Asociación Internacional de Calidad de Software

SOFTWARE TESTING ANNUAL REPORT 2024™

Trends & Challenges in Software Testing in Latin America

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CONTENTS

ABOUT THIS REPORT

INTRODUCTION

INTRODUCTION

The Software Testing Annual Report 2024™, hosted by the ***Asociación Internacional de Calidad de Software*** **(AICS®)**, signifies the inaugural release of a groundbreaking report focused on examining the trends and obstacles in Software Testing in Latin America (LATAM). Responses from professionals across different industries and countries have been gathered, offering a more diverse regional viewpoint.

The report covers significant findings on trends and challenges, the influence of agile development on software testing, and demographic information about participants. It delves into reasons for professional rotation, the impact of certifications on professional advancement, and also examines priority activities in testing within the region.

Furthermore, it examines the utilization of tools and test automation. Our aim is to offer valuable information to help leaders and professionals in LATAM make informed decisions and enhance the quality of their testing processes. We serve as an educational and strategic resource for the continuous improvement of software quality in the region.

This report is sponsored by **Abstracta, AKYO, SEQUAL, QAlified, and QA Minds**.

Software Testing Expert by AICS®

Software Testing Expert developed by *Asociación Internacional de Calidad de Software* (AICS®).

Incorporates survey data from the Software Testing Annual Report 2024™, which is beneficial for identifying trends and addressing specific inquiries regarding the acquired information.

It aids in preparing for certification exams and general software testing inquiries.

LEARN MORE

Software Testing Annual Report 2024™ by AICS®

AICS® - ASOCIACIÓN INTERNACIONAL DE CALIDAD DE SOFTWARE

The *Asociación Internacional de Calidad de Software* (AICS®) is a prominent authority in the advancement of software quality. It is dedicated to endorsing technologies, methodologies, and best practices that foster excellence in software development. Through its global certification programs, particularly in software testing, AICS® strives to establish itself as a frontrunner in this domain. Its dedication centers on empowering professionals and organizations in the quest for excellence in software development.

AICS® aims to certify the skills of professionals, ensuring they are well-trained to develop high-quality software. With a firm belief that quality is paramount in the software industry, the organization equips professionals with the essential tools to maximize their capabilities and excel in a highly competitive job market. In essence, AICS® sets the standard for quality software development and is dedicated to fostering excellence in this domain. This dedication applies both professionally and commercially.

We present the Software Testing Annual Report 2024™, a significant achievement in our endeavor to enhance software development excellence in Latin America. This groundbreaking report underscores our steadfast dedication to quality and ongoing advancement in the Software Testing sector in the region.

We take pride in spearheading this initiative and are dedicated to enhancing this report annually. We guarantee that it consistently reflects the evolving trends and challenges we encounter. Our objective is to offer an indispensable resource for leaders and professionals to make well-informed decisions and enhance the quality of their testing procedures.

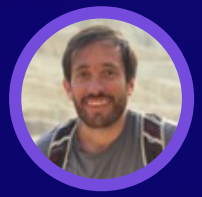
We extend our sincere gratitude to all contributors and anticipate ongoing close collaboration to elevate quality standards in software development together.

M.S. Lionel Baquero
CEO & Founder at AICS®

The sponsors of this report, committed to advancing world-class software development, have shown exemplary leadership. Their support has been crucial to completing this study, which explores the landscape of software testing trends in 2024. They have offered invaluable insights that help establish high quality standards in the industry.

SPONSORS

Message from Abstracta



Federico Toledo
Abstracta, Co-founder and CQO

The "Software Testing Annual Report 2024" serves as a valuable tool for professionals and technology companies, fostering informed decision-making based on contemporary testing trends. It underscores the region's potential for high-quality software development and highlights the importance of promoting new initiatives in the ICT sector.

Latin America, with its significant potential to enhance the industry and grow in infrastructure, digital services, diversity, and culture, positions itself as fertile soil for ICT innovation. Therefore, we consider this report to be highly relevant as it supports initiatives that enhance the professional growth of the IT community and consolidate the region as a leader in quality software development.

In this domain, Generative Artificial Intelligence (GenAI) presents itself as both a challenge and an opportunity, necessitating teams of extensively trained testers to confront the growing complexity of the software.

At Abstracta, we are deeply committed to continuous improvement and innovation, specializing in developing high-quality software utilizing Generative Artificial Intelligence. We consider this information crucial for our sector, and we take pride in being part of it.

Message from QAlified

Guillermo Skrilec
QAlified at CEO

At QAlified, we take pride in being part of the Software Testing Annual Report. This report provides a detailed overview of emerging trends, significant challenges, and successful strategies in the realm of Software Testing in Latin America.

The increasing digitalization in the region underscores the importance of ensuring software quality. With more companies and sectors embracing digital solutions, the requirement for strong and dependable applications increases exponentially. This entails not only a rise in software development volume but also the necessity to enforce stringent and efficient testing methods to verify that applications operate accurately across different environments and adhere to security and performance criteria.

Software quality is a crucial foundation for the success and competitiveness of organizations in Latin America. The future of software testing in LATAM is promising, and this report acts as a vital guide for professionals in the sector, offering essential tools and knowledge to enhance processes and achieve excellence in projects.

At QAlified, we address quality issues, mitigate risks, maximize efficiency to strengthen organizations, and promote ongoing enhancement for our clientele.

KEY FINDINGS

KEY FINDINGS

1

Job rotation reaches its peak after 7 years of experience.

2

An agile methodology significantly influences testing strategies.

3

An agile methodology in software development enhances the quality of the end product.

4

Obtaining certifications is recommended for software testing professionals.

5

Certifications have a positive impact on professional development.

6

The primary challenge in developing software using an agile methodology is maintaining alignment between testing and the pace of development.

KEY FINDINGS

7

The significance of software testing is acknowledged, irrespective of the company's size.

8

Companies understand the significance of training and education in software testing.

9

Test execution is the primary time-consuming activity on a weekly basis.

10

The teams prioritize functionality and compliance with requirements as the most critical quality aspect.

11

Testing teams primarily concentrate on system-level testing.

12

The primary method to assess the efficacy of testing is by measuring customer or end-user satisfaction.

KEY FINDINGS

13

Employees in sizable corporations typically hold a more favorable view of wage equality.

14

Test automation represents the area of the software testing process requiring the most enhancement.

15

Test management tools rank as the most popular.

16

Despite the increasing adoption of automation, significant testing is still carried out manually in numerous companies.

