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Global Quality Index Report
2024

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Contents

Executive Summary

In a rapidly evolving digital landscape, the **Global Quality Index Report 2024** uncovers critical insights into how top-performing organisations are balancing priorities including customer experience, time-to-market and high-quality software, while managing costs to stay competitive. As client-facing products and software become more critical, the demand for higher quality is intensifying, driven by the need for speed, reliability, and availability. Delivering high-quality software has become a strategic imperative for businesses, especially as they grapple with increasingly complex, interconnected systems, rising security concerns, the need for resilience, and the challenge of supporting diverse platforms and channels.

This year's report reflects the responses of approximately **150 quality leaders**, shedding light on how automation, AI, and agile methodologies are reshaping the software quality landscape.

Digital Acceleration

- A notable **92% of organisations** surveyed have embarked on digital transformation initiatives, and 53% of them are sufficiently addressing quality in the process.

- **57% of organisations** have integrated testers directly into product teams, reflecting a growing trend towards product-focused development, where quality is embedded at every stage.

The Rise of Intelligent Automation and AI

Automation has an essential role in modern software quality practices, particularly in accelerating delivery and supporting DevOps and CI/CD processes. In addition, it is clear that Artificial intelligence (AI) technologies are becoming integral to the testing and quality lifecycle, poised to significantly enhance efficiency, and accelerate delivery.

- Automation tops the list as the most valuable investment, with **60% of respondents** citing it as delivering the highest return on investment (ROI).

- AI technologies are poised to revolutionise quality practices, with **41% of organisations** already using or planning to implement AI-driven tools in the next two years.

- The demand for AI skills is on the rise, with **30% of respondents** identifying a lack of AI expertise as a barrier to adopting AI in quality.

Quality Challenges and Priorities

Robust quality and testing practices are crucial in positioning organisations for growth and supporting business priorities around new digital initiatives at speed. However, significant challenges related to maintaining quality persist.

- Quality teams continue to face challenges around requirements: **52% report unclear requirements** as a primary obstacle, while **29% struggle with stakeholder expectations**.

- Improving customer experience is the top priority for **61% of respondents, while 96% of respondents** identify a direct impact of software quality on customer relationships, underscoring the critical role quality plays in **customer retention (53%), brand strength (52%)**, and **revenue growth (37%)**.

Budget Pressures and Cost-Saving Strategies

- With **83% of quality teams** currently experiencing budget pressures, many organisations are implementing cost-saving measures. Automation emerges as a key solution, used by **65%** to enhance efficiency and reduce costs. Outsourcing to external quality service providers is also on the rise, with **51% of respondents leveraging it to reduce costs**.

Impact on Skills and Workforce

People working with quality and testing are expected to possess multiple skills beyond the testing function. Constant skill updates are important, especially with the impact of GenAI on testing delivery.

- As organisations strive to keep pace, **58% of respondents** highlighted the need for automation skills in quality teams, while **40%** emphasised the importance of **business domain knowledge**, along with **platform and technology expertise, QE skills, agile and DevOps and security**. In this context, a hybrid skill set is becoming increasingly vital.

In conclusion, the **Global Quality Index Report 2024** highlights the methods, innovations, and tools that are becoming increasingly central to achieving high-quality, cost-effective software. As quality engineering evolves into a strategic imperative, it enables organisations to navigate the dual challenges of rapid digital transformation and rising customer expectations.

The key role of quality in positioning for growth

Quality in digital transformation

Key Findings

Quality plays a pivotal role in the success of digital transformation, which is now actively underway for 92% of survey participants. While some companies are excelling in positioning for growth and meeting the new quality demands this brings, others are struggling to keep pace. The report identifies some common factors among successful digital transformation respondents.

We identified several common success factors among the 53% of organisations that had already embarked on their digital transformation journey and successfully met the new demands for software quality it required:

- Interestingly, 51% of respondents within this group used DevOps and 82% used agile as their software development lifecycle method.

- 57% of respondents integrated testers into product teams, aligning with the strong trend of focusing on product over project, and to prioritise business needs over timelines.

- 60% of respondents in this group saw automation skills as the most important to include in the quality team, followed by business domain knowledge (42%), agile and DevOps capabilities (40%), and QE skills (39%).

- 37% of respondents used service providers to manage quality.

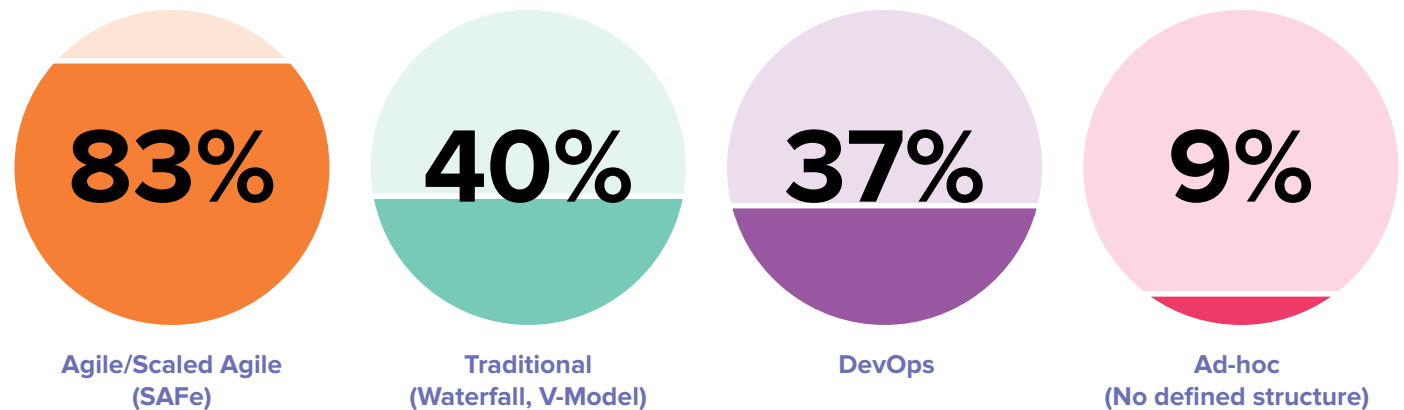|		
92% started the journey to digital transformation	**47%** Challenged to meet the required software quality	**53%** Sufficiently addressing quality
8% Not started the journey	**91%** Not on the journey, but were interested	**9%** No plans for addressing quality

Agile and DevOps are getting infused in organisations

Key Findings

Organisations have been on a journey towards agile and DevOps for many years, but these methods are now are now present in organisations, with 83% using agile as a primary method and 37% using DevOps. Agile and DevOps are key elements in a test strategy that helps accelerate testing to keep up with demands of speed, high quality, reduced cost, and customer satisfaction, all at once, in a fast-paced digital environment.

Today, most organisations use agile methods and DevOps is often prevalent, although still with different levels of success and maturity. Additionally, 40% stated they still use waterfall or V-model as one of their primary methods. Although the question did not have the option of combining waterfall, agile and DevOps, some respondents also indicated that this is what they practiced. The benefits of agile and DevOps methods include better communication and collaboration with the development team, and the ability to be more agile and release faster.

What software development lifecycle methods does your organisation primarily use?

| **83%** | **40%** | **37%** | **9%** |
| Agile/Scaled Agile (SAFe) | Traditional (Waterfall, V-Model) | DevOps | Ad-hoc (No defined structure) |

This shows the % of organisations that selected a particular option as a top-two alternative

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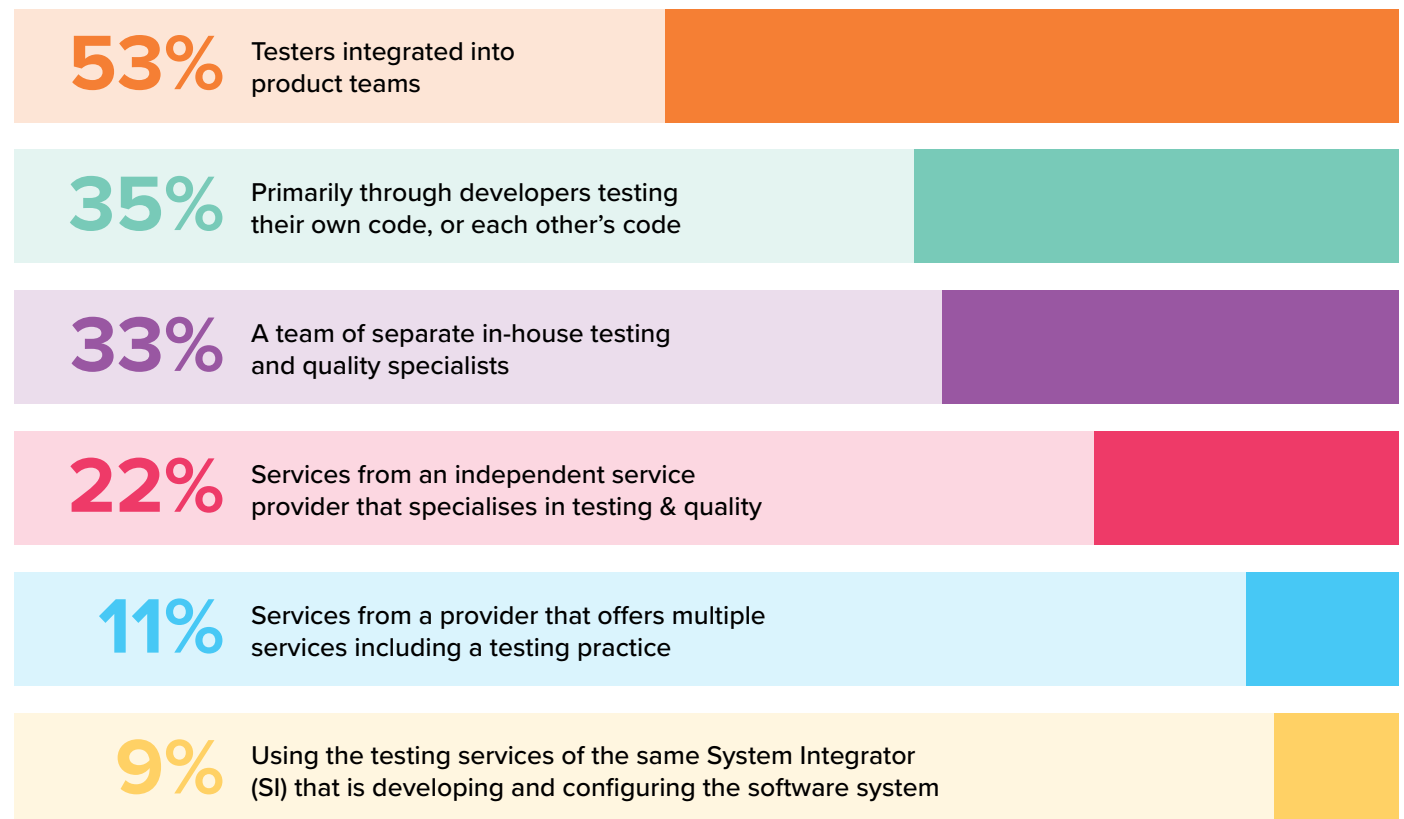# Product-based delivery: The go-to strategy for delivering customer value

Key Findings

53% of survey respondents manage quality by integrating testers into product teams, making it the most identified method for managing quality in the survey. Product-oriented development is a more pragmatic and adaptive approach that prioritises business needs over timelines, with a stronger focus on delivering value to the end user. We expect this approach to grow, driven by agile ways of working, the need for flexibility and speed, customer focus, and digital business transformation.

The trend to move from a project-based to product-based software development is evident in our survey, with 53% of respondents managing their organisational quality through testers integrated into product teams. This approach is more aligned with an agile software development methodology and way of working. Our survey found that within the group of respondents with testers integrated into product teams, 88% primarily use agile methods and 42% utilise DevOps.

We expect this approach to grow, driven by the success of companies like Google and Apple and in pursuit of a culture that embraces flexibility and supports change, which, in turn, will improve customer experience.

How do you currently manage your organisation's need for quality?

53% Testers integrated into product teams

35% Primarily through developers testing their own code, or each other's code

33% A team of separate in-house testing and quality specialists

22% Services from an independent service provider that specialises in testing & quality

11% Services from a provider that offers multiple services including a testing practice

9% Using the testing services of the same System Integrator (SI) that is developing and configuring the software system

The above shows the % of organisations that selected a particular option as a top-two alternative.

The key role of quality in positioning for growth

40%

We found 40% of those using independent quality partners are integrating them into product teams.
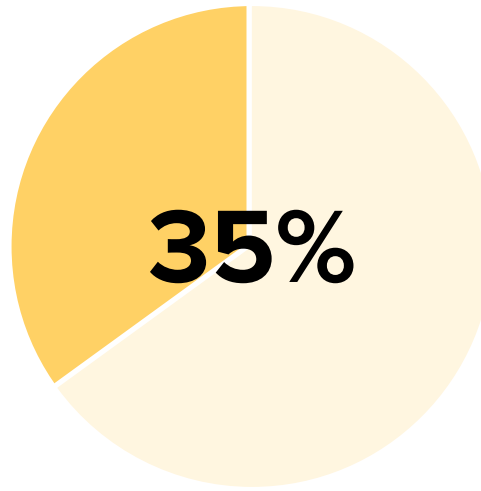
35%

of respondents rely on developers testing their own code.

41%
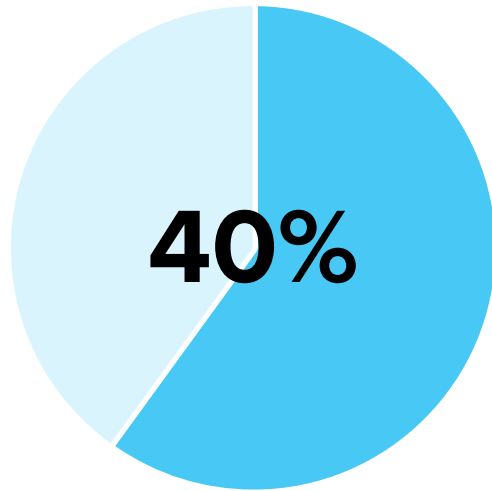
of respondents use service providers to manage their quality needs

We found 40% of those using independent quality partners are integrating them into product teams. More organisations need to take this approach as QE is a critical part of software development and should not operate in a silo, but as a key part of the team towards creating product value.

We found 35% of the respondents rely on developers testing their own code or each other's code as a primary method for ensuring software quality. While developers should be responsible for some level of testing, such as through unit testing, there are problems with solely relying on this method. These include developers overlooking flaws in their own work due to bias or familiarity, the lack of time to conduct sufficient testing, and the fact that testing requires a different skill set than that of a developer. There is value in having dedicated internal quality specialists who work alongside development teams but maintain independent quality reporting lines to a senior quality

leader. This structure ensures that plans, progress, risks and issues in software quality and testing receive the right oversight and support.

