Germany

Amid budget pressures, Germany's QA community is looking to streamline QA efficiency

Anish Behanan
Senior Director, Financial Services, Capgemini

Sven Euteneuer
Portfolio Director, Sogeti Germany

Gregory Biernat
Delivery Head, IT Quality & Testing
Sogeti Germany

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In last year's report, we noted a significant commitment in Germany to quality assurance (QA), and also a willingness to adopt agile and DevOps environments.

This determination is still very much present. Indeed, over the last twelve months there have been signs that organizations in sectors that were lagging behind in these respects have been catching up. For example, the automotive industry and the public sector are moving toward agile at a greater pace.

This year's German survey responses show much energy in agile and DevOps. For instance, very high numbers of our respondents said they always monitor the extent of risk coverage (85%) and of code coverage (69%), whereas this was true for only around a half of our survey respondents as a general average. At the same time, a majority of respondents stated that a key challenge to them is the lack of professional test expertise in agile teams. This points to challenges in achieving true cross-functionality in organizations that put a high emphasis on developer-type skillsets in their agile teams, which typically lack the testing background to design test approach and test suites efficiently.

High numbers of them also said they prepare and execute tests as early as possible – and indeed, we'll return to shift-left again in a moment. But we were indeed surprised to see only one-third of German respondents saying they always ask their teams to find and remove redundant test cases. For a country so keen on test automation, the proportion here ought to be much larger: the greater the level of redundancy, the greater the effort needed to automate, and the smaller the value delivered overall as automation cost increases while risk coverage stays flat. This may also explain why reported test automation degrees are quite low across all testing activities. At the same time, the desire to increase coverage and availability of test automation is strong, indicated by only 15% fully agreeing that they have the right level of test automation already in place.

Similar surprises were to be found in response to a question about critical success factors in agile and DevOps developments. As we would expect, almost everyone said the technology stack was an essential element – but by comparison, very low scores were given to factors including executive support, business priorities, and organizational culture. This is simply not what we see in the German market.

In what may be a sign of new trends, or a rediscovery of preexisting QA experience, almost a quarter of respondents said they use independent quality assurance in almost all of their projects. This should not be seen as a plunge back into waterfall days, but rather a modern reinterpretation we have encountered a number of times ourselves in the market – the use of dedicated quality specialists both in the teams as well as in a supporting layer to provide a means not to have to mark your own work.

Budgets and efficiency

The general commitment to quality that we mentioned at the outset has been subject to pressure. Testing and QA budgets have been hit hard this year: as a proportion of IT budgets as a whole, testing and QA represented just 18% for German respondents, which is a big drop from 25% last year. Some sectors, including automotive once more, have been particularly affected.

This squeeze has increased the focus on cost-efficiency measures. For our German respondents, the most important of these by far was shift-left testing: a remarkable 88% of them deemed it an essential approach to greater efficiency, when the survey average was just 54%. It's a figure that also corroborates something else we saw last year, which was Germany's commitment to the principle of end-to-end testing.

A further effect of the budget squeeze – and indeed, of this year's COVID-19 pandemic – has been to accelerate digital transformation. Organizations have been obliged to put more of their business online, and in Germany, we have seen growing numbers of them acting with more urgency. Of course, the greater the amount of online

business traffic, the greater the QA workload is likely to be, so in conjunction with the desire to increase automation, respondents are looking for clever approaches to increase automation efficiency further, for instance by automating tasks outside of test execution, such as test data or test environments provisioning.

Accentuating the positive

The objectives driving testing and quality assurance in Germany haven't really changed. In a country as business-oriented and as quality-driven as this, it's no surprise to see that the factors mentioned as most essential this year were the contribution to business outcomes; ensuring end-user satisfaction; making testing smarter and more automated; and detecting software defects before go-live. After witnessing a strong push for introducing agile methods into IT delivery, we are now witnessing a push to include further testing and QA good practices and knowhow, potentially from expertise outside their organization. Objectives for IT strategy as a whole were pretty similar: alongside security, the highest-rated aspects for German respondents were once again related to customer experience and business demands.

Despite the challenges of the times, confidence seems to be fairly high. Over two-thirds (68%) of German respondents said they virtually always achieve complete testing, covering everything that's needed. Similar proportions said that application development across distributed teams was well orchestrated and integrated (64%) pointing to confidence in the ability to execute agile projects across geographies, and that requirements were clearly defined (63%). In addition, 69% said they met their quality goals.

It is, however, remarkable, that among all these positives, Germans are not confident in either their test strategy, process and methodology, nor in their level of automation. Both point to a need for dedicated quality assurance and engineering skills in the teams in addition to typical developer, business and operations-focused roles.

Outcome-focused automation

It's no surprise to see the degree of confidence German respondents seem to have as far as test automation is concerned. Over three-quarters of them – which is significantly higher than the survey average – said they have the right automation strategy, and around two-thirds of them said test data and test environments were available at the right time, and that they also have the right automation tools. We're not sure they do indeed have appropriate tools to the degree they say. This may be because as outside observers, we have a broader perspective than many in-house QA teams of what tools are available right now. It will be interesting to see the extent to which automation toolkits change over the coming year.

What is less in dispute is the range of benefits that German organizations perceive as the result of their automation efforts. As many as three-quarters of them said they achieve better detection of defects – and, when asked to quantify this, they said the defect detection rate was 24% better, which is an outstanding result.

What's interesting about this is that the emphasis here is on outcome, rather than on speed and efficiency. It runs counter to what we might term traditional test automation folklore, but is very much in line with typical German thinking. Maybe this accounts for that earlier low figure we saw for automation as an efficiency measure. However, even on the level of unit tests, automation barely touches 20%. This points to large untapped potentials to increase both control and efficiency by raising these figures.

Quality throughout

This year's survey has provided participating organizations with the opportunity to take stock not only of trends in individual areas such as these, but of the general shape of things.

Looking ahead to likely changes in a post-COVID world, we see much determination in Germany to build a stronger QA community culture, to improve the requisite collaboration tools, and to find new ways to measure the quality of teamwork.

All this is perhaps to be expected. It's not just because people are naturally attracted to the idea of a fresh start. It's also because, in Germany especially, it reflects the extent to which in an agile environment, quality needs to be an integral element at every stage of the software development lifecycle. To get there, the watchwords will continue to be teamwork, knowledge, empowerment, and focus.