17

The primary challenge of incorporating automated testing lies in the complexity of maintaining test scripts.

METHODOLOGY

30

QUESTIONS

1057

PARTICIPANTS

METHODOLOGY

METHODOLOGY

The findings of this report are based on feedback from professionals in software development. AICS® conducted a 30-question survey, published in Spanish, between late 2023 and early 2024 to gather this information. The survey was completed by 1,057 participants, who provided insights into various facets of software testing within their organizations. The survey was distributed through social media channels and direct emails to a pool of software experts.

It is important to clarify that AICS® does not consider this a scientific study nor an attempt to comprehensively depict the software testing market. The data and conclusions are derived from received responses and represent the viewpoints and experiences of participants. Percentages have been rounded to the nearest whole number for analytical purposes.

We asked questions we found intriguing to the software testing community and now present the insights from your responses. We trust that these discoveries will stimulate meaningful dialogues within the community.

DEMOGRAPHICS

DEMOGRAPHICS

The report has collected viewpoints and insights from various roles, industries, organizations of different sizes, and countries. Understanding the respondent's role is crucial, as different roles engage in testing activities differently.

Figure 1 illustrates the distribution of participant roles, with 41% of participants serving as Software Testers.

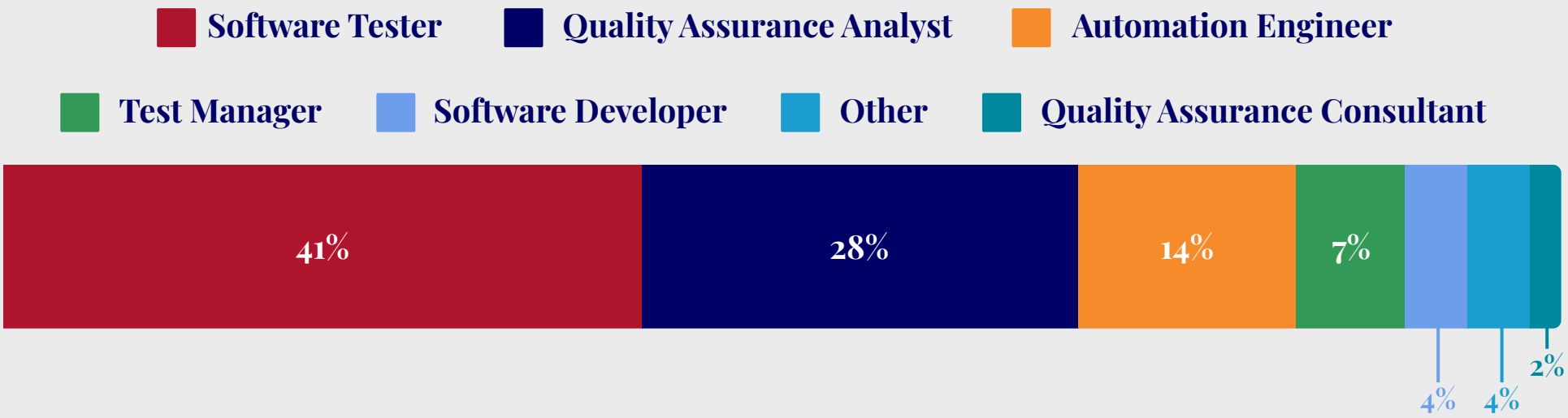


Figure 1. Distribution of Participants' Roles.

Figure 2 shows the distribution of participants' years of experience in software testing. Notably, 40% of respondents have 1 to 3 years of experience, making it the most prevalent category.

23% of respondents have 4 to 7 years of experience, indicating that most are in the early to mid stages of their careers or professional growth in software testing-related areas.

Experience is crucial, as perceptions of software testing issues can change throughout one's career.

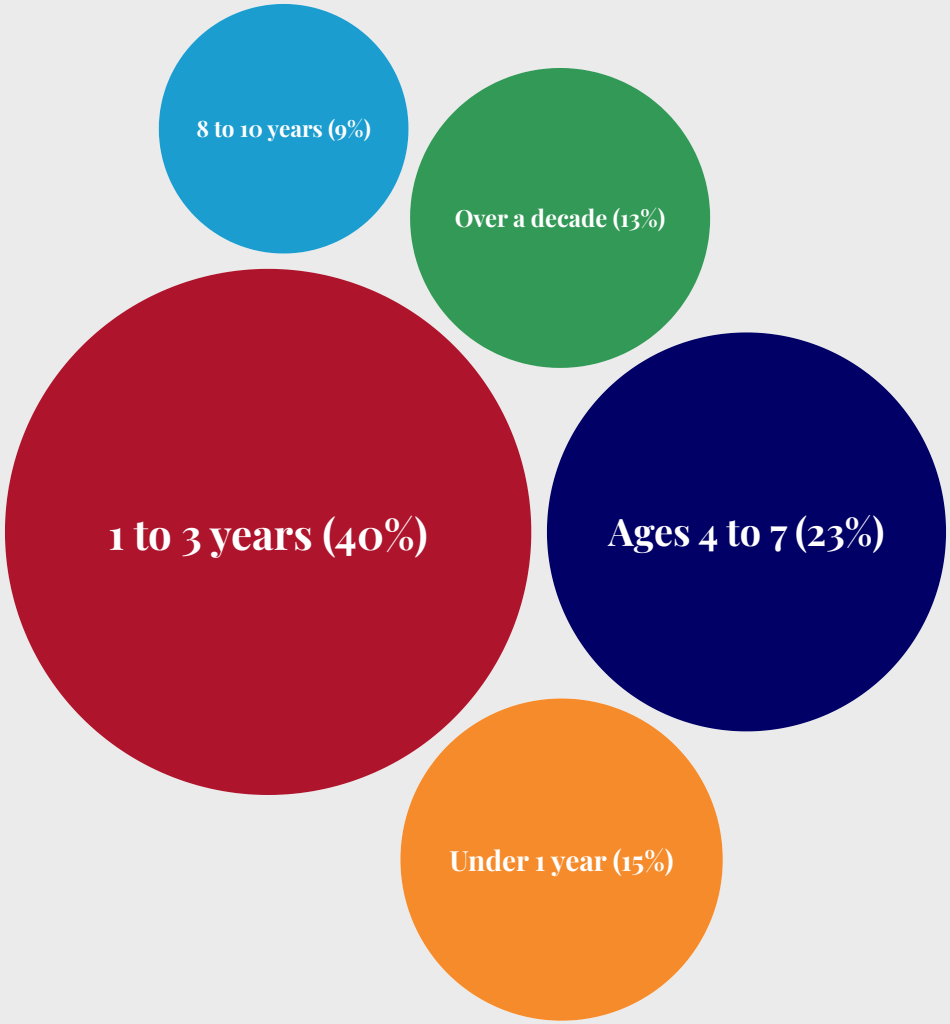


Figure 2. Distribution of Participants' Years of Experience in Software Testing.