The survey shows that respondents use external services in various forms to fulfill quality needs: 22% use independent quality service providers, 11% use providers that offer multiple services including testing and quality, and 9% of respondents use the testing services of the same SI that is designing, developing and configuring the software system. This last approach is often used to simplify the process by working with just one provider on the project. However, it is the most effective if the provider has employees solely focused on quality, with strong quality and testing skills. The risks include potentially reduced test coverage to meet deadlines, which could lead to poorer quality software, delayed delivery, and costly rework.
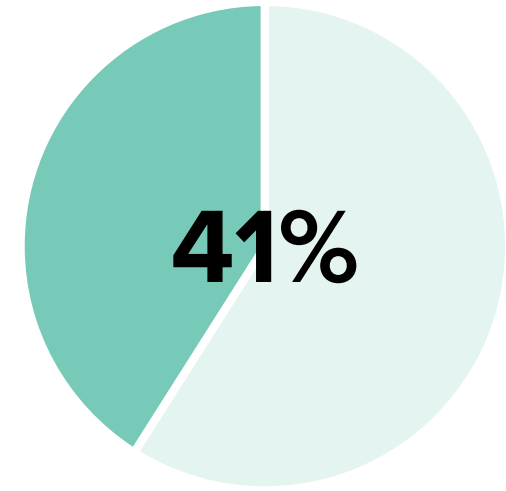
Among those using modern high-cadence delivery approaches, the use of product-oriented testing with multidisciplinary teams working together was even more prevalent: 61% in DevOps and 56% in agile.

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Where should you invest?

Tracking the return on investment (ROI) of quality practices is important to ensure sound investment decisions.

Automation tops the list as 60% of respondents believe it provides the most ROI. Automation requires some upfront investment, and the results are usually most prominent over a longer period, but respondents clearly value it highly. Generally, the benefits of correctly used automation will become apparent in the first year and will continue to increase. When leveraging existing automation frameworks provided by some service providers, the time and effort of the automation process can be significantly reduced.

Selecting the right testing tools is another key factor that can provide ROI, according to 40% of respondents. Selecting the right tooling today is a challenge, as organisations must consider the plethora of tools available in the marketplace.

Key Findings

Automation is the most critical quality practice for driving ROI in organisations, with key benefits including reduced testing effort, faster delivery, and freeing up staff time. This underscores the essential role of automation in modern software quality practices, particularly in accelerating delivery and supporting DevOps and CI/CD processes.

60%

of respondents believe automation provides the best ROI.
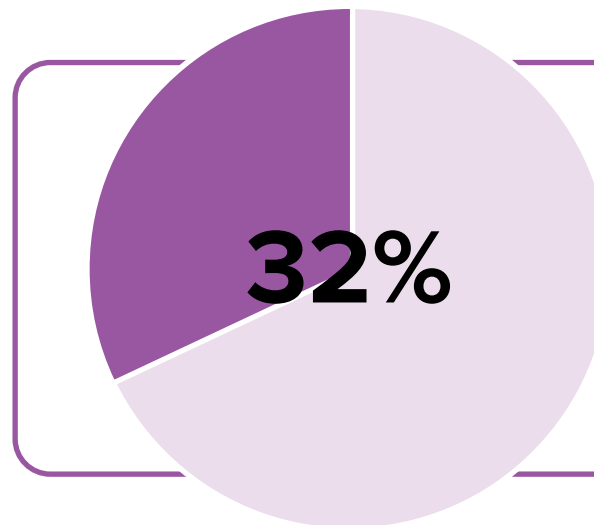
32%

32% of respondents stated that continuous testing as a quality practice is providing more ROI to the organisation. Continuous testing ensures the quality of the product at every stage of development and is an integral part of continuous integration and continuous deployment (CI/CD) process. This approach is important for digital businesses that need faster development and delivery of software, where collaboration between members of the entire software development team is essential.
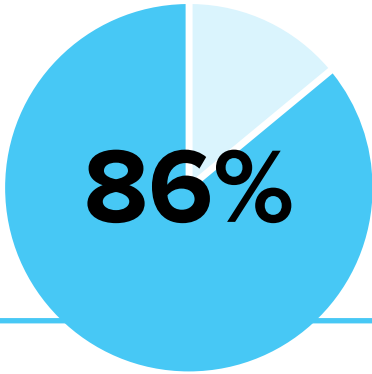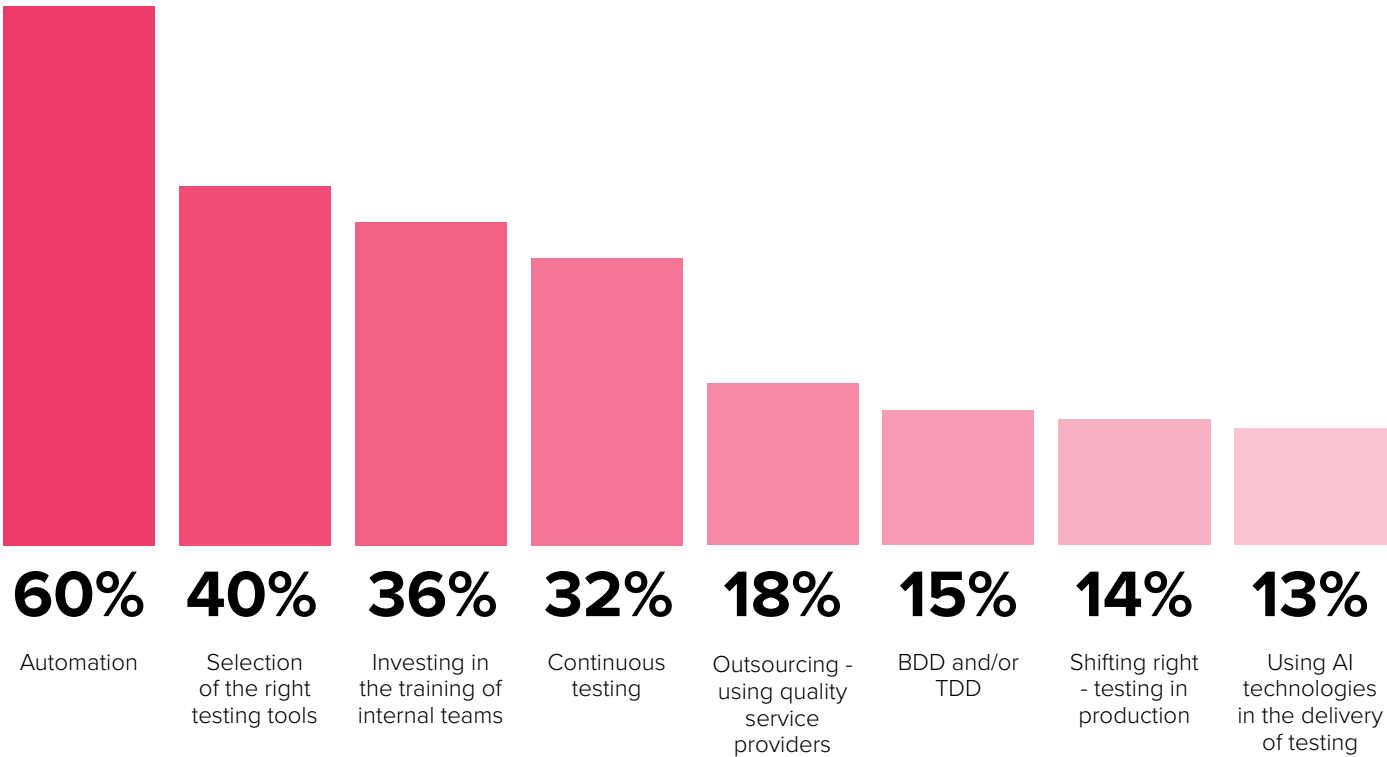
The key role of quality in positioning for growth

Investing in internal training is also leveraged by 36% of respondents, and this can be more cost-effective compared to the high expenses of recruitment and hiring to replace current staff. However, internal training is often a time-consuming process and there may be a delay before results surface.

Additionally, 32% of respondents stated that continuous testing as a quality practice is providing more ROI to the organisation. Continuous testing ensures the quality of the product at every stage of development and is an integral part of continuous integration and continuous deployment (CI/CD) process. This approach is important for digital businesses that need faster development and delivery of software, where collaboration between members of the entire software development team is essential.

What quality practices do you believe have provided the most ROI to your organisation?

This shows the % of organisations that selected a particular option as a top-three alternative.

60%
Automation

40%
Selection of the right testing tools

36%
Investing in the training of internal teams

32%
Continuous testing

18%
Outsourcing - using quality service providers

15%
BDD and/or TDD

14%
Shifting right - testing in production

13%
Using AI technologies in the delivery of testing

86%

It's worth noting that 86% of respondents did not see shifting right and testing in production as a high value item. We found this surprising, given the importance of ensuring high-quality software in production. In today's dynamic, modern digital systems, shifting right offers benefits such as resilience, continuous feedback, and faster issue resolution. Without it, there's a risk of missing critical production-level issues, which can delay response times and negatively impact both user experience and system resilience.

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Skill-sets in demand

Key Findings

Constant updates of skills are important as evidenced by the impact of GenAI on testing delivery, which is starting to revolutionise how testing is conducted and what is expected from testers and quality engineers.

People working with quality and testing are expected to possess multiple skills beyond the testing function. Automation skills are considered important by 58% of respondents but quality practitioners are required to possess a set of hybrid multifaceted skills as well as understanding the business and how it operates. Digital skills are needed as well as an understanding of how to use AI and GenAI technologies, automation, platform and technology expertise, QE skills, agile and DevOps, and security.
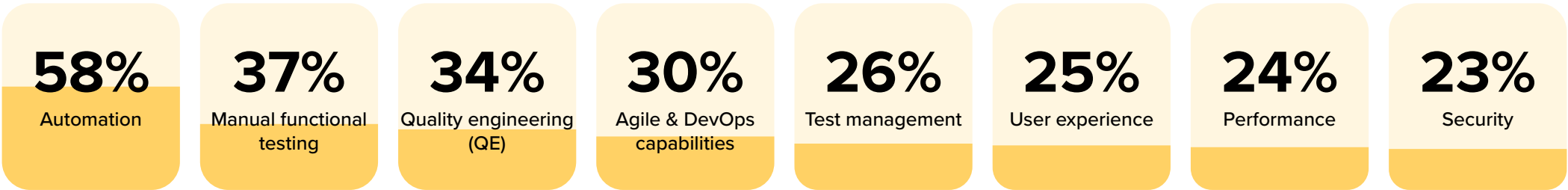
Simply put, the right skills accelerate testing delivery, which in turn speed up time to market and improves the quality of software delivered. Today, demands on the quality team are increasing as digital transformation progresses. Quality and testing professionals are expected to possess a set of hybrid, multifaceted skills beyond the testing function, as well as understanding the business and how it operates.

Multiskilled resources can help organisations meet their expectations when it comes to the quality of applications and systems. Many organisations are investing into transforming and training their quality engineers as it is critical to build and create teams with the expert skills needed to navigate the emerging trends in the industry. There is a need for digital skills, AI and GenAI capabilities, automation, and agile and DevOps methods, as well as the ability to create a testing strategy and plan, and communicate how this will play out and what value it will bring.

Automation was identified as the most important skill to include in the quality team, as mentioned by 58% of respondents. This reflects the high level of automation expected in the delivery of software quality to help accelerate delivery and serve as a necessity in DevOps and CI/CD practices.

Business domain knowledge is important according to 40% of respondents, which clearly shows the link between quality and how well an organisation can conduct its core business. Understanding the broader context of the business is necessary to support it with the right level of quality. Today, the testing and quality team must collaborate and work closely with the business to achieve the best results and ensure business goals are met.

What skills are most important to include in your quality team?

| **58%**	**37%**	**34%**	**30%**	**26%**	**25%**	**24%**	**23%**
Automation	Manual functional testing	Quality engineering (QE)	Agile & DevOps capabilities	Test management	User experience	Performance	Security

This shows the % of organisations that selected a particular option as a top-two alternative.

The key role of quality in positioning for growth

Quality engineering (34%) is highlighted as a key skill within quality teams. QE extends far beyond testing, crafting a quality-optimised lifecycle that embeds quality from the start. As businesses face increasing complexity, rapid changes, and the growing criticality of client-facing software, more are turning to QE to stay ahead and deliver exceptional value.

The range of skills needed is evident in the broad selection of other skills that were identified as important: manual functional testing, performance, security, user experience, social and collaborative skills, and test management. While this is not an exhaustive list, it shows the breadth of skills required to build a strong team.

Automation in demand

58%
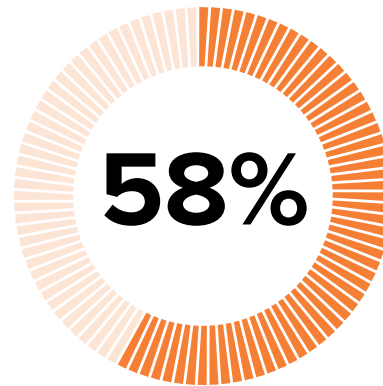
Automation was identified as the most important skill to include in any quality team

Automation was identified as the most important skill to include in the quality team, mentioned by 58% of respondents. This reflects the high level of automation expected in the delivery of software quality to help accelerate delivery and serve as a necessity in DevOps and CI/CD practices.

Remote Teams

17%
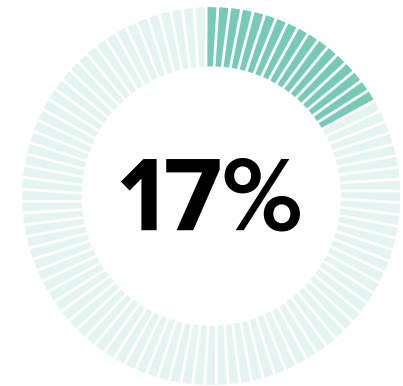
How important are social and collaborative skills within remote teams

The survey shows only 17% of respondents state that social and collaborative skills are important to include in the quality team. Frameworks and methods are critical skills for agile delivery methods, but social and collaborative skills are almost equally important. Teams work on single features or application together in a collaborative manner which means how you work with others can have as much impact on success as technical or professional skills. In QE it is also crucial to work closely with developers, DevOps engineers, and SREs as these roles are all working towards the same goal of creating good quality products. Recently, remote working has been much more prevalent and working together using agile or DevOps delivery methods can be challenging. However, it is not impossible and should be actively prioritised with the right strategies, tools and management.

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The key role of quality in positioning for growth

Experience

Business domain knowledge is also an important skill to have in a quality team today, according to 40% of respondents. This clearly shows the link between quality and how well an organisation can conduct its core business. Understanding the broader context of the business is necessary to support it with the right level of quality. Testing has moved beyond operating in a silo and as an afterthought to software development efforts. Today, the testing and quality team must collaborate and work closely with the business to achieve the best results and ensure business goals are met. The quality team must ensure the right business value is realised by evaluating against requirements, designs, and systems.

Similarly, platform and technology expertise is important as software is becoming more complex and must run on different devices and platforms. 32% of respondents value these skills in the quality team.

