

WORLD QUALITY REPORT

COUNTRY ANALYSIS

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CHINA

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Top Trends

- Chinese business commitment to quality continues to gain momentum: The share of IT budget allocated to QA and Testing activities has increased from 22% in 2013 to 27% in 2014, and is projected to grow further to reach 29% by 2017.
- The share of in-house-only testing projects has decreased from 47% in 2013 to 31% in 2014, while the proportion of projects where partners are engaged using the managed testing services model has grown from 12% to 17%.
- In 2014, 87% of IT executives interviewed say that their organizations are testing mobile applications and devices – compared to just 46% last year.

After a brief slowdown in IT spending during 2013, Chinese corporate investment in IT projects appears to be increasing again, as companies continue to invest in infrastructure to support new projects and technologies. More international companies in High Tech, Telecom, Retail, and Pharmaceutical industries are also now moving significant parts of their IT operations to China to support their global business. Most are setting up their main IT service centers in Shanghai or the Yangzi River Delta region such as Suzhou and Wuxi. More recently, mid-size and small local companies are increasing their IT spend to upgrade their platforms to match global standards. They are starting to see their shared service locations in the South/West of China, for example Chengdu or Chongqing as centers for achieving cost-efficiencies.

The 2014 research shows that China's commitment to quality continues to gain momentum: The share of IT budget allocated to Quality Assurance (QA) and Testing activities has increased from 22% in 2013 to 27% in 2014, and is projected to grow further to reach 29% by 2017. The largest share of the QA and Testing budget is spent on testing hardware and infrastructure (36%), which suggests that as Chinese companies build large data centers, they are investing in creating a strong foundation for continuous commitment to application quality. Global companies that rely on Chinese facilities to support their global operations are also specifically investing in setting up tools and infrastructure for non-functional testing including performance, compatibility and security testing.

The 2014 research shows that substantial progress is being made toward incorporating QA and Testing earlier in the

application lifecycle. In last year's research, two-thirds (67%) of companies reported involving QA and Testing at or after the application development phase, while in the 2014 research, this number has reduced to 38%. Involving QA and Testing at project planning and design phases helps safeguard against quality problems downstream, and allows teams to make adjustments that can have a significant impact on application quality linked to business outcomes, beyond just fixing defects. More Chinese IT stakeholders realize that involving QA and Testing expertise earlier will significantly reduce maintenance costs of applications after they go live. The positive trend is likely to continue: Nearly nine out of 10 respondents who say that they involve QA and Testing too late in the cycle (89%) state that they have plans to bring QA and Testing activities into the project at an earlier stage. The introduction of global best practices, in particular leveraging industry-standard methodologies, has become more widespread in China with positive impacts on operational efficiency.

The 2014 research also shows that a growing number of organizations in China are turning to specialist testing service providers for guidance in setting up consistent and repeatable QA and Testing processes that will improve application quality in the long run. The share of in-house-only projects has decreased from 47% in 2013 to 31% in 2014, while the proportion of projects where testing business partners are engaged using the managed testing services model has grown from 12% to 17%. Due to the fact that a large number of qualified testers is readily available, most companies in China prefer to engage third-party partners to help establish the foundation for the testing process, while using internal resources to perform the actual



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testing activities. The 2014 data also shows an increase (from 12% to 19%) in the number of projects where both the service provider and the client are involved in testing activities and share responsibility for quality outcomes. Increasingly, Chinese IT stakeholders realize that it's better to utilize third-party QA and Testing expertise, since they can significantly reduce the time to build a mature testing organization based on leveraging established QA and Testing processes.

More organizations also appear to see value in centralizing and industrializing their quality processes. In 2013, 42% of CIOs and IT directors interviewed in China said that they had no plans in place for establishing Testing Centers of Excellence (TCOEs), whereas in 2014, only 14% are still not planning to establish consistent standards, processes and metrics across the organization. Over a third of respondents (36%) state that they have either fully operational TCOEs or are in the process of building one, and a further 50% have plans to establish a TCOE using in-house capabilities or partner resources in the near future.

TCOEs in China are typically run as a shared services center that can provide cost benefits to different projects and support resourcing at peak periods.

Chinese companies remain among the leaders in using cloud-based technologies for application testing. The share of applications being tested using a cloud infrastructure has risen from 31% in 2013 to 38% in 2014 – higher than the worldwide average of 32%. A number of domestic and foreign-owned IT service providers now offer a variety of solutions ranging from public cloud to managed private cloud services. Adoption of

cloud technologies in China faces a number of challenges including low market awareness of IT operational and business benefits, complex government regulations, and security issues. However, similar to the rest of the world, Chinese research participants predict that cloud technologies will continue to make strong advances in the area of QA and Testing, and that by 2017 as many as 58% of all applications will be tested using the Cloud. With the support of the Chinese government, the Software Industry Association in each province will take into consideration hosting testing tools in a public or private cloud which will allow them to provide an OPEX model for small and medium enterprises and avoid capital expenditure.

China is the world's largest handset market. The 2014 research shows a growing commitment to mobile testing due to smartphones gaining market share as handsets are upgraded and replaced. In 2014, 87% of IT executives interviewed say that their organizations are testing mobile applications and devices compared to just 46% last year – a substantial increase. The number of obstacles affecting mobile testing reported by the research participants has also decreased from last year, with just 32% citing lack of the right testing methods and time for mobile testing, and 33% reporting lack of mobile testing experts and environments. Most of the specialist services offered by Chinese providers appear to cover Android devices rather than iOS. As companies in China become more receptive to outsourced and co-managed testing engagements, mobile testing seems to be one of the areas where specialized partners can truly help achieve cost reduction while delivering higher-quality mobile applications.



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