DEMOGRAPHICS

Figure 3 shows the distribution of participants by country, with notable contributions from Argentina (21%), Brazil (20%), and Colombia (9%). Guatemala was the sole country in the region without representation.

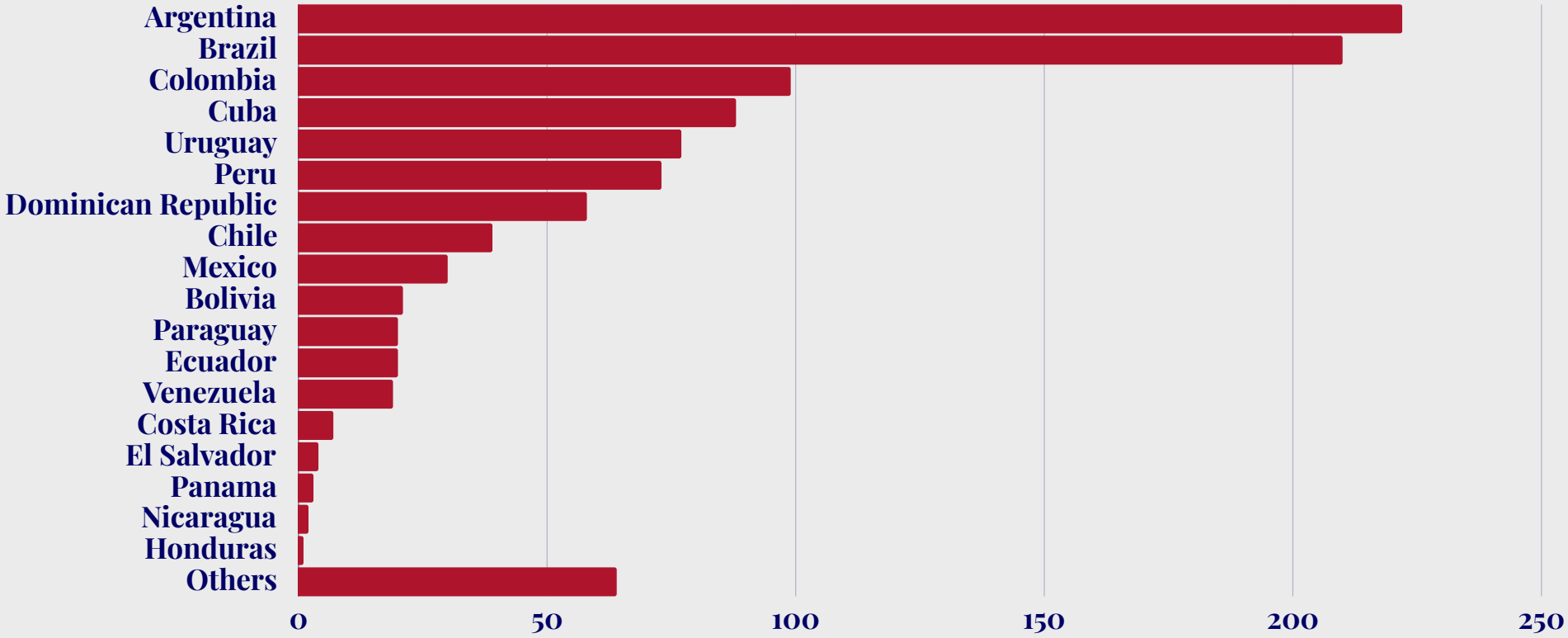


Figure 3. Distribution of Participants by Country.

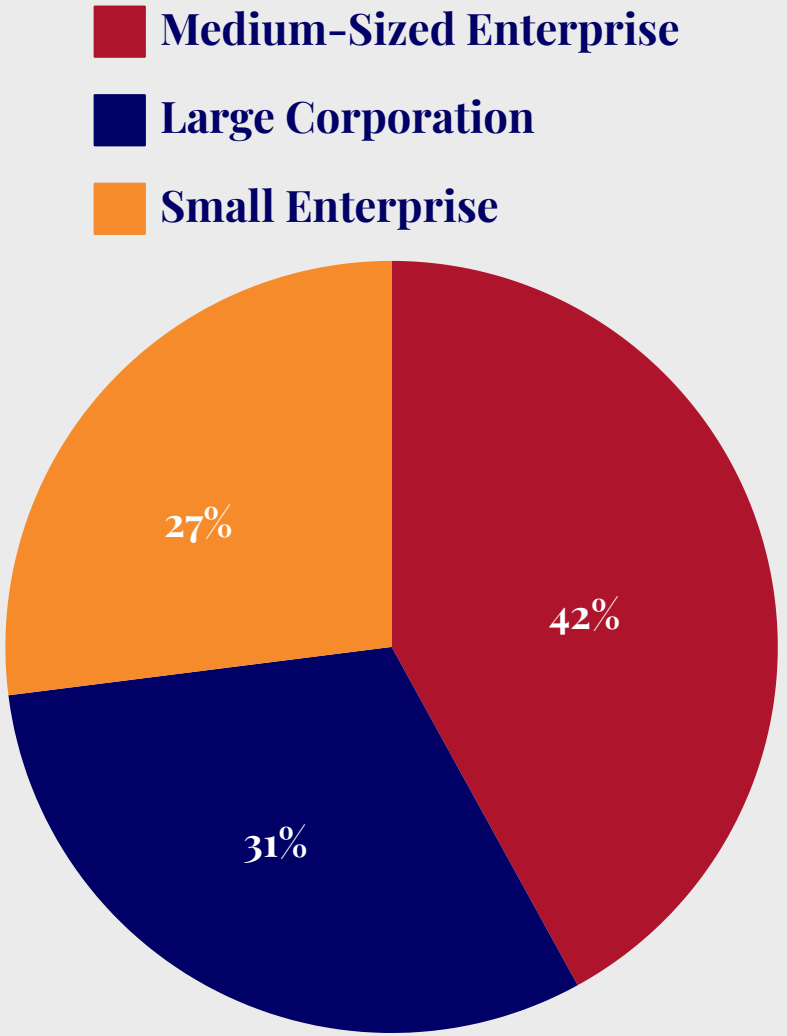


Figure 4. Distribution of Participants by Company Size.