40%
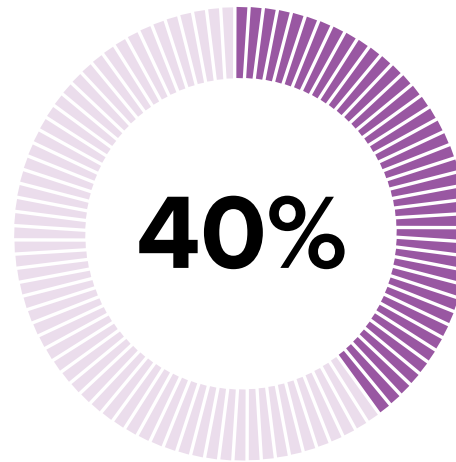
Is business domain knowledge important?

32%
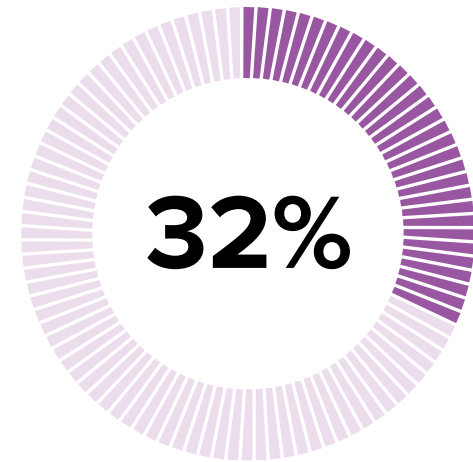
Is platform/technology experience important?

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Evaluating the maturity of quality practices in modern enterprises

Quality goals

Key Findings

Quality must support multiple goals within the organisation, but improving customer experience (CX) was identified as most important, driven by consumerisation, increased digital interactions and more digital touchpoints. Organisations are expected to deliver excellent CX across all customer channels to differentiate themselves in a rapidly growing digital marketplace. Goals of CX and product performance and resilience are set against somewhat conflicting objectives of reducing cost and improving speed to market.

In today's world, the importance of quality in organisations is multifaceted and spans across multiple areas. Software is now a critical part of most organisations, no matter which industry they are in. Neglecting to ensure quality in systems and applications could lead to business failure. To compete, companies need to build strong software engineering capabilities that allow their business to innovate faster and deliver cheaper than their competitors while ensuring they provide high-quality digital experience to their customers.

Improving customer experience is critical as stated by 61% of respondents, but this must be done while reducing cost and at a greater speed. While these challenges are not new, they are intensified by digital acceleration and requires new methods and approaches such as agile, DevOps, intelligent automation, and AI technologies.
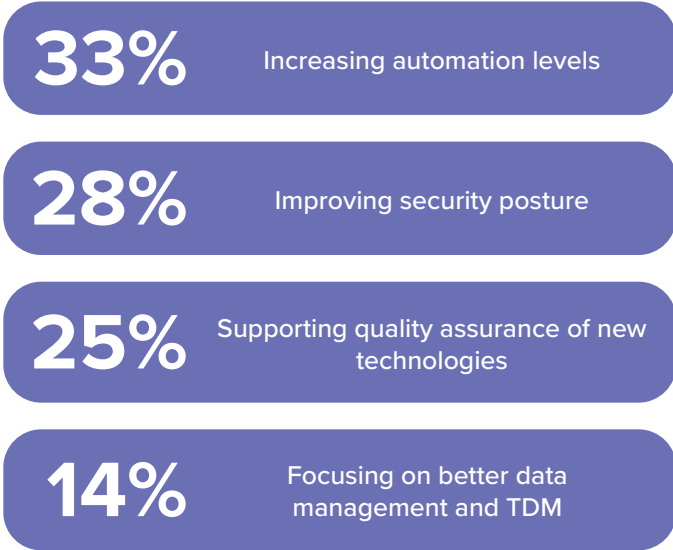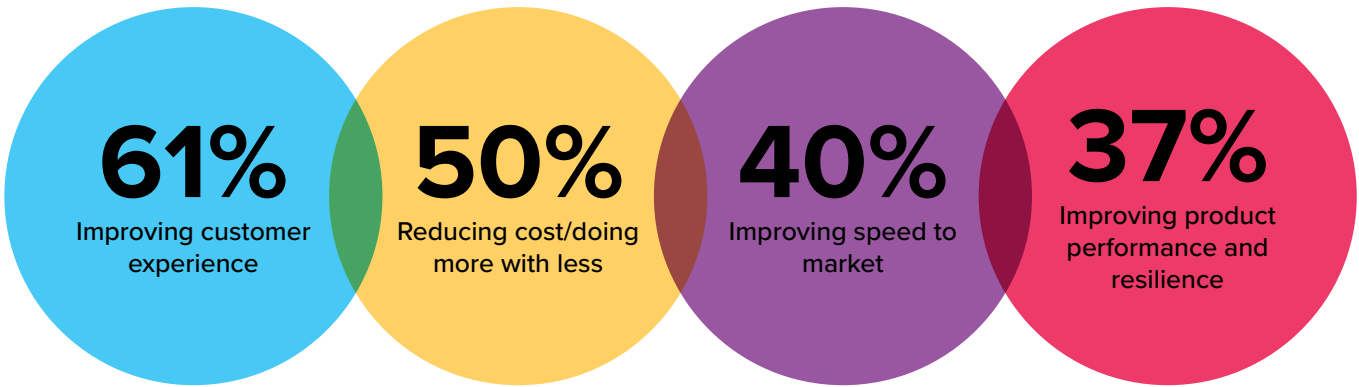
As customers interact more with organisations digitally, the bar has been set high and it is important to ensure that the level of experience they receive is excellent. Customers can include both internal and external stakeholders, but all of them have high expectations from the software they use in today's digital world.

Reducing cost and doing more with less is the second-highest goal of respondents (50%) according to our survey, placing additional pressure on the quality team to reach all its objectives. How organisations proceed to meet this goal will be analysed further in this report.

Improving speed to market has been a key goal for some time and continues to be one of the key goals for the quality organisation, according to 40% of respondents.

Customers must meet quality goals of CX and product quality, performance and resilience while improving speed to market and reducing cost.

In your organisation, what are the key goals quality must meet? (Select up to 3 options)

61%
Improving customer experience

50%
Reducing cost/doing more with less

40%
Improving speed to market

37%
Improving product performance and resilience

33% Increasing automation levels

28% Improving security posture

25% Supporting quality assurance of new technologies

**14%** Focusing on better data management and TDM

# Evaluating the maturity of quality practices in modern enterprises

Focusing on the results from respondents that defined quality as excellent, 60% also listed CX as important, but they prioritised improving speed to market (53%) over reducing cost (40%). However, for 55% of respondents who rated their quality as suboptimal or insufficient, reducing costs was the top priority. The pressure to prioritise cost reduction may strain the quality organisation and hinder its ability to focus on other factors that support to the business.

We are somewhat concerned around the lack of goal setting around better data management and TDM (Test Data Management). This was the least frequently selected goal, with only 14% of respondents choosing it. QA professionals often spend up to one-third of their time dealing with defective test data. Data management is becoming increasingly important, especially with the growth of AI. System complexities, integrations, and the adoption of new digital technologies provide new challenges in managing data quality to enable testing without exposing sensitive data. Synthetic test data is becoming a critical TDM method because of its ability to generate fake data on-demand that can achieve the required speed, scale, and efficiency.

> ❝
> ### Our organisation's key goal for quality was to increase revenue.
> A transport company in New Zealand
> ❞

28%
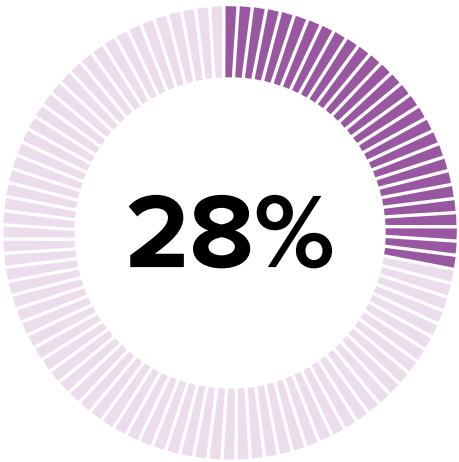
Our survey reported only 28% of respondents listed security as a key goal. Security and cyber security issues are plaguing organisations globally and there is plenty of published evidence of how vulnerable organisations still are. The reasons for attacks range from political, economic or simply "because they can" and can result in severe complications for the organisation such as legal, brand damage, financial or even risks to human life.

14%
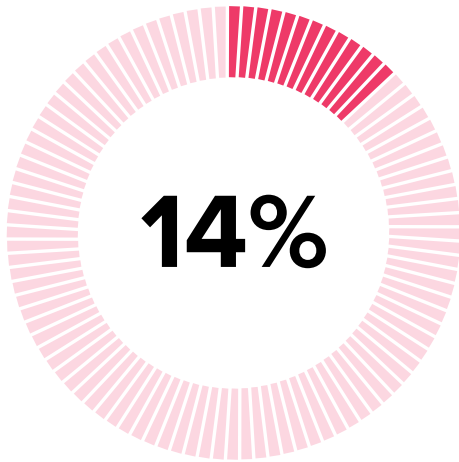
Only 14% in the survey stated data management and TDM to be a key goal, which is concerning given the growing importance of data in making systems more accurate, reliable and efficient in today's digital world.

How do we rate quality?

How would you describe your organisation's current software quality level?

Key Findings

Most respondents stated their software category was good or at least sufficient, although results vary across the spectrum, with 11% claiming excellent software quality and 13% describing it as either not sufficient or suboptimal.

The results of the survey show that majority of organisations describe their current software quality as good (44%) or sufficient (32%) and 11% of respondents described it as excellent. The results varied by size of organisations. In total, 13% of respondents described it as either not sufficient or even suboptimal.

Interestingly, 60% of respondents who rated their quality levels as excellent managed their quality needs by integrating testers into product teams, while 52% of those who rated their quality as good also used this approach.

60% of respondents who rated their quality levels as excellent managed their quality needs by integrating testers into product teams.

11% Excellent

44% Good

32% Sufficient

10% Not sufficient

3% Suboptimal

Poor quality requirements still plague enterprises

Key Findings

Challenges with requirements remain the primary obstacle to achieving quality goals today, as stated by over half of the participants. In addition, 29% also face unclear stakeholder expectations, further complicating delivery of quality software.

The main quality challenges are around requirements that are unclear, undocumented or incorrect, which 52% of respondents stated they grapple with.

In addition to unclear, undocumented or incorrect requirements, the survey reveals 29% of respondents face unclear stakeholder expectations, further complicating software delivery. Organisations have been struggling to solve the issue with unclear requirements for a long time, as evidenced by the Planit Index survey in 2016. That survey identified that poor or changing business requirements were the primary cause of project failure (63%). This indicates there is still some way to go before fully adopting shift-left quality engineering approaches to ensure the right requirements are written, testable, measurable, and evaluated against the business case to ensure business value is realised.

29%
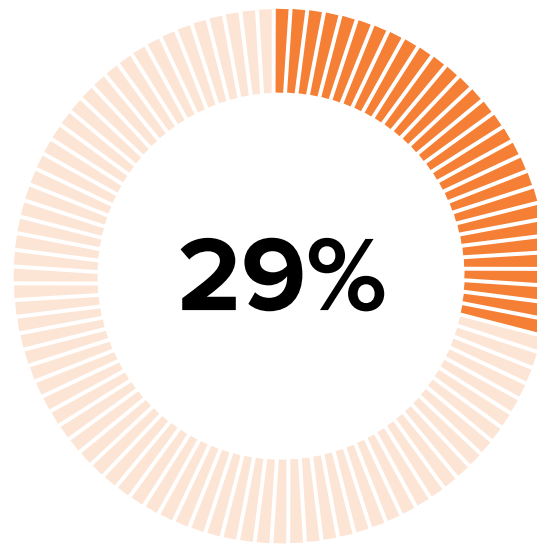
of respondents struggle with unclear stakeholder expectations

52%

of respondents struggle with unclear requirements

Quality engineers can engage upstream in processes such as requirement reviews and analysis to address challenges early, before it's too late in the lifecycle to resolve issues and influence quality.

Interestingly, while 27% of respondents struggle with a lack of skilled quality resources, this is not the most significant issue—requirements and stakeholder expectations pose even greater challenges.

Increasing speed of delivery without sacrificing quality is another challenge that is troubling quality teams, as shown by 50% of our respondents. To compound this problem, 27% of respondents also stated that automation was too difficult to create or maintain.

Evaluating the maturity of quality practices in modern enterprises

What are your organisation's greatest challenges in quality?
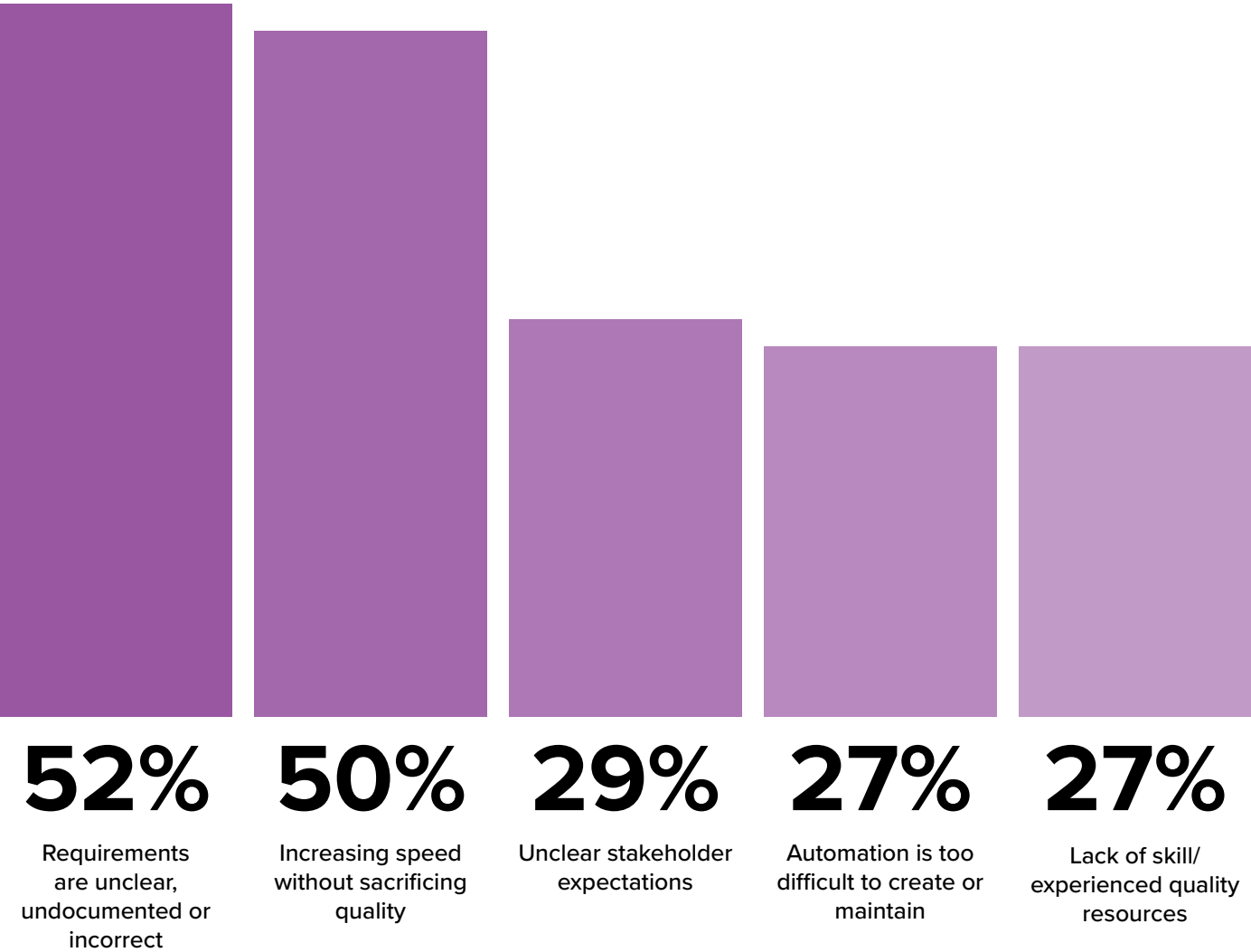
52%
Requirements are unclear, undocumented or incorrect

50%
Increasing speed without sacrificing quality

29%
Unclear stakeholder expectations

27%
Automation is too difficult to create or maintain

27%
Lack of skill/ experienced quality resources

This shows the % of organisations that selected a particular option as a top-three alternative

Uncovering the sources of defects

Key Findings

The survey shows that one-third of defects originate before the code is even written, in the requirements and design phases. This underscores the need to adopt shift-left QE practices to prevent these issues, integrating quality earlier in the process to review and analyse requirements, and preventing problems before they escalate.

