

# World Quality Report

China

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## Summary

- Decentralized team structures are becoming more popular in China. Sixty-seven percent of respondents say that testing is done by all team members.
- Automation tools for functional testing of customer-facing applications are gaining traction. Seventy-three percent of respondents say that they use test environments for functional testing.
- Chinese companies are trying to achieve shorter test cycles with Predictive analytics and intelligent test automation.

The **WQR 2018** states that testing and QA in China is moving at a fast pace. Companies are migrating to decentralized testing organizations and agile teams are taking shape in the region. Sixty-seven percent of respondents state that they have decentralized important functions, such as test automation. This number is higher than the global average of 57%.

Companies are also ready to spend more for creating an agile infrastructure. This means more investments in automation and DevOps tools. There is also greater focus on quality. Seventy-five percent of respondents say that a demand for higher IT quality is the main driver for IT budgets. This is much higher than the global average of 27%.

China is also upbeat with developing new customer applications, and mobile application testing is a growing trend. Owing to this, there are higher investments in virtualization and real devices for customer testing. Thirty-seven percent of respondents foresee test environment virtualization as an important automation technique in the coming year.

The need for faster time to market is also driving higher adoption of cloud in the country. Sixty-eight percent of respondents say that they employ a cloud-based test environment for performance testing. This is higher than the global average of 58%.

There is also more acceptance for artificial intelligence (AI), and experts say that a few companies are already working with advanced AI technologies, such as face recognition. Important testing and QA trends in the region are outlined below.

## Agile is the way ahead

Agile methodologies are picking up pace in China. Companies are moving towards decentralized test teams. Testing is moving out of silos and is now a function of Scrum teams. This is corroborated by the fact that 67% of respondents in China say that test activities are performed by all team members without a specific test professional. This is significantly higher than the global average of 43%.

This number indicates a more fluid approach towards testing in China. Testers are now working with developers and operations people to ensure better quality and roll out products faster. As a result, DevOps is also flourishing in Chinese companies.

Furthermore, 68% of respondents in China say that they automate the delivery pipeline with integrated test cases. Another 59% of respondents say that they use more cloud-based dev and test environments. There is a greater demand for open source automation tools to save costs and also because these tools are more compatible with the DevOps and agile environments.

Scaling Agile is also gaining traction, as companies look to drive agile processes across the organization.

### Automation driving higher cloud demand

An encouraging trend in China is that many smaller companies are driving the demand for the cloud and service providers are responding by offering customized solutions.

Although there are security concerns in China around the cloud, companies are still moving their applications to cloud platforms. The demand for automation tools (for continuous testing) is driving higher demand for the cloud, owing to its flexibility. It is easier for DevOps team to collaborate in real time on cloud platforms and access test environments.

Fifty-three percent of respondents say that they prefer a cloud-based test environment for functional testing of customer-facing applications, such as portables and mobile devices. This is higher than the global average of 46%. Companies are also interested in exploring open source tools for automation as these tools fit in better with agile and DevOps teams.

### Continuous testing to ensure quality

Chinese companies are serious about the quality of the customer applications they develop. As a result, they are putting more effort into the performance and functional testing of applications. Sixty-eight percent of respondents in China say that they use test environments (cloud-based) mostly for performance testing, while 73% use these environments for functional testing.

Apart from ensuring the right test environment, Chinese companies also test applications with real users. Companies prefer to create an alpha version to test with real users. The feedback is instantly incorporated to release a beta version of the app.

To accelerate customer application testing, Chinese companies invest in real devices. Thirty-five percent of respondents test applications on real devices before launch. They are also

investing in simulators and virtualization to ensure the quality of customer applications.

Analytics is also helpful in optimizing QA and testing for customer applications. However, experts feel that there is still more scope for using analytics in testing. Thirty-three percent of respondents in China employ predictive analytics, slightly less than the global average of 36%. Another 40% say that they use analytics for intelligent automation, which is again lower than the global average of 45%. Companies also need more testers with analytical skills to drive more intelligent automation.

### Skills move beyond testing

Chinese companies are showing preference for testers with cross-functional skills. As decentralized teams become more prominent, there is an increasing demand for testers who can work well in DevOps teams, which means that testers should have both coding and business skills.

Twenty-nine percent of respondents say that they want testers who understand business processes. Furthermore, 24% say that they value testers with development and coding skills. These numbers align with the global average, further retreating a change in the demand for skill sets in testing.

### Artificial intelligence getting more recognition

AI is taking shape in China as a few retail and manufacturing companies are working with face and voice recognition application process interfaces (APIs). Experts say that cloud providers are offering an API ecosystem to help companies work with AI tools. Thirty-two percent of respondents in China say that cognitive capabilities are an important research area within AI. This is an encouraging trend for AI in China and points to higher adoption in the coming years.

Testing and QA in China is fast paced and open to innovation and digital technologies. Companies are driving agile processes strongly and migrating from centralized teams to a DevOps architecture.

There is also an appetite for automation and a growing interest in open source automation tools. Automation is also driving a demand for higher cloud adoption and even smaller companies are showing an interest in the cloud.

Customer application testing is a priority in China and companies are going the extra mile to ensure the quality of their customer applications. Companies are investing more in virtualized test environments to ensure faster testing of customer applications.

It is also encouraging to see the interest in AI and the willingness of few companies to work with AI technologies. This will lead to the introduction of more AI and machine learning technologies in the future.



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