Figure 4 shows the distribution of participants by current company size in the software testing field. Companies have been categorized into three groups based on their size:

- Large Corporation (over 500 employees)
- Medium-Sized Enterprise (50-500 employees)
- Small Enterprise (fewer than 50 employees)

This statistic is significant because companies of different sizes may face software quality assurance challenges differently.

The data shows a relatively even distribution of company sizes, with 42% of participants from medium-sized companies.

DEMOGRAPHICS

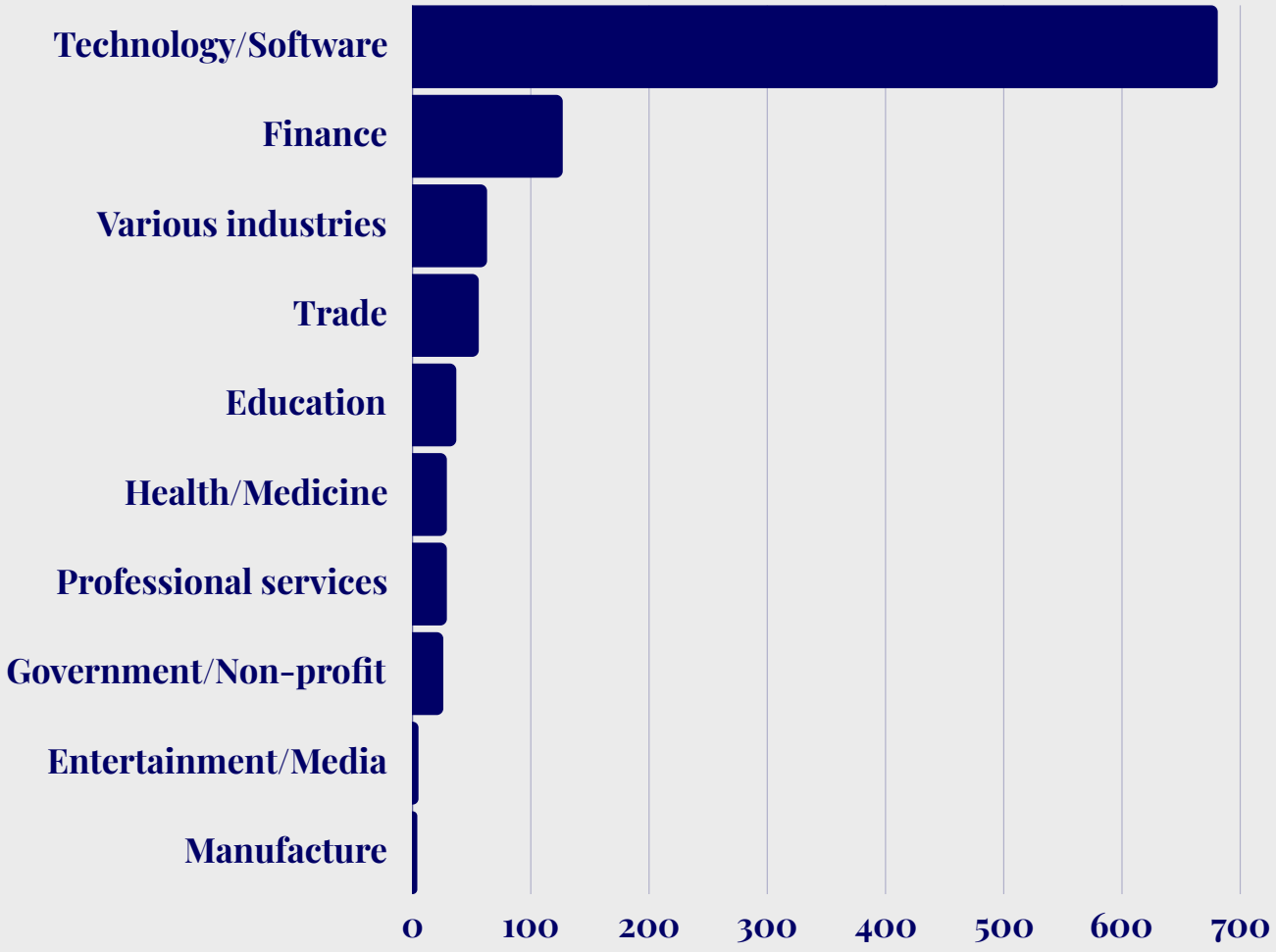


Figure 5 illustrates the distribution of industries where participants are employed, with the majority working in Technology/Software (64%) and Finance (12%). Industries with lower representation include Business, Education, Healthcare, Professional Services, Government/Nonprofit, Entertainment/Media, and Manufacturing.

Figure 5 displays the industry distribution of participants' current companies.

Figure 5. Industry Distribution of Participants' Current Companies.

JOB CHANGE

Figure 6 illustrates the distribution of the number of jobs held over the past five years.

The majority of participants have worked in 1 or 2 companies during this period, with 34% in one company and 37% in two, totaling 71%. This indicates a moderate level of professional turnover in the sector.

Additionally, 19% have worked in three companies, and 10% have worked in four or more. The average number of jobs is around 2, indicating moderate labor mobility, with professionals changing jobs at least once every five years in pursuit of better opportunities or new challenges.