Requirements defects is the most common type of defect from the survey (24%). This is often an indication that the testing effort has been brought in after the requirements have been written and this could lead to defects such as untestable, ambiguous or incomplete requirements. An often-quoted statistic is that a defect found in production is 30 times (and up to 100+ times) more expensive to identify and fix, as compared to a defect found in the requirements phase. The goal of QE is to find defects much earlier in the lifecycle, so that the overall cost of quality and delivery is far less. The survey shows that over one-third of defects originate before the code is even written, mostly in the requirements and design phases, which further illustrate the need to shift-left and bring quality in earlier to avoid these types of issues.

Coding defects is another significant category of defects in the survey (22%) and although primarily the responsibility of developers, can be missed and travel down the lifecycle.

Interestingly, security and data defects are defects that are least frequently identified. We found that only 3% of respondents identified security defects as a major concern, while 4% identified data defects. These can all represent potential critical software failures should they be undetected. In the best-case scenario, the low responses suggest that most survey participants did not frequently encounter such defects. However, in the worst-case scenario, it could indicate that these defects are simply going unnoticed.

Security and data defects are least often identified. The potential risk is that these defects remain largely undetected.

Evaluating the maturity of quality practices in modern enterprises

What are the main type of defects in your software products?

24%
Requirements

22%
Coding
defects

12%
Environmental
defects

11%
Configuration
defects

10%
Design
defects

9%
Non-functional
issues

5%
Other

4%
Data
defects

3%
Security
defects
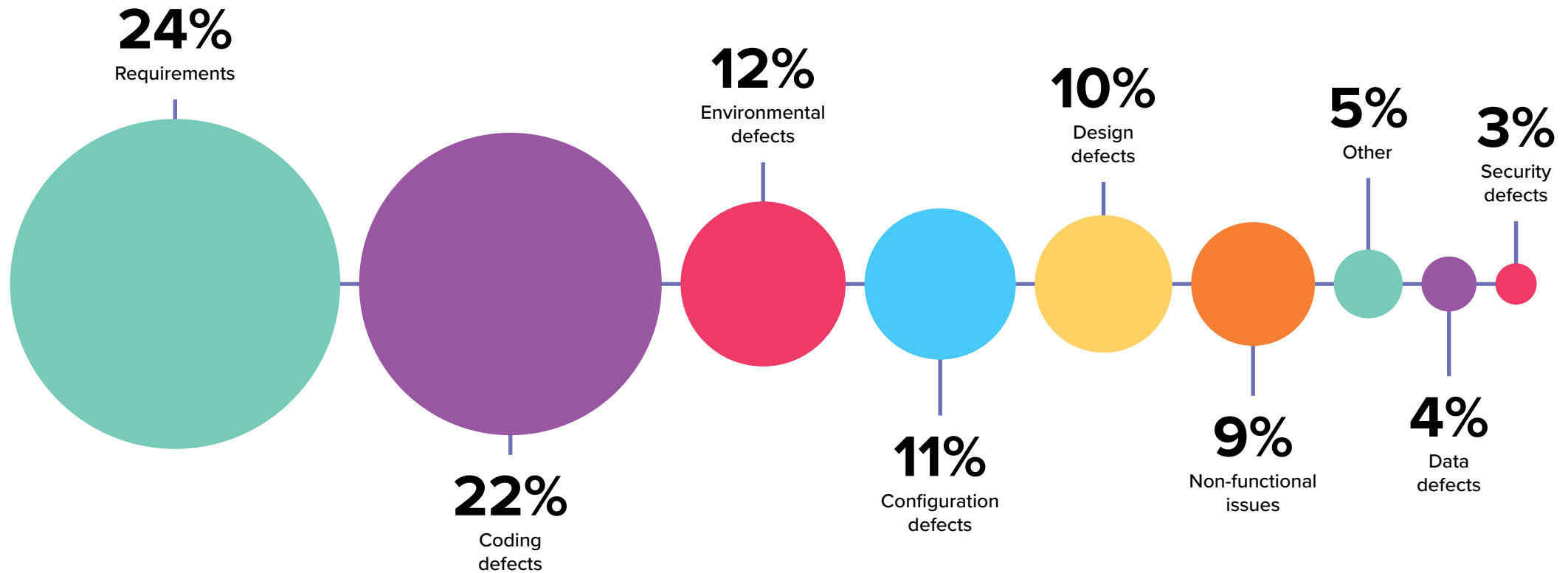
> Culture - is the root cause of all of the above defect types
>
> A retail company in the UK

Ensuring software quality under budget pressures
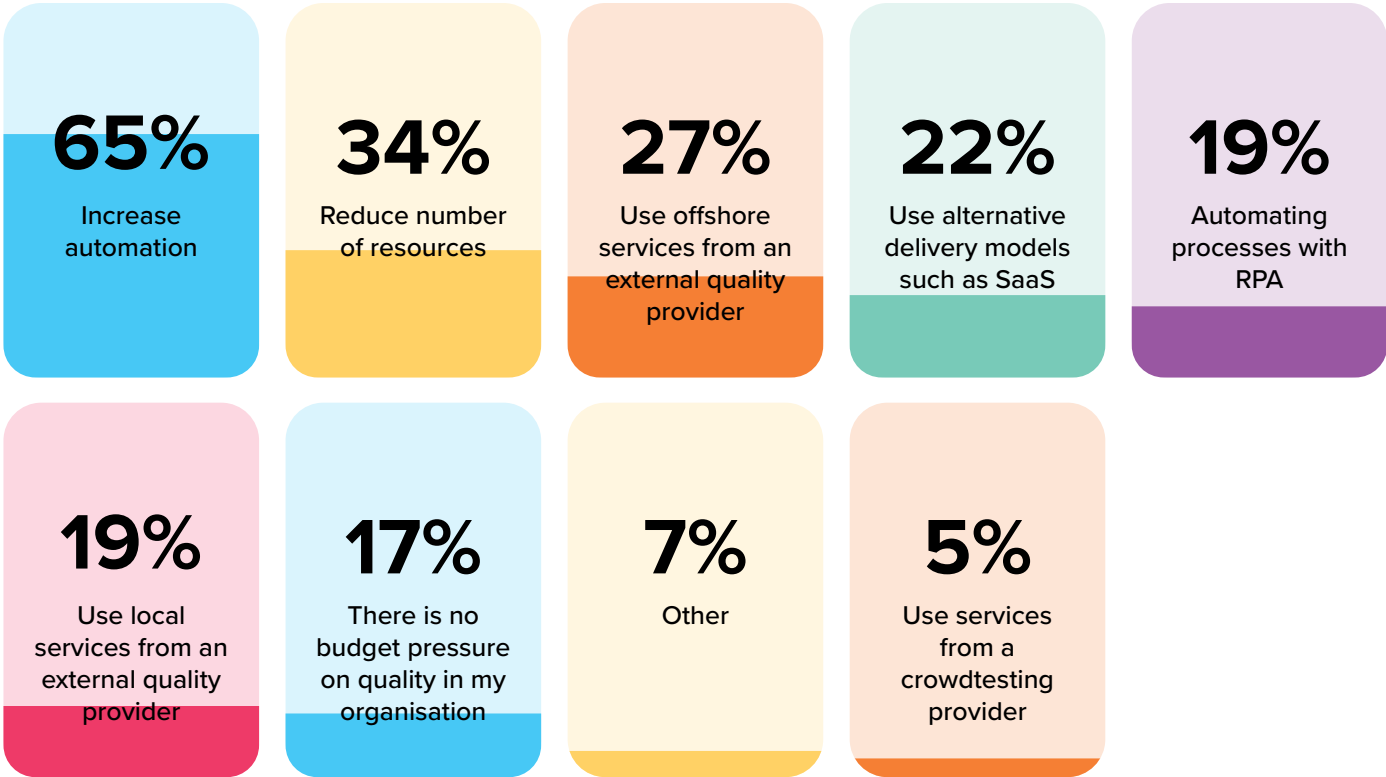
Key Findings

Quality teams are grappling with budget cuts in an uncertain global economy, yet they are still expected to achieve more with less. This has created a demand for effective practices to meet business objectives. Automation is the most utilised lever used by 65%, while other strategies for budget reduction involve reducing resources and using quality and testing service providers.

Whilst budget is always a factor when quality decisions are made, recent economic pressures have emphasised this even further. The global economy is expected to remain uncertain throughout 2024 with tough financial conditions and growing political tensions, resulting in a volatile market. Many organisations continue to struggle, with declines in sales and profits, and budget cuts occurring across businesses, including in software testing and quality.

Quality teams are being asked to do more with less and to maintain quality levels, but with reduced budgets. The value of each dollar spent becomes more important in tough economic climates. Still, the expectations for the quality team continue to rise, even when operating with often lower budgets. This makes tracking the return on investment (ROI) of quality practices more critical than ever.

Which of the following practices do you primarily look to implement when dealing with budget pressures on software quality?

65% Increase automation	**34%** Reduce number of resources	**27%** Use offshore services from an external quality provider	**22%** Use alternative delivery models such as SaaS	**19%** Automating processes with RPA
19% Use local services from an external quality provider	**17%** There is no budget pressure on quality in my organisation	**7%** Other	**5%** Use services from a crowdtesting provider	

This shows the % of organisations that selected a particular option as a top-three alternative

Evaluating the maturity of quality practices in modern enterprises

Our survey found 83% of respondents experience budget pressure in their organisations and therefore want to implement multiple practices to ensure software quality is still maintained.

Increasing automation is the most widely adopted strategy for reducing costs, with 65% of respondents utilising it, which is almost twice as many as the second initiative. The second most common initiative, employed by 34% of respondents, is reducing the number of resources to cut costs.

More than half (51%) of respondents turn to quality and testing service providers to reduce costs.

Among these, 27% opt for offshore services, 19% choose local services, and 5% utilise crowdtesting services. Service providers can help to reduce costs through more efficient and skilled specialists, global delivery models and by bringing in assets and accelerators to improve processes and speed up time to delivery.

While all the chosen practices can be effective options for reducing costs, the results can vary significantly unless there is a strong plan in place. This plan should clearly outline how quality levels and business outcomes will be impacted and within what timeframe these changes are expected. For instance, increasing automation can be very effective, but it is important to prioritise automating the right things and then automate those correctly, or the expected ROI could be lacking.

Resources is a major cost item so reducing headcount will also reduce cost. However, making crucial members of the team redundant might address immediate cost-saving needs but could lead to significant quality issues down the line. These issues may ultimately be costly to remedy, potentially outweighing the initial savings.

It is also worth noting that 17% of respondents are not experiencing any budget pressures on quality in their organisation, which is a very good position to be in.

65%

of respondents turn to automation to save costs

Achieving the ultimate quality goal: exceptional customer experience

How does optimal software quality impact the relationship with your customers?

53% Improves customer retention

52% Strengthens our company brand

48% Builds stronger customer relationships

37% Impacts company revenue growth

29% Increases speed to market

22% Improves our ability to win new customers

17% Improves our ability to differentiate/cut through the noise to market

4% We do not see the direct impact of software quality on our customers

This shows the % of organisations that selected a particular option as a top-three alternative

Software quality impacts customer relationships

Key Findings

96% of survey participants stated identifying a direct impact of software quality on customer relationships, with the most value generated from improving customer retention, strengthening the company brand, and building stronger customer relationships.

Partly sparked by the pandemic, there has been a transformation in how businesses interact with their customers. Huge investments have been made by companies into digital businesses and being able to deliver an excellent customer experience across all their customer channels. It is critical to be able to differentiate and provide the best CX that leaves competitors behind. The bar for great customer experience is set very high in today's world of increasing reliance on digital channels and consumerisation. Organisations are pressured to provide high levels of software quality to meet customer demands for excellence and to remain competitive.

Almost all (96%) of respondents identified a direct impact between strong software quality and the relationship between their customers. The strategic business and marketing objectives of customer retention, brand protection, building strong customer relationships and winning new customers, are all impacted and supported by optimal software quality. The results of the survey show that the three areas identified by respondents as primarily benefitting from optimal software quality include the improvement of customer retention (53%), strengthening company brand (52%), and building stronger customer relationships (48%). This underscores the importance of a robust quality practice in ensuring customer satisfaction, which has a direct and significant impact on overall business success.

In fact, around 37% of survey respondents see a direct impact of company revenue growth through optimal software quality.

In addition, the relationship with customers through excellent software quality also increases speed to market, as seen by 29% of respondents. We also discovered 22% of respondents found it improves the ability to win new customers.

How to create a great customer experience

Key Findings

A combination of multiple quality and testing methods is important to ensure great CX. The most utilised methods by the respondents were user interface testing (UI) (63%), usability testing (55%), accessibility testing (35%) of respondents, and making quality everyone's responsibility (42%).

Whilst testing is, and will remain, crucially important for producing excellent quality software products, the remit of what testers can do to ensure quality has progressed and expanded. A key part of QE is evaluating quality early, frequently, and against customer needs and experience. This remains critically important along the various methods that can be used to ensure excellent CX.

What methods do you currently use to ensure great customer experience (CX)?

