# WORLD QUALITY REPORT 20 13- 14



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# MOBILE TESTING: A SHIFT FROM TOOLS TO METHODS

Mobile phones, tablets and other devices have evolved beyond just a means of communication. Organizations around the world are embracing mobile technology to reach consumers, enable their workers to collaborate across boundaries and even change their business models by switching from traditional offices and branches to mobile solutions.

Consumers are also turning to the convenience of mobile apps to conduct business transactions. Increasingly, they expect to move between a physical retail outlet, an online storefront and a mobile app with ease and have the same intuitive experience across all channels. This expectation extends to a wide variety of businesses across all industries – whether accessing account balances, checking home thermostat settings or scheduling an appointment at the doctor's office, consumers expect to use their smartphones to complete these tasks quickly, conveniently and securely.

At the start of the mobile era, convenience often outweighed quality, but as more organizations embrace mobile technology, it is no longer enough to simply be first to market to offer the newest features. To stay competitive, organizations have to invest in mobile application quality and devise specialized strategies and priorities to accommodate the ever-increasing number of devices, operating environments and footprints.
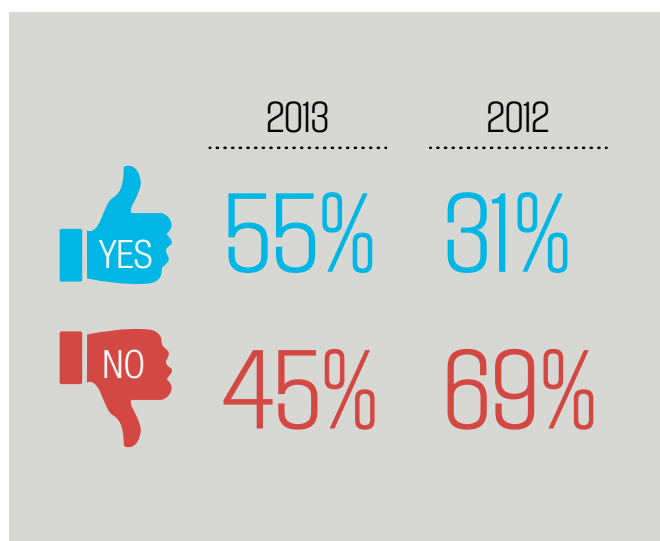
## MOBILE TESTING ON THE RISE

Last year's report showed that most organizations were not giving mobile testing the priority it deserves. Less than a third (31%) of companies reported that they were validating mobile applications. This year's data, however, shows a rapid rise in mobile testing practices. More than half of all organizations interviewed (55%) have now implemented new methods and tools to validate the functionality, performance and security of mobile applications and devices (see Figure 9).

One might expect a clear correlation between the level of spending on mobile devices and services and the intensity of mobile QA activity. The distinction, however, is not that clear-cut. In several markets – China, for instance – mobile adoption is growing very rapidly, while testing practices still lag behind. Less than half of executives interviewed from China (46%) say that their organizations are currently testing mobile devices, despite the fact that Chinese mobile operators report double-digit growth of their subscriber base and consistently top the rankings of the most profitable global service providers. In other geographies – such as Eastern Europe – mobile adoption is still behind the curve compared to most developed markets, but over two-thirds (69%) of organizations report that they are currently testing mobile applications.

A number of factors can influence this apparent disconnect between the popularity of mobile devices and mobile testing practices. For instance, the concept of performing mobile testing can differ from region to region. Geographies with generally less mature QA organizations may report performing mobile testing, but only execute partial testing on a small number of popular devices. In areas where mobile culture is still in its early stages and companies don't see mobile technology as a business opportunity, such limited testing may be sufficient.