JOB CHANGE

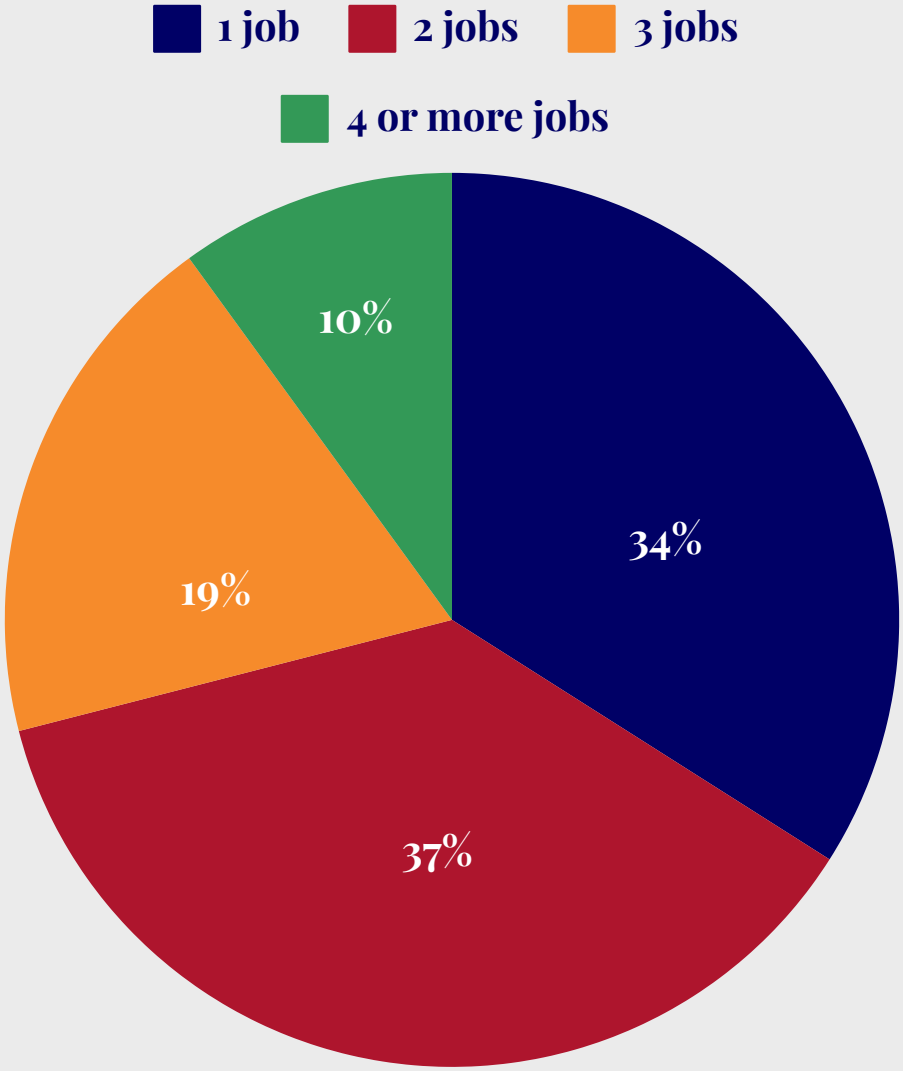


Figure 6. Number of job transitions in the past 5 years.

Figure 7. Number of Job Changes Over the Past 5 Years Based on Years of Experience.

Figure 7 illustrates the correlation between years of professional experience and job changes, specifically regarding the average number of jobs held over the past 5 years. Significant conclusions drawn from this data include:

- The number of companies where professionals have worked increases with experience, peaking at 7 years.
- After 7 years, a decline in job turnover indicates increased job stability.
- Less experienced professionals typically undergo fewer job transitions, which is common in the early stages of their careers.
- Job turnover is most common within the first 7 years, potentially driven by the pursuit of better opportunities and professional growth.

Figure 7 shows the average number of job changes over the past 5 years based on years of experience.

JOB CHANGE

JOB CHANGE

Understanding the motivations that prompt professionals in the field to switch jobs is crucial for leaders, helping them make well-informed decisions. According to the survey, the main reason for changing jobs has been the pursuit of better opportunities (44%).
Two other key reasons are the pursuit of new professional challenges (21%) and a higher salary (20%), which were equally relevant for those surveyed.

The least chosen reason was dissatisfaction with the work environment, possibly because respondents generally worked in companies with a positive work environment, or because other factors were deemed more significant.

Figure 8 shows the distribution of reasons for changing jobs based on the data obtained.

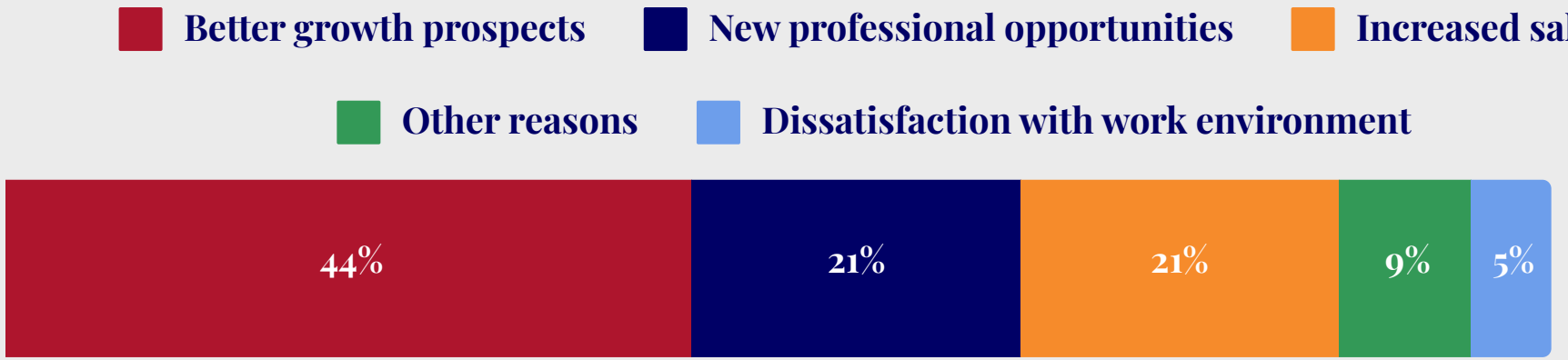


Figure 8. Distribution of reasons for job changes.

AGILE DEVELOPMENT AND SOFTWARE TESTING

Survey results indicate a favorable trend in adopting agile methodologies and their influence on software development.

Seventy percent of participants believe that an agile approach enhances the quality of the final product.

It is important to note that 45% believe all the mentioned benefits positively impact software development.

Less than 2% of participants found the benefits listed in Fig. 9 insignificant.