63% User Interface testing (UI)

55% Usability testing

42% Making quality everyone's responsibility

35% Accessibility testing

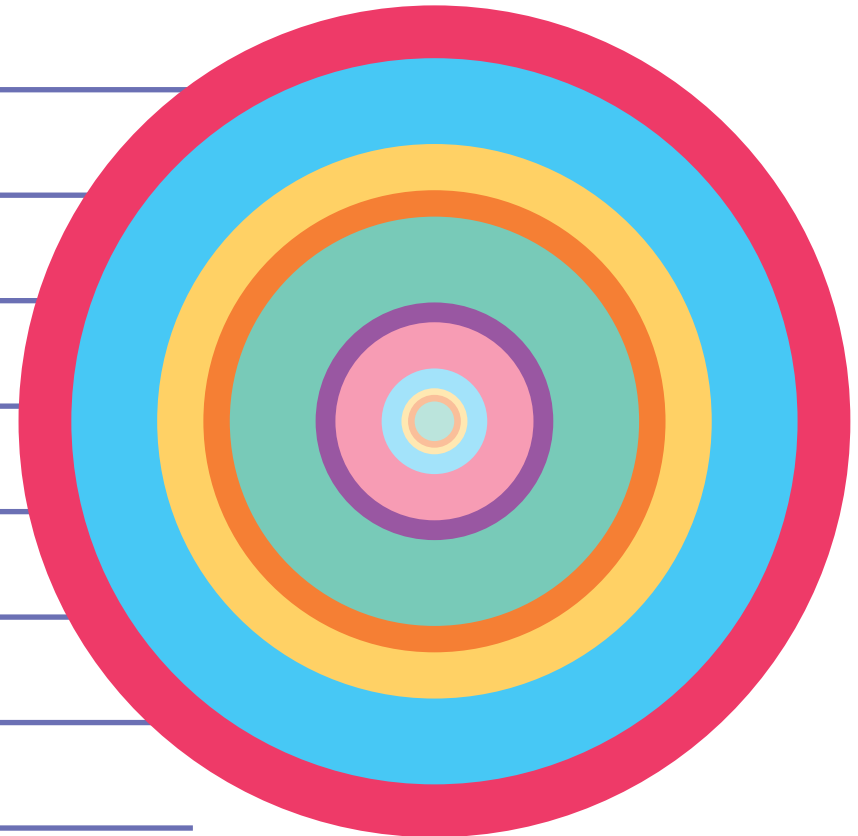**31%** Compatibility testing

18% A/B testing

15% Real user monitoring (RUM)

8% None of the above, we do not test for CX

5% Crowdtesting

4% Other

3% Chaos Engineering

The graph opposite shows the % of organisations that selected a particular option with no limit on number of options

Achieving the ultimate quality goal: exceptional customer experience

The survey results reveal a variety of methods employed to ensure excellent customer experience (CX), with respondents identifying all applicable approaches. The most common method is user interface (UI) testing, cited by 63% of respondents. UI testing plays a crucial role in the software testing cycle by validating that applications have the necessary functionalities and are user-friendly. However, UI testing is only effective if the correct tests are selected and conducted properly. Without running scenarios that truly matter to customers, and ensuring proper customer representation, you risk failing to meet your CX objectives.

Another widely used method is usability testing, employed by 55% of respondents. This approach involves real users testing the application to evaluate and provide feedback on the overall user experience, ensuring that the product meets their needs and expectations.

Accessibility testing is important to ensure applications are accessible to people with disabilities or special needs. This is also necessary to be compliant with legal requirements since websites and apps must be accessible to people with disabilities globally. Accessibility testing was used by 35% of respondents.

This is an effective method and fosters a cultural shift towards making quality part of each employee's objectives. In today's digital and modern business environment, it's no longer sufficient to delegate the responsibility of quality solely to a testing team at the end of the software development lifecycle. Doing this will not provide the results and outcomes needed. In the current climate, quality can be defined as anything and everything that makes an end user want to keep using your digital offering. This can include everything from user interface (UI), UX, security, customer support, availability, and

performance. A whole team approach to quality is needed, with input and quality improvement every step of the way. In a continuous quality environment, where the whole team is responsible for quality and where testers are leveraged as quality mentors, this will help your team build the necessary skills to deliver high-quality CX outcomes.

8% of respondents reported not testing for customer experience (CX), citing reasons such as it not being a priority, lack of budget, insufficient team capacity, and it not being seen as critical. This is concerning, given the majority of organisations in the survey stated their most important goal is to improve customer experience through quality practices.

42%
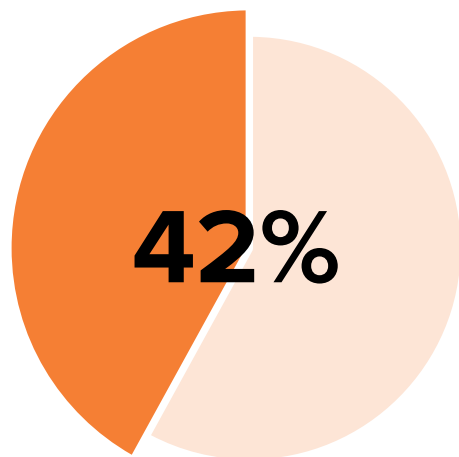
Making quality everyone's responsibility was an approach used by 42% of respondents. Placing the entire responsibility for quality on a single team is no longer viable to achieve high-quality CX outcomes

Chaos Engineering

3%
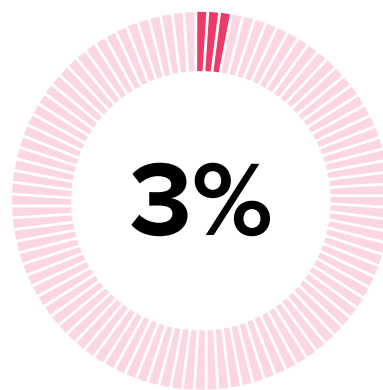
Chaos engineering was only used by a fairly small number of survey respondents (3%) for the purpose of ensuring CX. However, we expect this number to grow.

Chaos engineering uses experimental and potentially destructive failure testing or fault injection to uncover vulnerabilities and weaknesses within a system. As reliability and resilience grow in importance, we are seeing a rise in Site Reliability Engineering (SRE) methods, which often include chaos engineering to ensure that various levels of impact do not lead to failure. Increased complexity of systems and increasing customer expectations drive the future uptake of chaos engineering.

The critical role of automation in delivering high-quality software efficiently and reliably

Infusing the value of automation

Key Findings

Automation is considered the most critical quality practice deemed important for driving ROI in organisations. The key benefits reported from automation include reduced testing effort, faster delivery, and freeing up staff time. This underscores the essential role of automation in modern software quality practices, particularly in accelerating delivery and supporting DevOps and CI/CD processes.

What value are you getting from automation?

53% Reducing testing effort	**45%** It has freed up staff from monotonous and time-consuming tasks
35% Increased speed of delivery	**27%** Reduced production defects and better quality
26% Accelerated feedback loops improve collaboration	**22%** Reduced cost of testing
14% Receiving no or limited value	**10%** Highly dependent on automation and difficulty to release without it

This shows the % of organisations that selected a particular option as a top-three alternative

Amidst the complexity of increasingly digital environments, automated testing has become essential to manage the growing workload effectively. Automated tests can run faster, enabling quicker feedback and iteration. This speed is crucial in agile environments and even more so in DevOps, where continuous integration and continuous delivery (CI/CD) are practiced.

Test automation is also increasingly powered and enhanced by AI/ML technologies and is an indispensable building block in modern testing. Without automation, testing is often sacrificed as it cannot keep up with development and quickly becomes a bottleneck.

Most types of testing can be automated but that does not mean it should always be done. It is important to understand where and how automation will be useful and provide sufficient value and ROI.

The survey revealed 86% of respondents received value from automation.

The biggest benefit was reducing testing efforts, as identified by 53% of respondents. When automated testing is deployed correctly, it reduces the need for extensive manual testing, saving both time and resources. The survey supports this, as 45% of respondents identified the second most important benefit of their test automation initiatives as "freeing up staff from monotonous and time-consuming tasks".

22% of respondents saw value from reduced testing costs with automation, though this is not as high as other value benefits. The likely reason, as discussed earlier in the report, is that automation requires upfront investment, with results generally becoming more visible over time. Service providers often bring in existing automation frameworks that will enable time and cost savings sooner.

Additionally, 14% of respondents stated they received no or limited value from automation. The reasons for this included having little to no automation in place, just having implemented automation with value not yet assessed, a lack of automation skills, and that automation was considered too expensive.

How much is automated?

Automation goals will vary based on the type of application and different types of work, such as new custom development versus packaged software implementations or maintenance work, which require a different balance of activities. It's always best to focus efforts on the highest-value tests to establish ROI.

The survey explored how much testing is automated across different areas. The most test automation was applied in API testing (59%) and unit testing (56%), which is in line with best practices to organise and prioritise test automation efforts based on where they provide the most value. In fact, unit testing is generally where it is most effective to automate, followed by API testing.

Interestingly, respondents also revealed fairly high levels of automation for end-to-end (E2E) testing/integration testing, compatibility testing, and system testing. While it is possible to automate these areas, the priority is slightly lower as the effort is higher compared to the results. On average, respondents reported automating 48% of end-to-end testing or system integration testing (SIT), 51% of compatibility testing, and 48% of system testing.

In conclusion, the total automation levels across all areas are already at a reasonably high level of 53% on average. However, these levels are expected to move upwards to meet demands for speed and cost reduction whilst maintaining quality.

Key Findings

The surveyed areas of API testing, unit testing, system testing, E2E testing, accessibility testing, security, and compatibility testing are already being automated to a high level, averaging 53%. This level of automation is expected to increase to meet demands for speed and cost reduction while maintaining quality.

How much of testing in the following areas is automated?

59%	**56%**	**51%**	**48%**	**48%**	**41%**	**39%**
API testing	Unit testing	Compatibility testing	System testing	E2E/System integration testing (SIT)	Security (Penetration testing)	Accessibility testing

53%

Total automation levels (average)
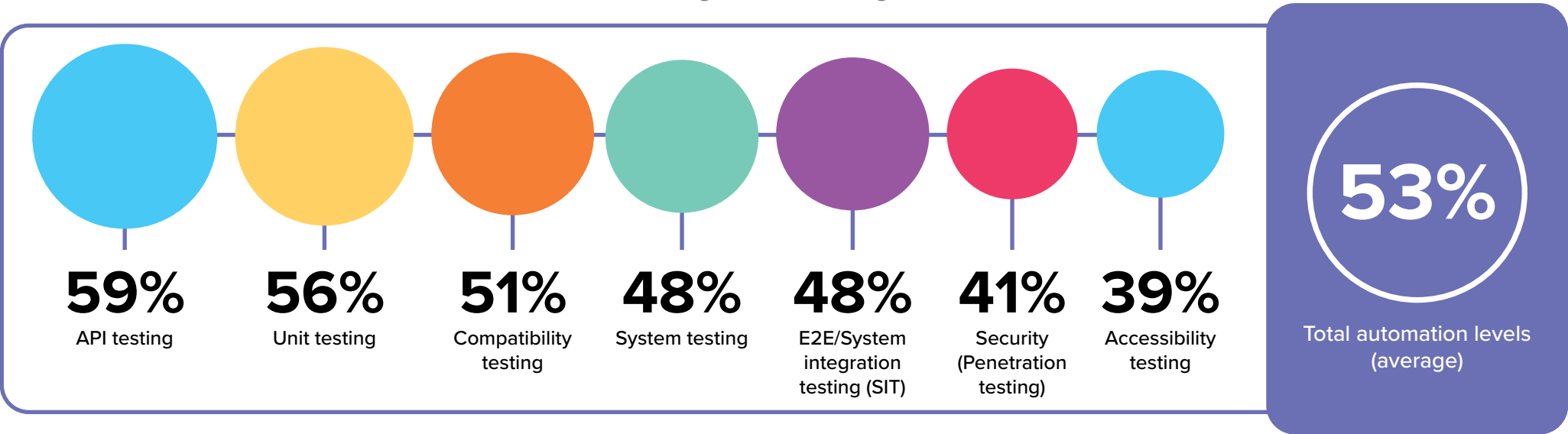
How AI is set to revolutionise quality and testing practices

The impact of AI on quality

Business leaders are looking towards AI as one of the key technologies that will significantly impact their industries. This is also true for testing and quality, and although the usage of AI technologies in this field is currently still immature in the great scheme of things, it is a powerful technology that can, and is likely to, disrupt how most development and testing and quality activities are conducted moving forward. Demand for these technologies is growing as organisations learn more about the possibilities of AI-augmented testing, including potential benefits across various use cases. The most utilised use cases by organisations today are highlighted in the survey results below. AI is expected to become an important part of quality activities, though it does require the right expertise and experience to get optimal results. A considerate analysis process prior to the implementation of AI use cases will be required to correctly prioritise and evaluate value and ROI. The AI testing tools market is very dynamic, with multiple participants that are either existing players, new on the market, or from adjacent markets. This creates opportunities, but also more challenges when it comes to choosing the right tool. Customers must balance the need for autonomous, machine-driven testing with concerns around security, data privacy, quality of data & cost.

Many organisations have begun utilising AI technologies in testing delivery, though these are unlikely to completely replace people focused on quality and testing throughout the application lifecycle. However, those using AI-augmented testing are likely to outperform, and potentially replace, those not leveraging AI-augmented testing tools.

As quoted by a survey respondent from a market research company in the UK "AI is used to assist rather than replace".

The process of quality engineering will become more autonomous and less human-dependent. This is likely to increase as organisations accelerate their digital business transformation and AI continues to infuse all aspects of IT.
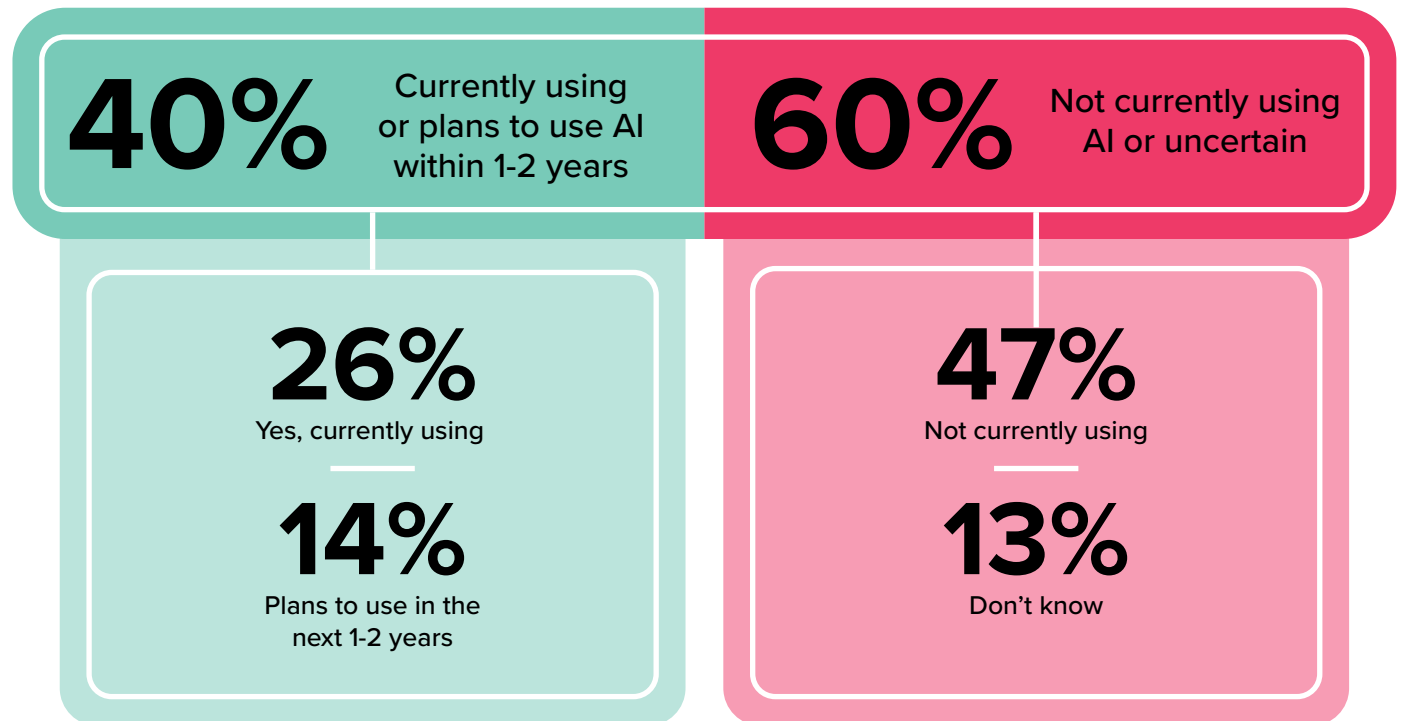
AI adoption in quality

Key Findings

AI technologies are set to have a massive impact on software development, including testing and quality and are starting to revolutionise how quality and testing is performed. We found that 40% of respondents already use or plan to use AI in the next couple of years.