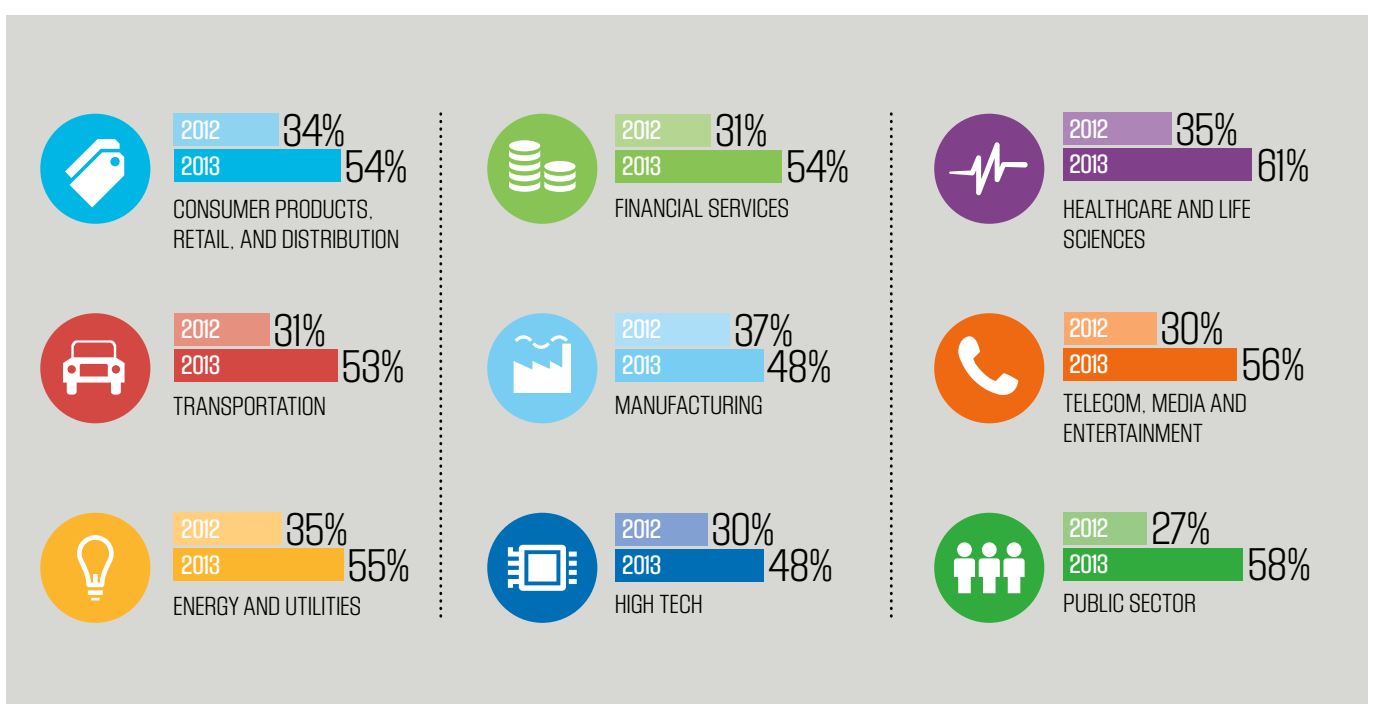## MOBILE TESTING HAS RAPIDLY INCREASED **FIGURE 9**



2013    2012

YES    55%    31%

NO    45%    69%

Base: 1500 Respondents

ORGANIZATIONS ACROSS ALL SECTORS SHOW CONSIDERABLE INCREASE IN MOBILE TESTING       **FIGURE 10**



Base: 1500 Respondents

Other regions – such as Western Europe – have a more mature QA function, and are more likely to answer "no" to the question about mobile testing if they don't have a truly structured mobile testing strategy. In Asia, consumers have access to a much greater variety of mobile devices and platforms than do European or American consumers, and this further complicates the testing task for QA organizations, which are often ill equipped to handle the unique demands of mobile testing.

Among the different industries, the pacesetter in mobile testing is the Healthcare and Life Sciences sector, with 61% of respondents stating that they currently test mobile applications – a significant increase from 35% in 2012. In the US, for example, healthcare organizations have embraced mobile technology, with applications touching every aspect of patient care and administration. From smartphone-based

heart monitors that wirelessly send data from cardiac patients to their doctors, to handheld portable ultrasound systems used in remote areas, to mobile apps for paying hospital bills, healthcare organizations are clearly in the forefront of the mobile revolution.

The Telecom, Media and Entertainment (TME) sector boasts a 26% increase in the number of organizations that test mobile applications and devices. Most large operators continue to focus their QA efforts on the mobile infrastructure, and the mobile application testing growth can probably be attributed to the validation of their customer-facing applications by the medium sized organizations (1,000–5,000 employees) that participated in the research (see Figure 10).