AGILE DEVELOPMENT AND SOFTWARE TESTING

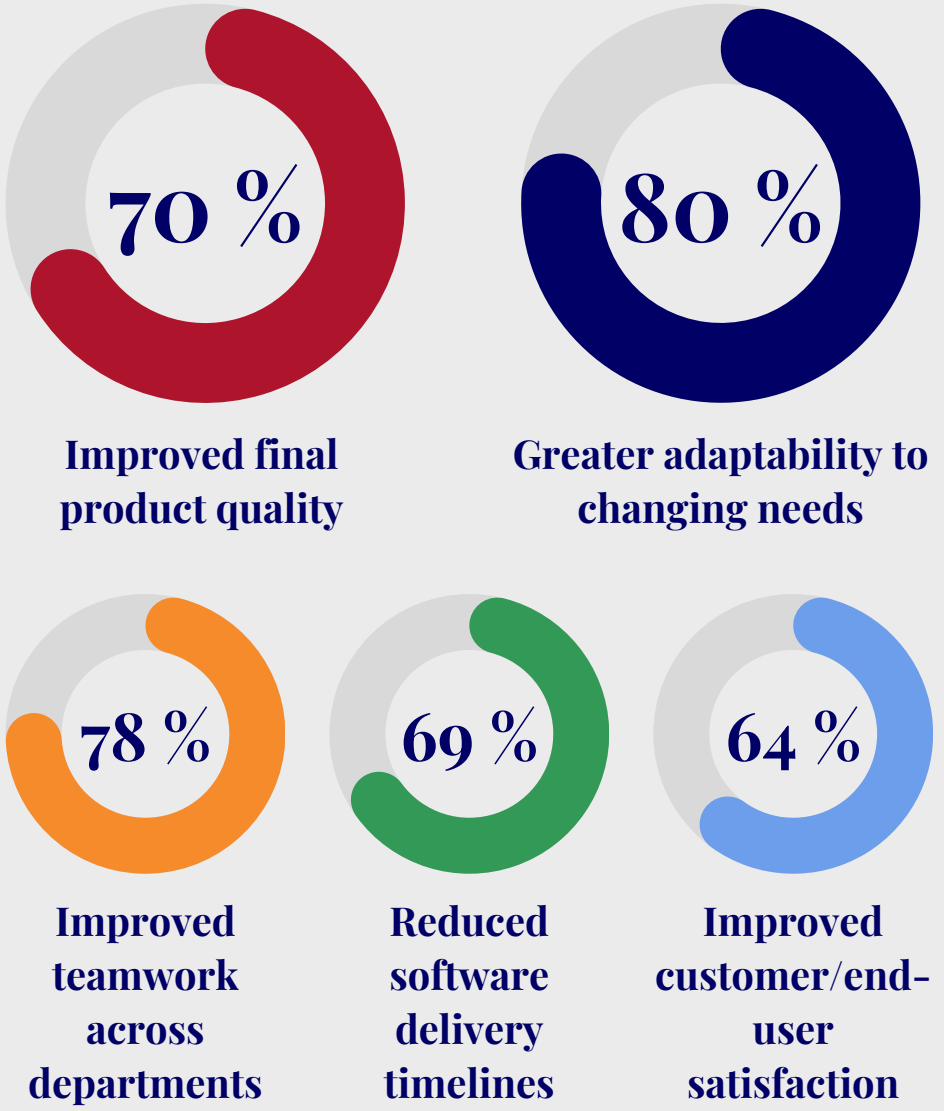


Figure 9. Advantages of using agile methodology in software development.

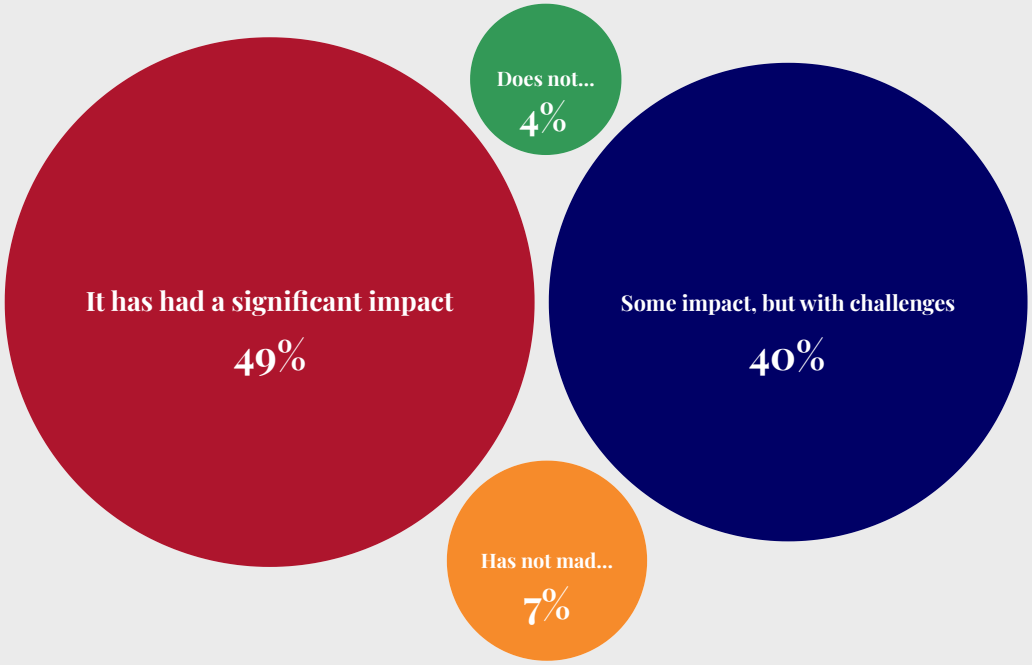


Figure 10. Influence of agile software development on testing strategies.

Agile software development has significantly influenced testing strategies. According to 49% of respondents, the agile approach has had a substantial impact on their testing strategies. An additional 40% noted that it has had some impact, but with challenges.

A small 4% of respondents reported not utilizing an agile approach, while 7% mentioned that the agile approach has not notably influenced their testing strategies.

These statistics mirror a prevailing inclination towards adjusting and evolving testing practices in response to agile methodologies.

AGILE DEVELOPMENT AND SOFTWARE TESTING

The primary challenge identified, affecting 56% of participants, is the struggle to align testing speed with the pace of development. This issue is attributed to the swift evolution of development cycles in agile settings, necessitating testing teams to promptly adjust to ongoing changes while upholding software quality.

Additionally, 7% of participants have encountered various unspecified challenges. Key challenges also involve proficiently handling changes in requirements (49%), customizing testing tools for the agile setting (44%), and communication hurdles among teams (35%).