We found a fairly even split between respondents that either currently use, or plan to use tools leveraging AI technologies in the next 1-2 years to assist with testing and quality (41%) and those that do not (46%). With the fast-paced usage of AI across all aspects of businesses and software engineering, the rate of organisations that are planning to utilise AI for testing and quality delivery is likely to grow, especially as AI technologies are also on the rise around the world and are generally becoming more accepted.

The survey also showed that 13% of respondents do not know whether AI tools are used, or whether there are plans for these to be used in their organisation.

Given AI's strong potential to transform and improve testing and quality activities, it is important for organisations to develop a clear strategy on when and how to adopt these technologies and communicate this internally.

Do you currently use tools leveraging AI/ML/GenAI (such as ChatGPT) to assist with testing and quality?

40% Currently using or plans to use AI within 1-2 years

60% Not currently using AI or uncertain

26%
Yes, currently using

14%
Plans to use in the next 1-2 years

47%
Not currently using

13%
Don't know

Where are you using AI for quality?

Key Findings

GenAI is often used to support quality resources in their work, and 41% of participants state they already do this. It is fair to say GenAI is revolutionising how we interact with software and is also starting to revolutionise quality and testing.

Using GenAI to support quality resources in their work was used by 41% of respondents. Although the potential of large language models such as ChatGPT has only been widely known for around two years, these models are now quickly getting included across multiple products and services. It is fair to say GenAI is revolutionising how we interact with software and is also starting to revolutionise quality and testing. Users do not need to learn to code but can use human language to create code, test scenarios, and test cases as well as test automation scripts.

The most common use case for AI in testing delivery is using it to generate initial test scenarios or test data, which was practiced by almost half (46%) of survey respondents.
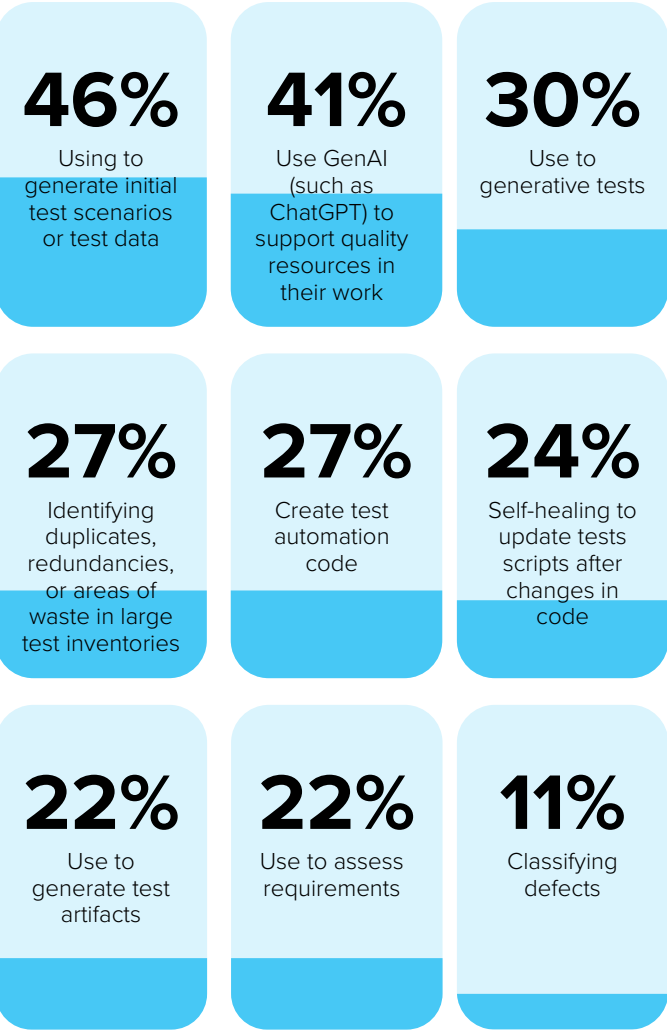
AI technologies are also used across multiple other areas to generate test scripts and scenarios and test data, optimise testing and create self-healing automated tests.

This approach can effectively generate high-level test scenarios, which can then be used to create test cases if needed (an approach utilised by 30% of respondents), as well as generate synthetic data for testing purposes.

Other use cases that can assist with testing and quality included using it to identify duplicates, redundancies, or areas of waste in large test inventories (27%), create test automation code (27%), as self-healing to update test scripts after changes in code (24%), assess requirements (22%) and generate test artifacts (22%).

11% of respondents also used it to classify defects. Defect classification represents a reasonably high value as it can help identify defects early and improve accuracy in future defect classification of specific defect sets into categories.

How are you using AI/ML/GenAI to assist with testing and quality?

46% Using to generate initial test scenarios or test data

41% Use GenAI (such as ChatGPT) to support quality resources in their work

30% Use to generative tests

27% Identifying duplicates, redundancies, or areas of waste in large test inventories

27% Create test automation code

24% Self-healing to update tests scripts after changes in code

22% Use to generate test artifacts

22% Use to assess requirements

11% Classifying defects

This shows the % of organisations that selected a particular option with no limit on number of options.

How AI is set to revolutionise quality and testing practices

What benefits have you gained from using AI/ML/GenAI in testing and quality?
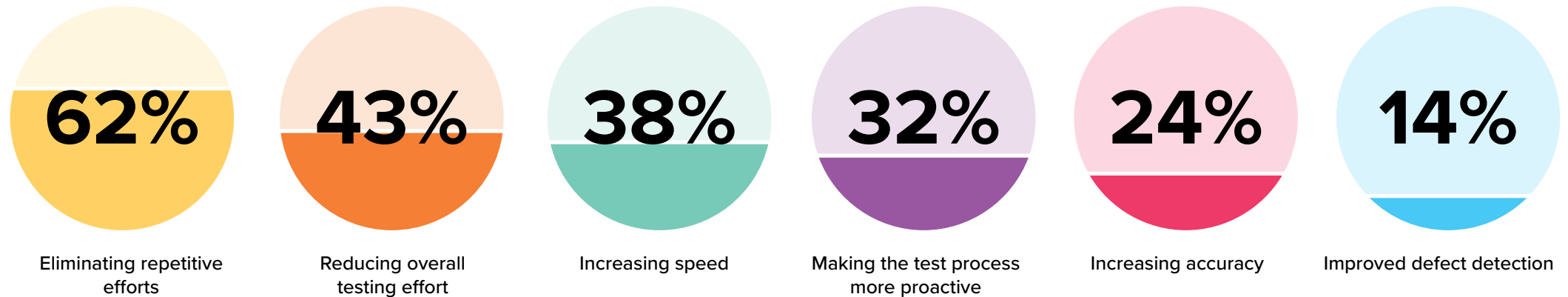
62%	43%	38%	32%	24%	14%
Eliminating repetitive efforts	Reducing overall testing effort	Increasing speed	Making the test process more proactive	Increasing accuracy	Improved defect detection

This shows the % of organisations that selected a particular option as a top-three alternative

Benefits of AI

AI technologies can support various use cases, such as agile methods by enabling continuous testing of small increments, continuous quality by supporting shift-left and shift-right practices, cloud-native application testing, and failure prediction.

According to our survey, the primary benefits reported by 62% of respondents when using AI in testing and quality delivery, was the ability to eliminate repetitive efforts. AI can increase quality of work by freeing up quality engineers to focus on more complex and original tasks, while helping to accelerate more mundane or repetitive tasks.

The other main benefit also included reducing overall testing effort, as stated by 43% of respondents. In an environment where AI technologies generate code faster, the need to accelerate and improve testing and quality efforts will intensify to keep up with the pace of development; otherwise, bottlenecks will occur.

The use of AI can help, and support quality professionals do their job faster and, in our survey, we found 38% found it increased speed. AI can also make the testing process more proactive by predicting potential defects and automatically generating and prioritising test cases based on real-time analysis of code changes and historical data. Our survey found that 32% of respondents stated using AI made the test process was more proactive.

Since AI is still a relatively new technology to use in testing and quality delivery, there were some respondents who told us they could not ascertain its benefits as they were still being assessed in the initial stages of use.

Key Findings

AI-powered tools can assist humans in testing efforts and can reduce the need for human intervention across different phases of testing

The most significant benefits gained by using AI include eliminating repetitive efforts (62%), reducing overall testing effort (43%), increased speed (38%) and making the test process more proactive (32%).

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Challenges to using AI

Key Findings

AI opens potential value propositions that are difficult to ignore, although implementing AI-driven quality can present challenges. 41% of respondents stated data privacy concerns as the main barrier which must be prioritised to ensure the necessary confidentiality and preservation of important IP. Making the right decisions here significantly reduces this risk.

Additional challenges include uncertain ROI, lack of internal skills, and unclear benefits. To bring value it is important to assess each use case against business objectives to make informed decisions around AI-technologies.

There are still barriers for organisations looking to use AI technologies in testing and quality delivery and these challenges should be considered, though the situation for each organisation will vary depending on its maturity. It is important to assess each individual situation against business objectives to make informed decisions around AI-driven quality.

Data privacy is a key concern for 41% of survey respondents and must be prioritised to ensure the necessary confidentiality and preservation of important IP. Making the right decisions here significantly reduces this risk.

The survey data shows that 33% of respondents find uncertain ROI to be a challenge, and 29% struggle with unclear benefits. Since these technologies are relatively new in the delivery of quality and testing, predicting the final results is challenging. However, the market is advancing rapidly, and more examples and data will likely become available soon. Currently, there is still significant uncertainty among respondents regarding the value and benefits AI can bring, as well as how to determine ROI.

The lack of internal skills to manage and utilise AI technologies is a challenge, as stated by 30% of respondents. AI technologies require a different skill set that must be learned to fully understand and master them. At the same time, these skills are in high demand, making it difficult to find and hire people with the necessary expertise.

AI Skills

30%
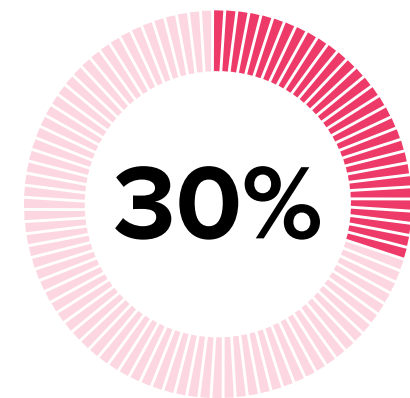
See the lack of AI skills as a challenge to getting value from AI

30% of respondents describe the lack of internal skills to manage and utilise AI technologies, to be a barrier to adopting AI. It is important for organisations to focus on internal training, upskilling, but also hiring to bridge this skills gap. AI technologies will transform the entire software development lifecycle and without future skills planning, one could be left behind.

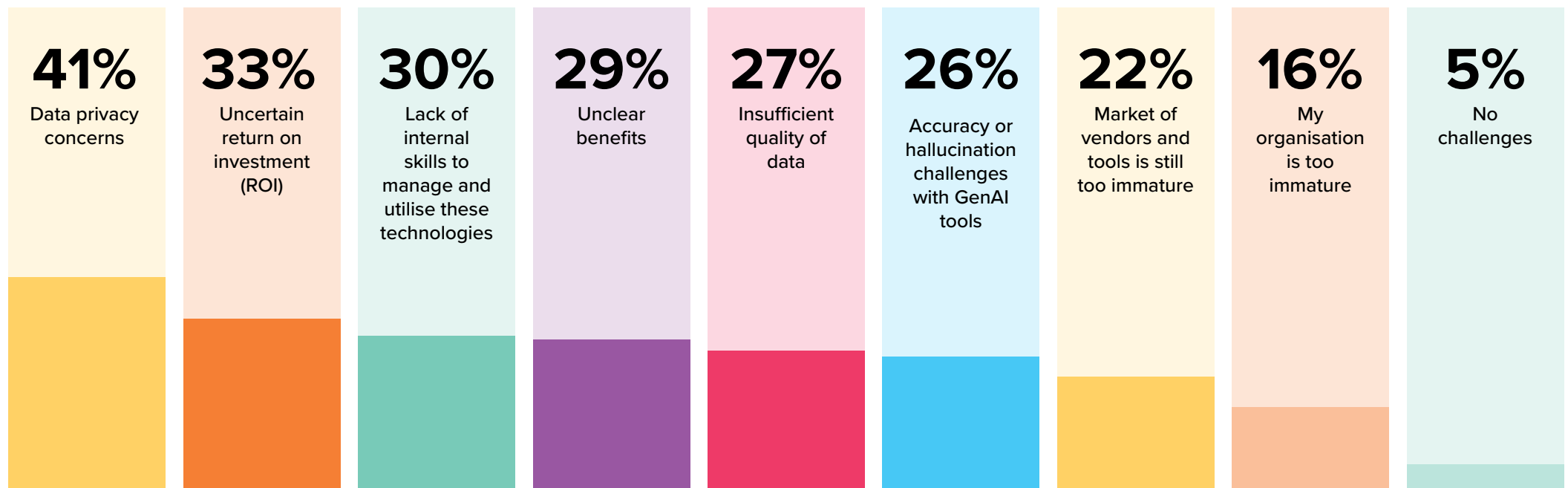# How AI is set to revolutionise quality and testing practices

30% of respondents describe the lack of internal skills to manage and utilise AI technologies, to be a barrier to adopting AI. It is important for organisations to focus on internal training, upskilling, but also hiring to bridge this skills gap. AI technologies will transform the entire software development lifecycle and without future skills planning, one could be left behind.

What are the challenges in using AI/ML/GenAI in testing and quality?