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> *Nearly all new applications have some sort of mobile functionality whereas testing mobile is quite new for us. This can create challenges for each project because mobile technology is constantly evolving and we find it hard to plan for - which ultimately adds more time to each project."*
>
> **A Technology Business, Brazil**

## LACK OF PROCESSES AND METHODS STILL HINDERS MOBILE TESTING EFFORTS

In 2012, most of the executives interviewed reported that their mobile testing lagged behind other testing activities, largely due to lack of tools and available devices. Nearly two-thirds of organizations that test mobile applications (65%) acknowledged that they didn't have the right testing tools to effectively validate mobile applications, and a further 52% stated that they couldn't secure the required devices to fully test applications' compatibility and interoperability on different platforms.
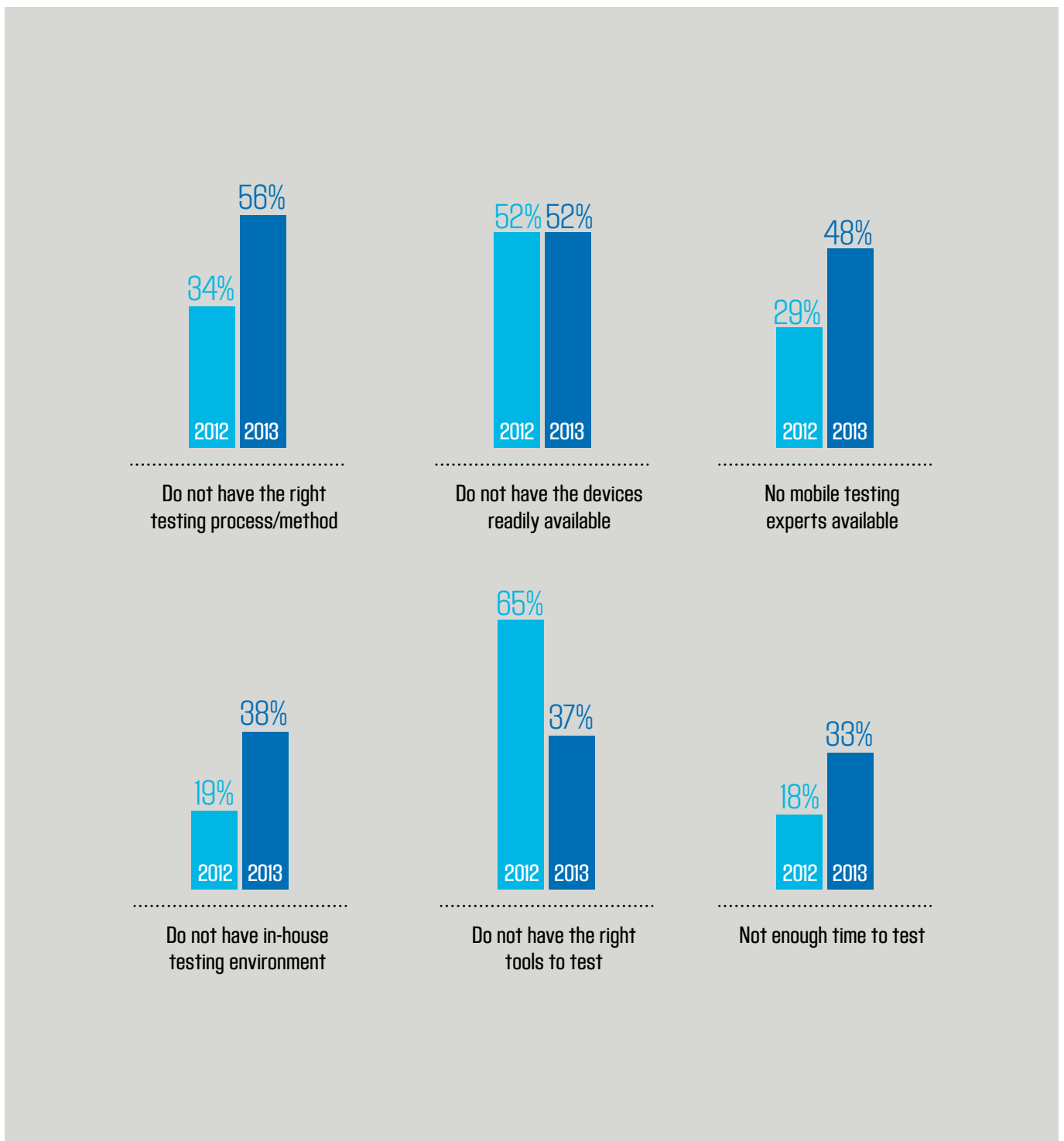
This year, just three out of eight (37%) participants suggest that lack of tools presents a challenge in testing mobile applications. However, the number of respondents who see the lack of an in-house testing environment as an obstacle to mobile testing has doubled from 19% in 2012 to 38% in 2013. Over half of the executives interviewed in 2013 (56%) cite

the lack of specialized methods as the biggest barrier to mobile testing, and an additional 48% report that they lack mobile testing experts – a significant increase from just 29% last year.