AGILE DEVELOPMENT AND SOFTWARE TESTING

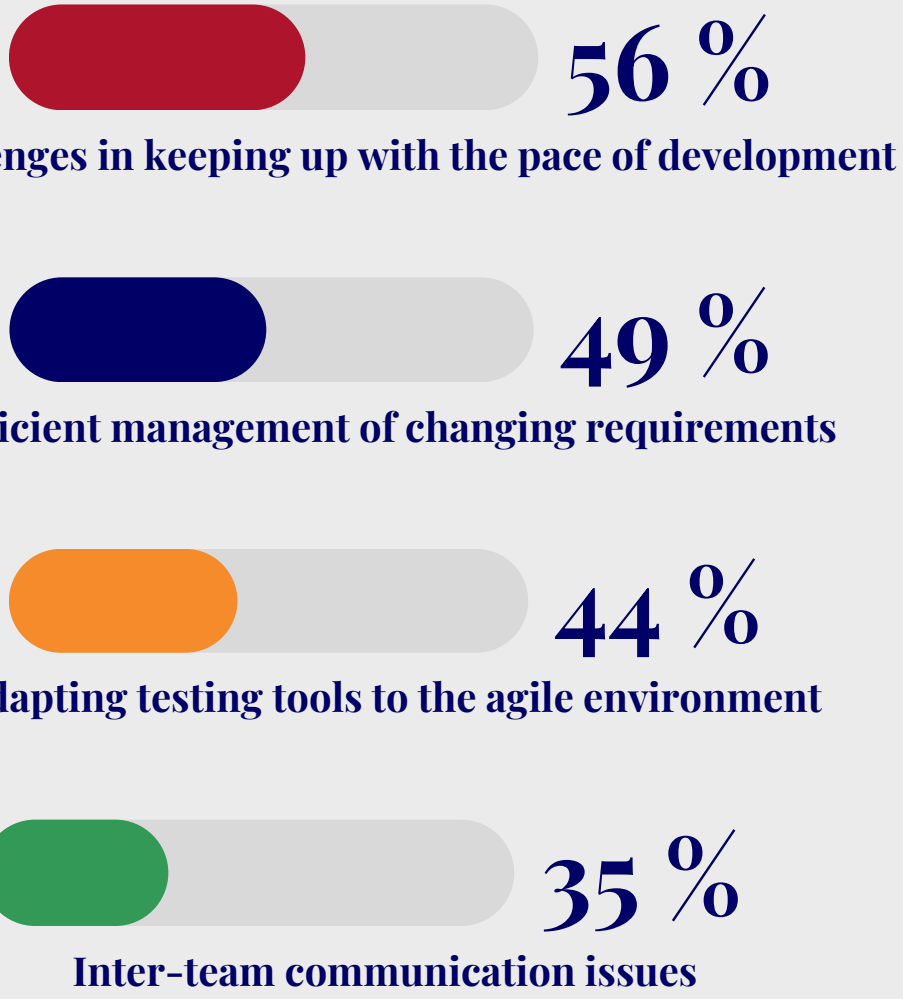


Figure 11. Challenges encountered when implementing software testing in agile environments.

AGILE DEVELOPMENT AND SOFTWARE TESTING

Many teams release software every two weeks (35%) or weekly (25%), showing a clear preference for frequent, consistent release schedules.

A notable proportion of teams (20%) align their releases with product requirements, indicating flexibility to project needs and market trends.

Additionally, 12% of teams engage in daily releases, demonstrating proficiency in implementing continuous delivery practices. In contrast, 6% of teams prefer monthly releases, which may suggest extended development cycles or reduced agility in their processes.

Only 2% of teams operate without a fixed release schedule, which might indicate gaps in their development process structure or reflect the initial stages of agile methodology adoption.

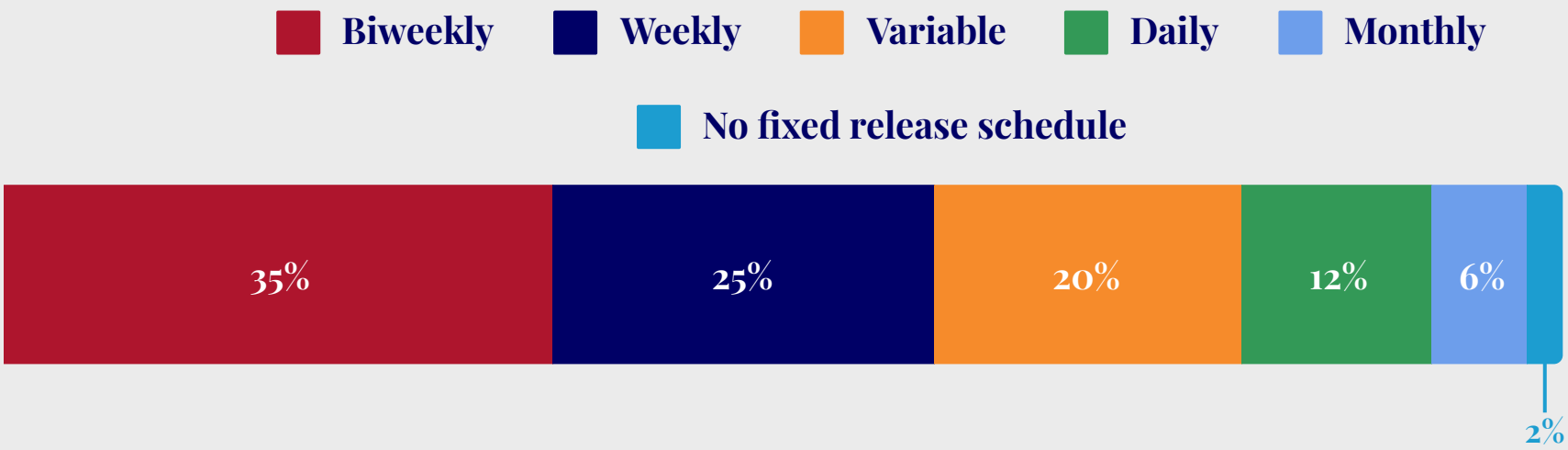


Figure 12. Frequency of software deliveries.