This shows the % of organisations that selected a particular option as a top-three alternative

41%	33%	30%	29%	27%	26%	22%	16%	5%
Data privacy concerns	Uncertain return on investment (ROI)	Lack of internal skills to manage and utilise these technologies	Unclear benefits	Insufficient quality of data	Accuracy or hallucination challenges with GenAI tools	Market of vendors and tools is still too immature	My organisation is too immature	No challenges

The plan for AI use cases

Key Findings

AI technologies are more frequently deployed in organisations as new use cases are found and their influence and importance grows. Almost a third (29%) of respondents have, or are planning to implement some form of AI in the next year and 37% of respondents are planning to implement AI within the next 1-5 years. These advancements will significantly heighten the need for quality assurance to ensure high quality, resilience, and reliability.

The interest and investment into AI technologies is expected to result in multiple AI implementations across organisations. Our survey explored the rate of these implementations and the impact they have on quality and testing needs. These solutions require quality assurance to ensure high quality, resilience, and reliability.

What statements best fits your organisation's plans for AI use cases in the business (technologies such as AI/ML/chatbots/GenAI) that require quality assurance?

37%
We are planning to implement some form of AI in 1-5 years

19%
AI technologies are used but we have not addressed potential quality assurance needs yet

17%
We have implemented, or are planning to bring in GenAI models (such as ChatGPT) in the next 12 months

29%
We have implemented, or are planning to implement some form of AI in the next 12 months

5%
We have experienced failures using AI due to lack of quality and testing

14%
We are not planning to implement any AI use cases in our organisation

This shows the % of organisations that selected a particular option as a top-three alternative

How AI is set to revolutionise quality and testing practices

The survey data shows 29% of respondents have implemented or are planning to implement some form of AI in the next 12 months, while 37% are planning to implement some form of AI in 1-5 years.

17% also specified having implemented or are planning to bring in GenAI models (such as ChatGPT) in the next 12 months. GenAI solutions can greatly benefit organisations in areas such as improved customer engagement, faster and better experiences and better availability. However, there are also multiple concerns and potential failures that can arise if quality is not built in, and these technologies are not comprehensively tested. According to the latest **Gartner™ report**, GenAI has now started to move into the trough of disillusionment from the peak of inflated expectations. This means that while there is still a lot of hype around it, the focus now shifts to making the technology work.

The survey data shows 19% of respondents use AI technologies in their organisation but have not addressed potential quality assurance needs yet. This can lead to quality failures down the line.

However, the survey data also shows only 5% of respondents have experienced any failures using AI due to a lack of quality and testing.

AI systems can provide businesses with enormous benefits and competitive differentiation, but they are powerful and must be carefully managed to keep providing the expected value. We have started to see examples where AI has failed and created unintended outcomes, resulting in brand damage, financial risk, regulatory and legal issues, ethical consequences, or even life-threatening situations. Sufficient quality must be built into AI systems to ensure they remain safe, stay within the confines of what they are supposed to do, and remain within legal, ethical, and moral borders.

> 19% of respondents use AI technologies in their organisation but have not addressed potential quality assurance needs yet. This can lead to quality failures down the line.
>
> 5% of respondents state they have not experienced any failures using AI due to a lack of quality and testing.
>
> Examples where AI has failed and created unintended outcomes are starting to show up now. Therefore, building in sufficient quality into AI systems is critical to ensure they remain safe and secure and still fulfil expectations.

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The decisions made around testing and quality tooling

The decisions made around testing and quality tooling

Key Findings

A plethora of tooling is used in the quality and testing process as revealed in our survey. There are tools that are more frequently used within each category, such as Jira in test management, Postman and Selenium in automation, Sonarqube in security, UIPath in RPA, and Applitools in cloud-based automation.

Choosing the right testing tools is important for achieving test efficiency and effectiveness, and for meeting quality objectives. As stated earlier in the report,

40% of respondents believe that the selection of suitable testing tools is the second highest factor in maximising ROI behind automation.

Today, integrating test tooling into the software development lifecycle is necessary to deliver high-quality software in a timely and reliable manner. The complexity of testing today means you often need multiple tools to cover various aspects of the work, as well as different technologies. We asked respondents to share which tools they currently use for quality and testing, dividing these into categories such as test management, automation, performance/monitoring/observability, security and RPA.

Test management

79% Jira

44% MS Excel

32% Zephyr

28% MS Azure DevOps/TFS

19% ALM/QC
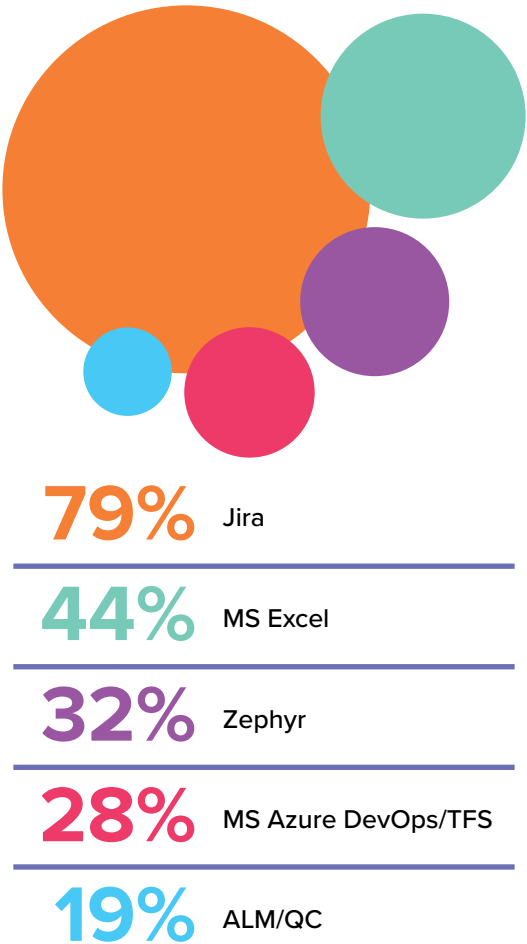
Within test management, Jira is part of almost 80% of respondents' quality and testing organisations. 32% of respondents use Zephyr and 14% Xray, which are also part of the Jira ecosystem. MS Excel is still reported as being used by 44% of respondents and Azure DevOps by 28%.

Performance/monitoring/observability

54% JMeter

24% LoadRunner

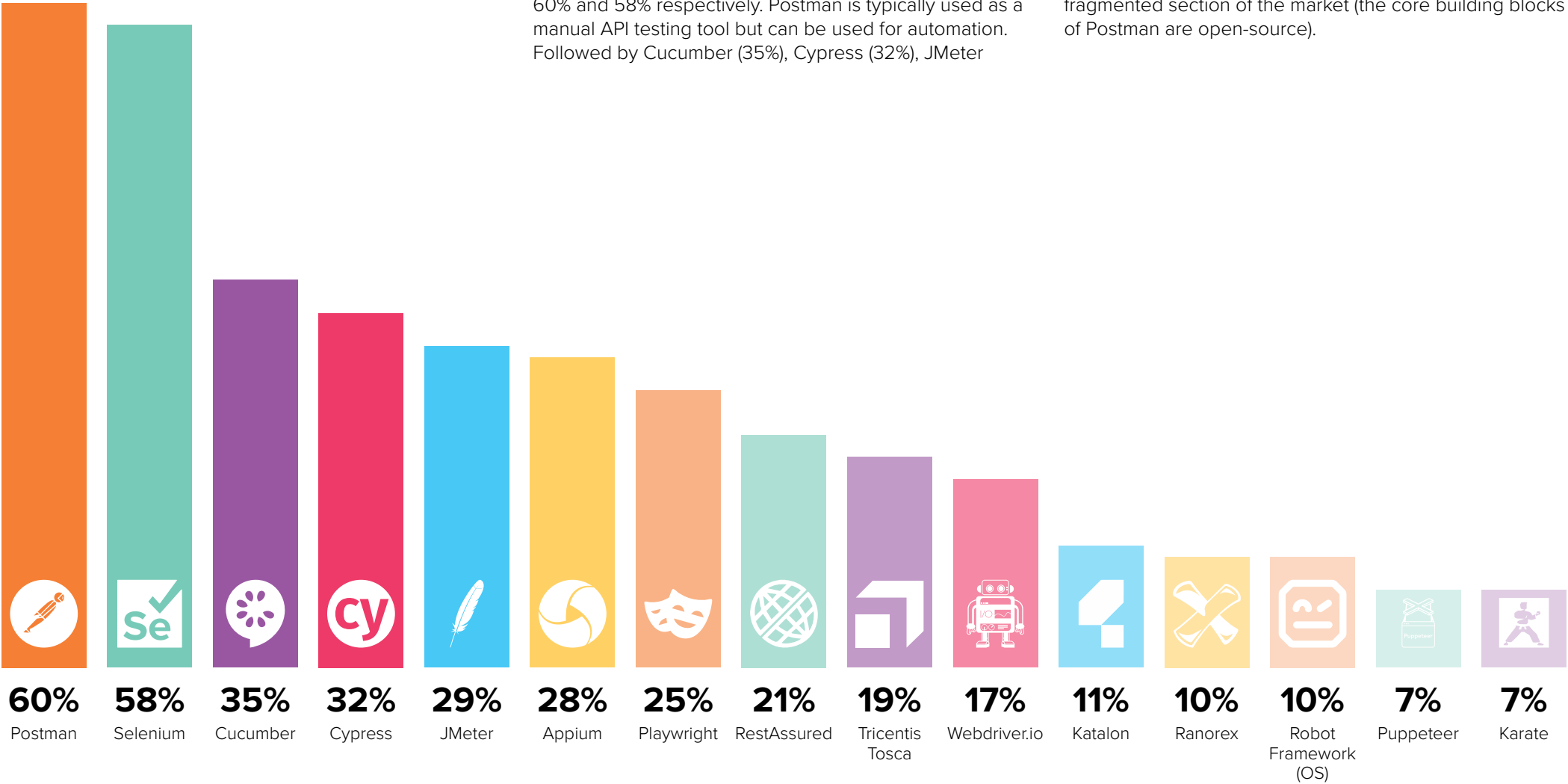**19%** Grafana - K6

8% Gatling

7% New Relic
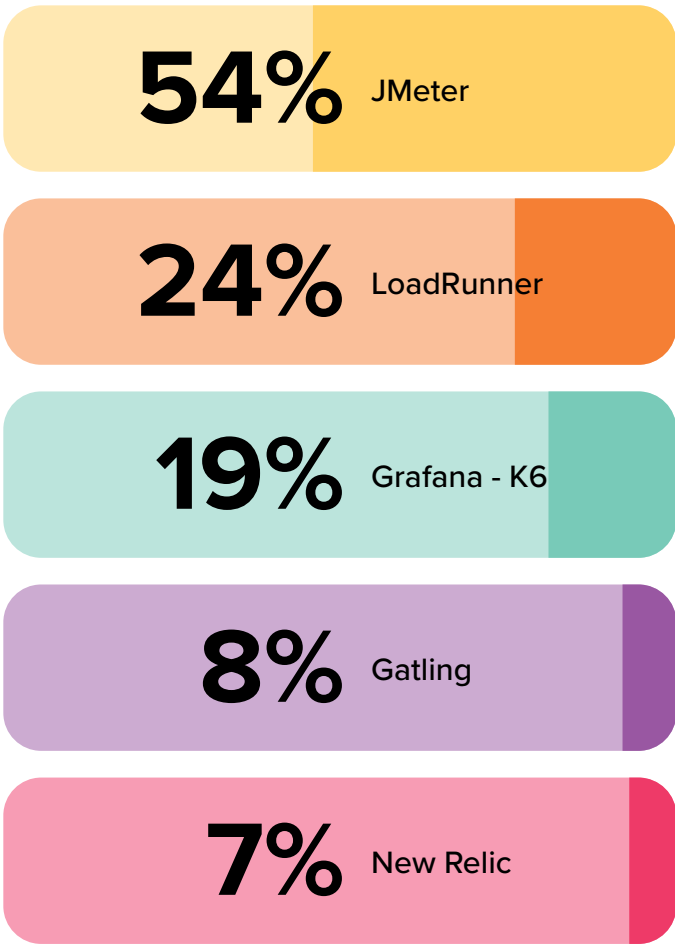
Within tools used for performance, monitoring and observability, JMeter is the most utilised (54%). A significant gap follows, with LoadRunner being used by 24% of respondents and then Grafana - K6 at 19%.

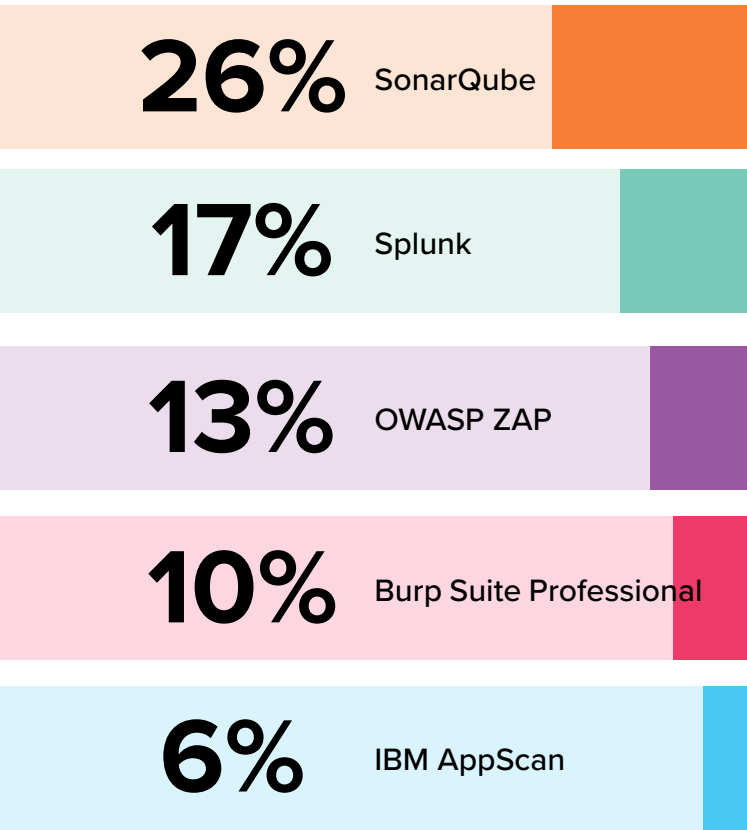# The decisions made around testing and quality tooling

Automation

The automation category includes multiple tools that our respondents include in their portfolio. Postman and Selenium are both used by over half of respondents, 60% and 58% respectively. Postman is typically used as a manual API testing tool but can be used for automation. Followed by Cucumber (35%), Cypress (32%), JMeter (29%), Appium (28%), Playwright (25%), RestAssured (21%) and Tricentis Tosca (19%). The top 10 are all open-source followed by many other tools in what is currently a fragmented section of the market (the core building blocks of Postman are open-source).

