessary. That's fine, until defects are discovered in later-stage testing. So what's the solution? Don't hold the development team accountable for unit testing. Partner developers with a neutral testing function to give them the time and space to focus on their core competency – development.

This strategy offers a secondary benefit as well. Finding and correcting defects at this stage are often considered to just be “part of the development process,” and are not always reported. But knowing about these early defects can help other groups down the line and serve as lessons learned for other projects. A neutral testing function ensures that defects in the development stage are entered into the test management suite so that lessons can be learned and shared.

There is often a temptation to jump into system testing before unit testing is satisfactorily complete – don’t do it! It may take more time, but this emphasis on prevention early on in the process will be more than compensated for by avoiding defects – and the costs for correcting them -- in later stages of the process.

BEST PRACTICE #4 – SPREAD YOUR QA BUDGET ACROSS THE DEVELOPMENT LIFE CYCLE.

This is an obvious statement, but the later defects are discovered, the greater they cost. But why do so many organizations budget for QA only at the end of the SDLC process? Apportion funds for QA and testing to better identify and prevent defects on the front end. Ultimately, you’ll save more money on the back end. The short-term expense may be higher, but you’ll realize dividends in the form of greater efficiency, lower budget costs and ultimately, higher customer satisfaction.

BEST PRACTICE #5 – MAKE METRICS MEANINGFUL.

Status quo will never enhance an organization’s bottom line. Companies that want to ramp up quality look for ways to do things smarter, faster and better by increasing their reliance on key metrics and directing critical information to the people who are best positioned to influence change.

But one size does not fit all. Try a three-tiered approach for disseminating data:

- Senior management – CEOs don’t want to know about the number of defects. Share information that will help them to better understand overall value.
- Unit management – provide milestone measurements as they relate to adherence to schedule, test results, lessons learned, etc. Give them the tools to manage resources better and smarter.
- Project leadership – furnish data that defines productivity measures, such as number of test cases, defects, hours, etc.

The right analysis by the right stakeholders can turn data into business intelligence that can drive real business decisions.

HOW DO YOU KNOW WHEN YOU'VE ACHIEVED A CULTURE OF QUALITY?

It starts with small signs. Employees offering up suggestions for improvements and slowly seeking input from their peers – that's one sign. Another is slow demise of the phrase, "that's not my responsibility." In time, closer working relationships are forged and the benefits of a quality culture start to resonate. You know you're "there" when the emphasis on quality at every phase is as important as the delivery of the end product.

Let's face it. Employees want their companies to be successful. They want functions to perform as promised and systems to work without downtime. When a company puts the testing, tools and practices in place that make quality assurance easy and success tangible, employees will respond, and at that point, quality is no longer something they have to get done, but something that is just part of the job.

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