This shift from tools to methods and environments suggests that organizations are becoming more aware of the wide scope of mobile technologies and devices on the market and are beginning to see mobile testing as an industrialized discipline, with its own sets of consistent and repeatable processes. Although the availability of testing tools is no longer seen as the number one obstacle, growing concern about the availability of test environments and lack of time to test suggests that organizations still don't have at their disposal all the required means for mobile testing. Most importantly, without a well-defined method, QA teams cannot clearly plan, define objectives, set up test environments or measure the success of their mobile testing effort (see Figure 11).

THE BARRIERS TO SUCCESSFUL MOBILE TESTING HAVE SHIFTED FROM TOOLS TO METHODS

**FIGURE 11**



**Do not have the right testing process/method**
- 2012: 34%
- 2013: 56%

**Do not have the devices readily available**
- 2012: 52%
- 2013: 52%

**No mobile testing experts available**
- 2012: 29%
- 2013: 48%

**Do not have in-house testing environment**
- 2012: 19%
- 2013: 38%

**Do not have the right tools to test**
- 2012: 65%
- 2013: 37%

**Not enough time to test**
- 2012: 18%
- 2013: 33%

Base: 825 Respondents

## OUTSOURCING PRESENTS A CONVENIENT AND COST-EFFECTIVE OPTION FOR MOBILE TESTING

To help offset the lack of internally available resources, expertise, processes and methods, and to gain access to a wide variety of mobile devices and platforms, many organizations turn to business partners for mobile testing. An experienced partner can help develop the mobile testing strategy for the organization through the best practice methodology. Once the most appropriate methods are agreed on, they can guide the QA team to make critical decisions on devices, tools, resources and testing schedules. Ultimately, these strategies will lead to better planning and will help achieve cost objectives.

In the 2013 research, executives were asked again to list the key criteria that they would use when selecting a provider for outsourcing their mobile application testing. Last year, the number one decisive factor was the capacity to test across several networks – cited by almost two-thirds (62%) of organizations. This year, ability to test across a wide range
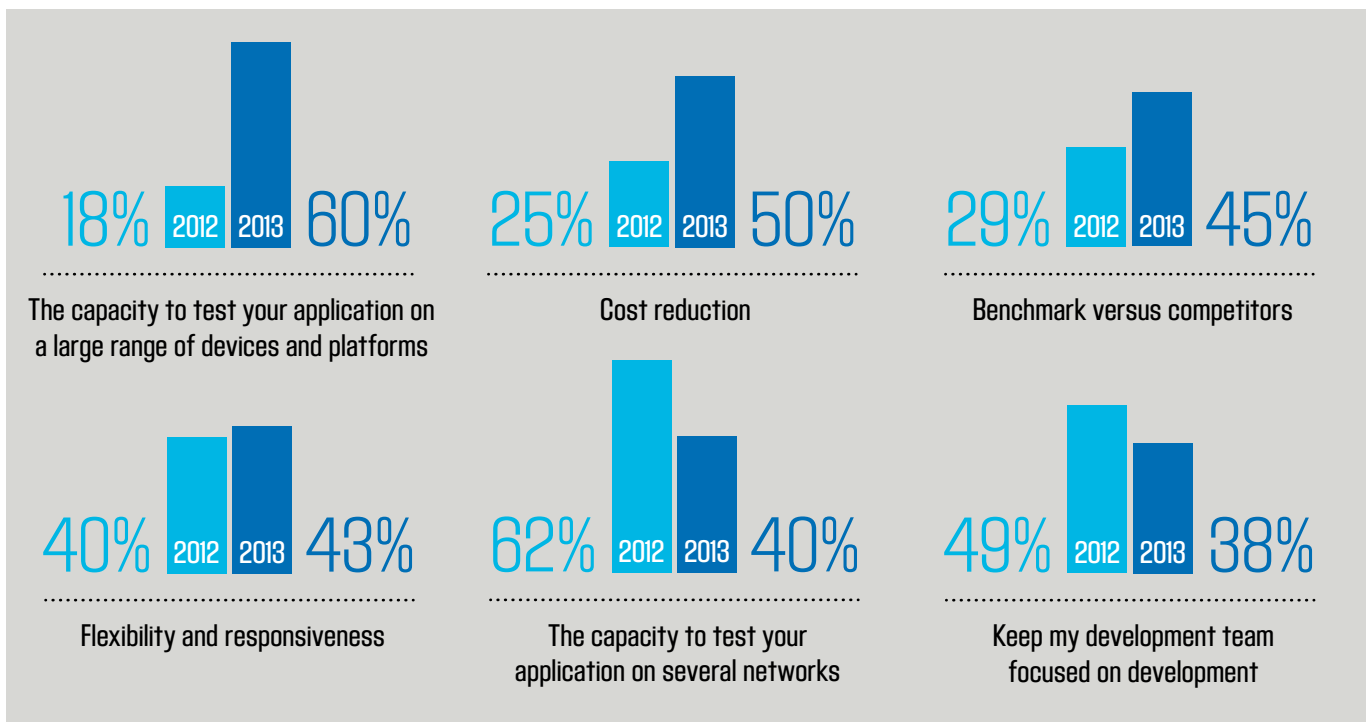
of platforms and devices is rated as the most important capability (60%), reflecting the need to ensure coverage across a broad variety of environments. Next to the platform testing capability, organizations seek partners who can deliver cost reduction. The number of participants citing cost reduction has doubled from just a quarter last year to 50% this year. In most cases, the factors influencing the selection of mobile testing partners are the same as the criteria that drive Cloud and TCOE adoption. A qualified outsourcing partner would be able to build a mobile testing practice aimed at budget control and to align mobile testing with the primary IT and business goals (see Figure 12).