60%	58%	35%	32%	29%	28%	25%	21%	19%	17%	11%	10%	10%	7%	7%
Postman	Selenium	Cucumber	Cypress	JMeter	Appium	Playwright	RestAssured	Tricentis Tosca	Webdriver.io	Katalon	Ranorex	Robot Framework (OS)	Puppeteer	Karate

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The decisions made around testing and quality tooling

Security

26% SonarQube

17% Splunk

13% OWASP ZAP

10% Burp Suite Professional

6% IBM AppScan

RPA

11% UiPath

7% Automation Anywhere

6% Blue Prism

AI-augmented tools

**7%** Applitools

4% Testim

4% mabl

4% ACCELQ

SonarQube is the most popular tool within the security category, used by 26% of the respondents of the survey. A range of other tools are also reported by our respondents including Splunk, (17%), OWASP ZAP (13%) and Burp Suite Professional (10%).
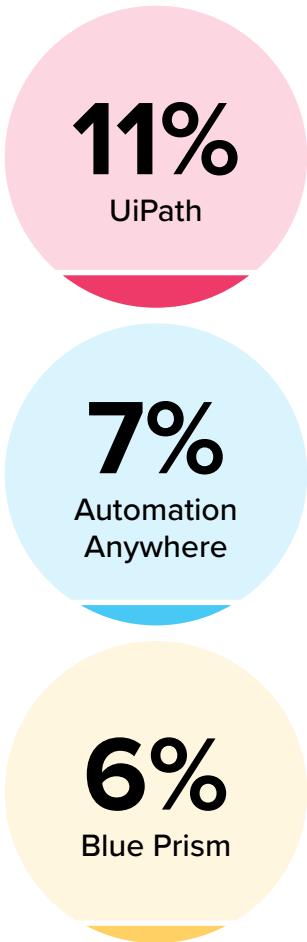
RPA tools can be useful to include in the testing tool portfolio, and here UiPath was most utilised by 11% of the total respondents, and Automation Anywhere (7%) and Blue Prism (6%).
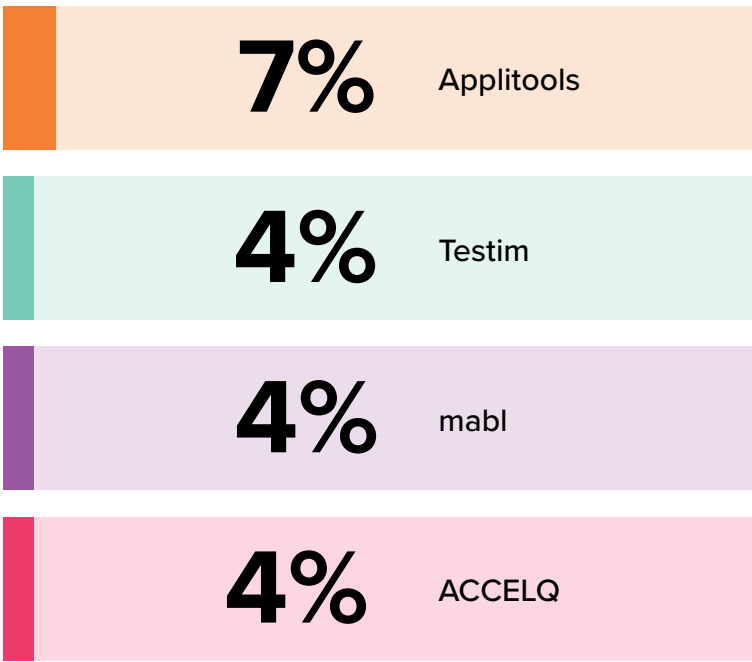
Respondents were also asked about their use of AI augmented tools. As mentioned earlier in the the report, AI technologies are more frequently used and are being augmented into many tools supporting test and quality activities such as test script creation, test script refinement, self-healing and data creation. This is creating a shift where tool vendors must increase their ease of use along with ease of integration with AI services. Here we found Applitools to be most used by 7% of respondents, followed by Testim at 4%, mabl at 4% and ACCELQ also at 4%.

Methodology

Methodology

The Planit Quality Global Index 2024 analyses data from 139 participants across countries, industries, company sizes, and leadership roles.

Most respondents were test directors or test managers (32%), but roles held spanned from the C-suite level to project directors/managers, IT directors/managers and test practitioners.

Participants from the UK represented 29% of respondents, followed by Australia at 28%, New Zealand at 23%, India at 11%, and 9% from other countries, including Germany, Japan, Israel, Portugal, the U.S. and Switzerland. Regions represented in Australia included New South Wales (45%), Victoria (32%), Western Australia (11%), Queensland (8%) and South Australia (5%).

Multiple industries were represented in the survey. Most respondents came from the banking and investment sector at 18%. 15% of respondents were from the retail sector, 7% from government, 7% from healthcare and life sciences, 7% from education and 6% from communications, media and services.

There was a wide span of respondents from various size of organisations, including the 1000 - 4,999 employee headcount category, which was the largest segment of participants by headcount at 22%. Also, 20% from organisations with between 100 - 499 headcount, 19% from organisations with more than 20,000 employee headcount, and 15% between 1 - 99 headcount.
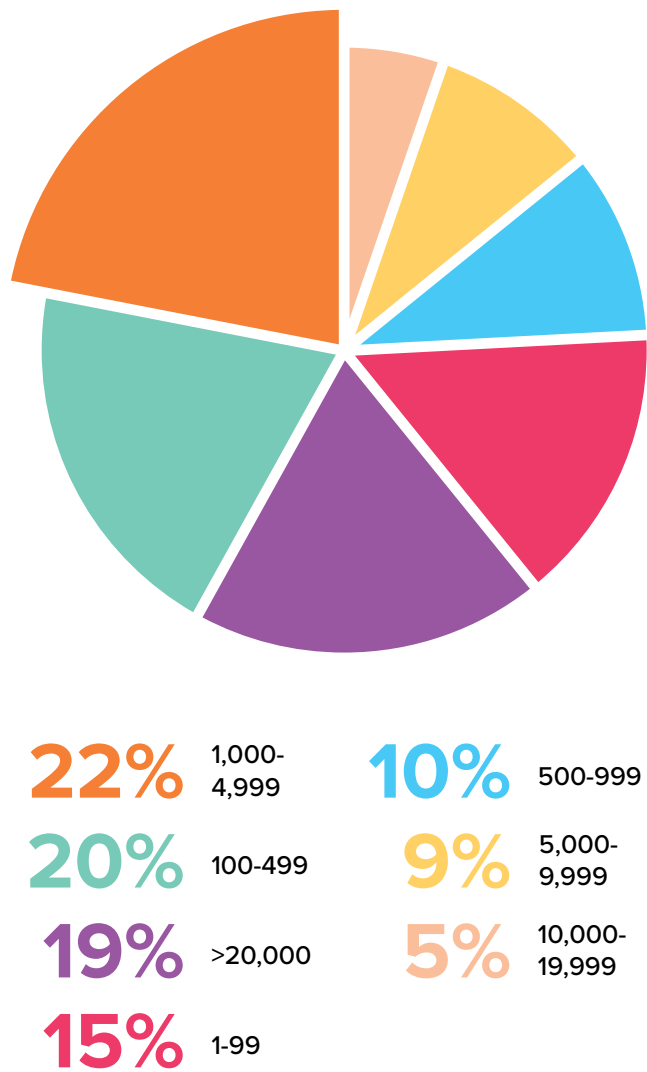
What country are you based in?

29% UK

28% Australia

23% New Zealand

11% India

9% Other

Which region of Australia are you based in?
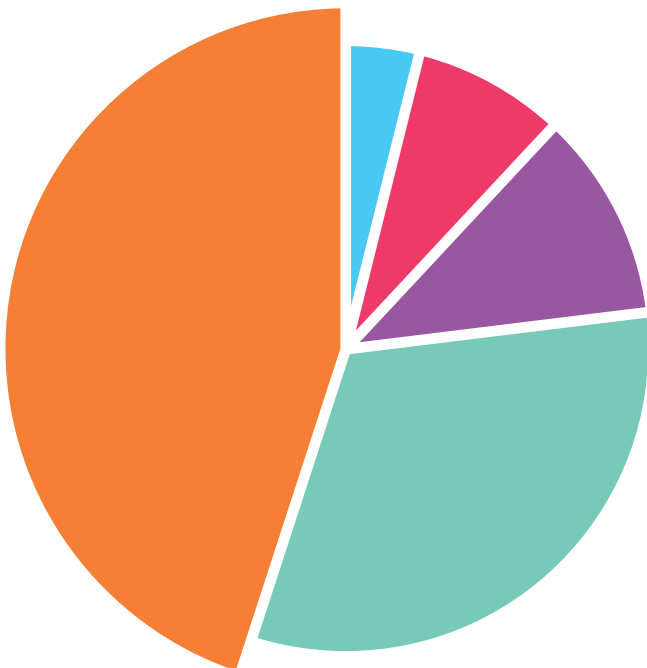
45% New South Wales

32% Victoria

11% Western Australia

8% Queensland

5% South Australia

Methodology

What is the total headcount in your organisation?

22%	1,000-4,999	**10%**	500-999
20%	100-499	**9%**	5,000-9,999
19%	>20,000	**5%**	10,000-19,999
15%	1-99		

What is your job role?

33% Test Director/ Manager

20% Test Practitioner

16% Other

9% Project Director/Manager

7% IT Director/Manager

5% Product Owner, Developer, Business Analyst, IT Practitioner and Enterprise Architect

6% C-suite including CEO, CIO and CTO

4% Delivery Manager

Methodology
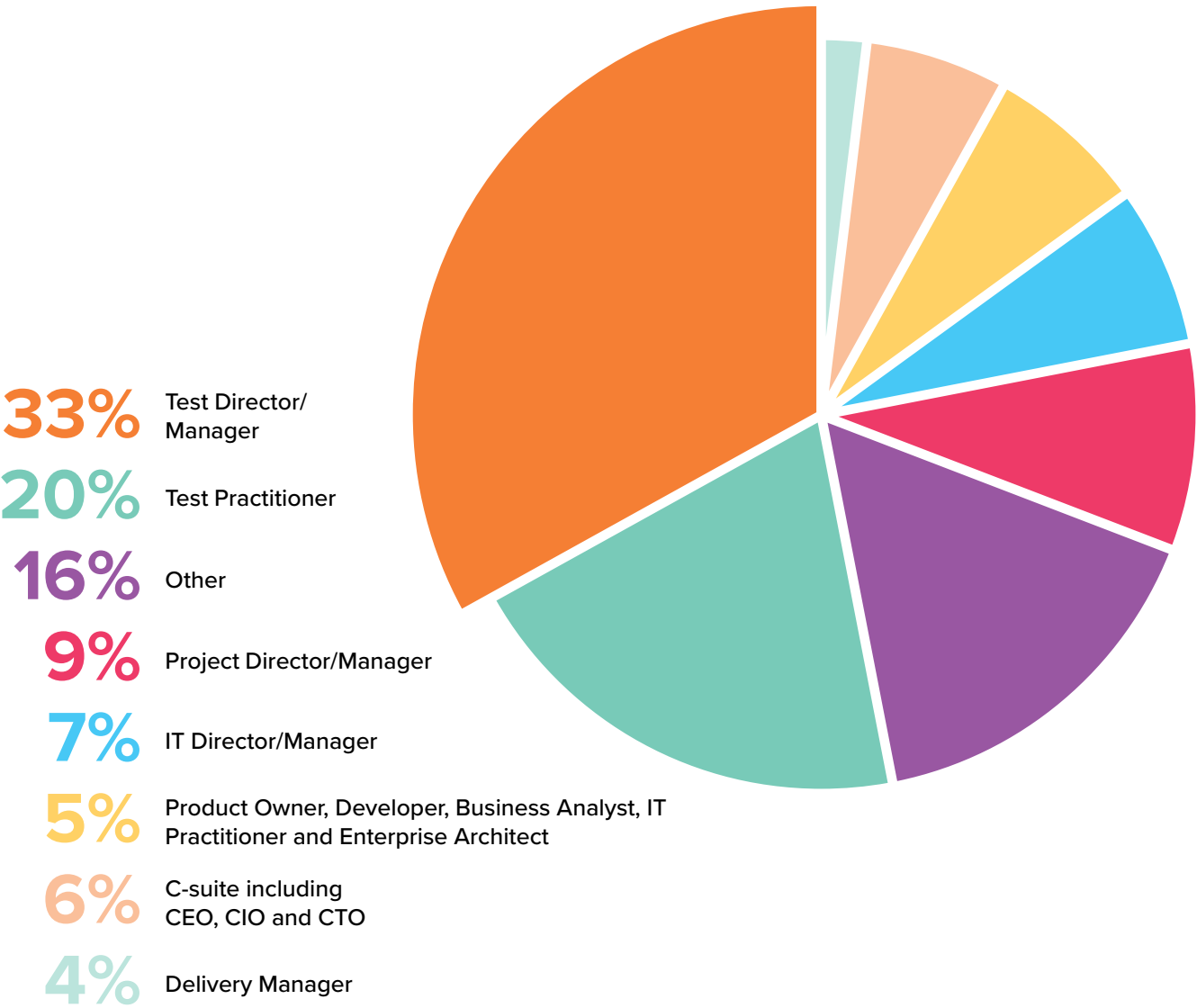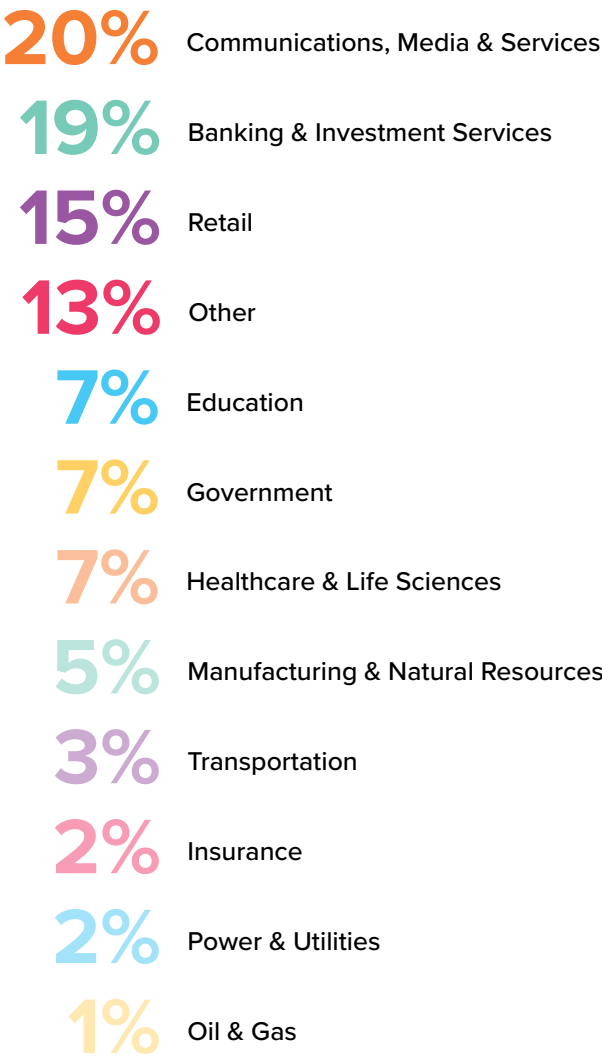
Which industry does your organisation belong in?

20% Communications, Media & Services

19% Banking & Investment Services

15% Retail

13% Other

7% Education

7% Government

7% Healthcare & Life Sciences

5% Manufacturing & Natural Resources

3% Transportation

2% Insurance

2% Power & Utilities

1% Oil & Gas

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