## MOBILE APPLICATION PERFORMANCE AND SECURITY ARE KEY TO SUCCESS

Efficiency and performance remain at the top of the testing teams' priority list, with nearly three out of five executives interviewed (59%) identifying it as their primary areas of focus for testing mobile applications. In addition, this year's

ORGANIZATIONS ARE LOOKING AT OUTSOURCING PARTNERS TO PROVIDE THE CAPACITY TO TEST APPLICATIONS ON A VARIETY OF DEVICES AND PLATFORMS AND REDUCE COSTS

**FIGURE 12**



18% 2012 2013 60%
The capacity to test your application on a large range of devices and platforms

25% 2012 2013 50%
Cost reduction

29% 2012 2013 45%
Benchmark versus competitors

40% 2012 2013 43%
Flexibility and responsiveness

62% 2012 2013 40%
The capacity to test your application on several networks

49% 2012 2013 38%
Keep my development team focused on development

Base: 825 Respondents

survey data shows that testing for security and data integrity has risen sharply compared to 2012. Last year, less than a fifth of organizations testing mobile applications and devices mentioned Security Testing as their mobile testing priority.
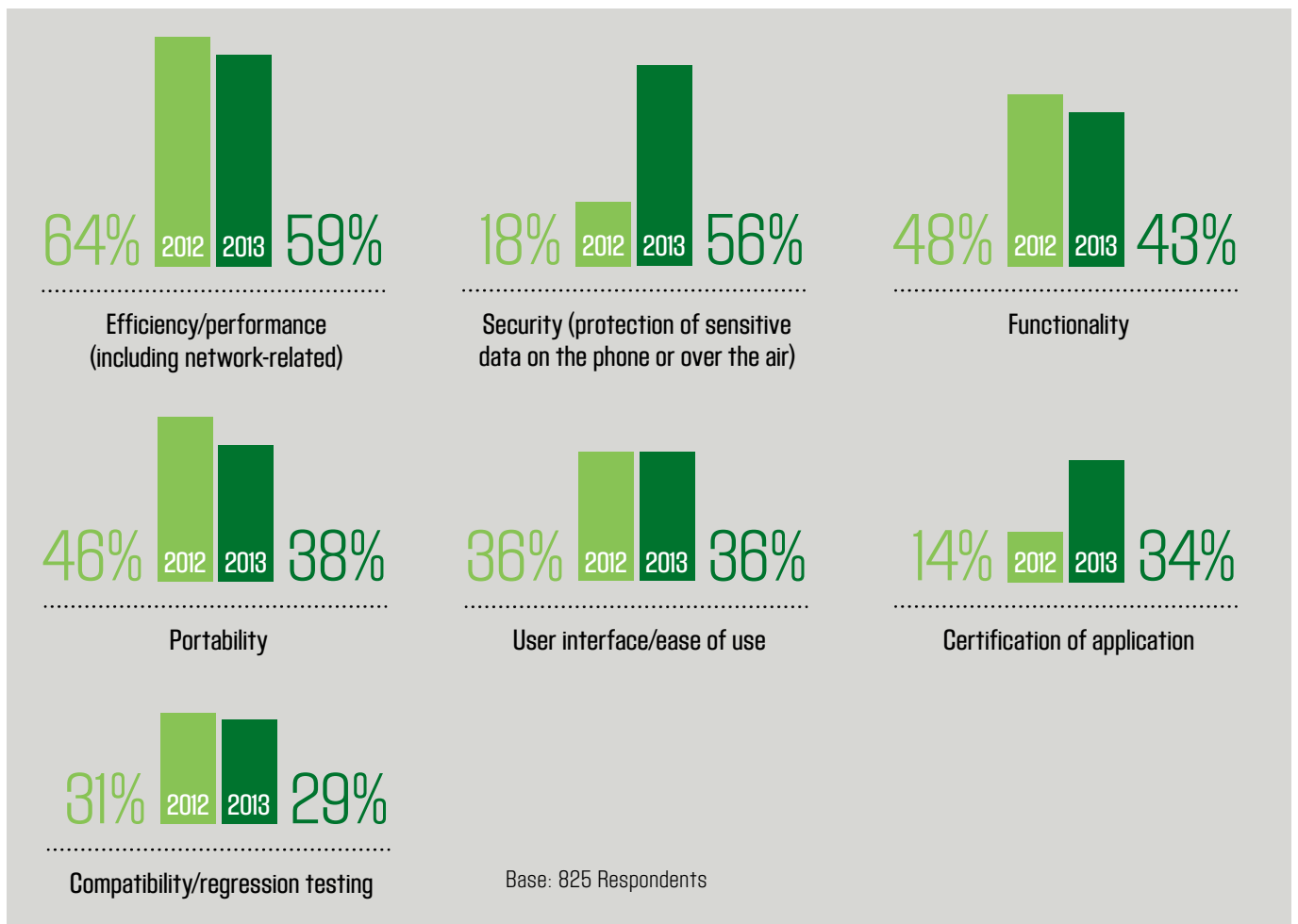
In 2013 however, security has moved up to second place, with 56% of respondents citing its importance in the mobile testing process. As mobile devices evolve beyond communications function and become platforms for business transactions, customers expect their personal information to be safeguarded with the same level of security across all channels – including mobile. Mobile security is expected to occupy the top position among the QA focus areas within the next two years (see Figure 13).

*For us, the number of devices we have makes mobile testing quite challenging. We started out like everyone else with a few applications that ran on mobile devices and getting those to work across different platforms e.g. websites. Now there are many more dimensions to consider and we've had to learn and remain confident that what we deliver works. Testing security on mobile devices is growing and a lot of people are embarking on it for the first time and still learning. Security awareness is also a lot higher these days with growing ID theft and other things that people need to be aware of."*

**A Retail Business, Australia**

ORGANIZATIONS FOCUS THEIR TESTING EFFORTS ON MOBILE APPLICATIONS' PERFORMANCE, SECURITY AND FUNCTIONALITY

**FIGURE 13**



64% 2012 2013 59%
Efficiency/performance
(including network-related)

18% 2012 2013 56%
Security (protection of sensitive
data on the phone or over the air)

48% 2012 2013 43%
Functionality

46% 2012 2013 38%
Portability

36% 2012 2013 36%
User interface/ease of use

14% 2012 2013 34%
Certification of application

31% 2012 2013 29%
Compatibility/regression testing

Base: 825 Respondents

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### ABOUT THE STUDY

The *World Quality Report 2013-14* is based on a total of 1,500 detailed telephone interviews undertaken during April and May 2013, with senior executives in medium and large private companies, government and public sector organizations, across 25 countries.

A full copy of the *World Quality Report 2013-14* can be downloaded at www.worldqualityreport.com