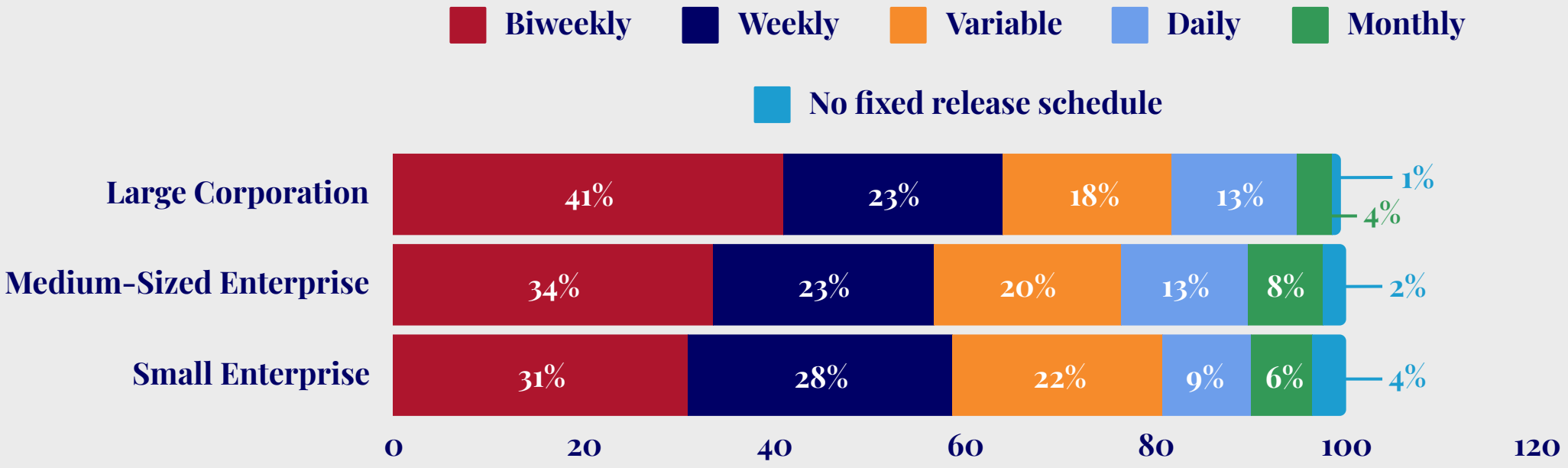


Figure 13. Distribution of software delivery frequency based on company size.

Large, medium, and small companies all exhibit a high frequency of biweekly releases (41% in large companies, 34% in medium, and 31% in small). It is worth mentioning that the least common practices are monthly releases and indefinite release cycles.

While there are similarities in software release practices across companies of varying sizes, like the prevalence of biweekly releases, there are also distinct differences. Monthly releases and the absence of a specified release cycle are more prevalent in medium and small companies than in larger ones.

AGILE DEVELOPMENT AND SOFTWARE TESTING

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

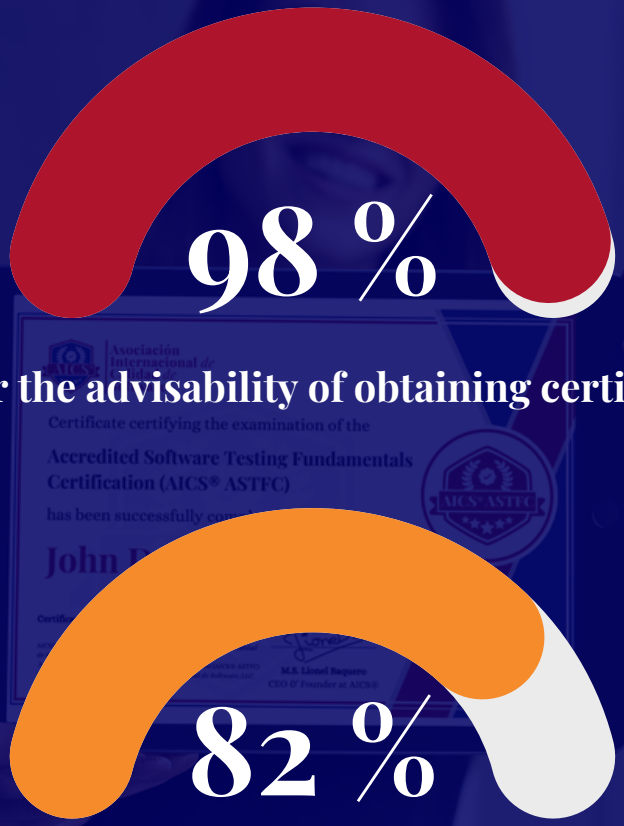


Figure 14. Perception of certifications in professional development.

The acquired data reveals various perspectives on the significance and influence of certifications on the professional growth of software developers.

A vast majority, 98% of respondents, support pursuing certifications, with only 2% holding a different view. This indicates a clear preference for acquiring certifications.

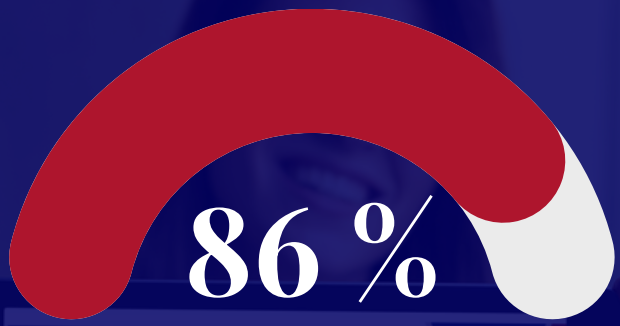
Over the past 5 years, 82% of participants have acquired at least one certification, while 18% have not obtained any. This demonstrates a noticeable shift towards certification acquisition in recent years.

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

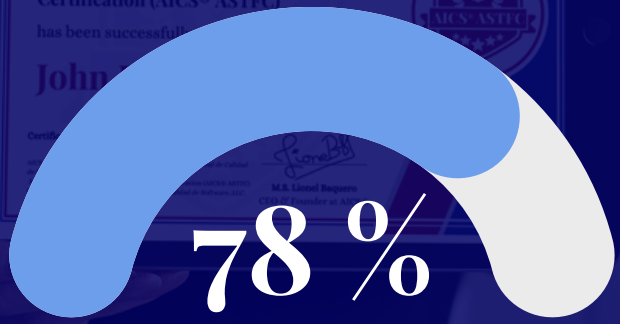
The beneficial influence of certifications on professional advancement is evident, with 86% of respondents indicating that certifications have been advantageous for their career progression, compared to 14% who do not perceive a significant difference.

Additionally, 78% of professionals acknowledge that certifications have significantly helped them secure positions that support their professional growth and advancement, while 22% do not perceive any impact.

In summary, these findings emphasize the significance and perceived value of certifications in the careers of software development professionals, influencing both professional growth and employment prospects.



Certifications have had a positive impact on your professional growth



Certifications have proven invaluable in accessing opportunities for professional advancement

Figure 15. Influence of certifications on professional growth.

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

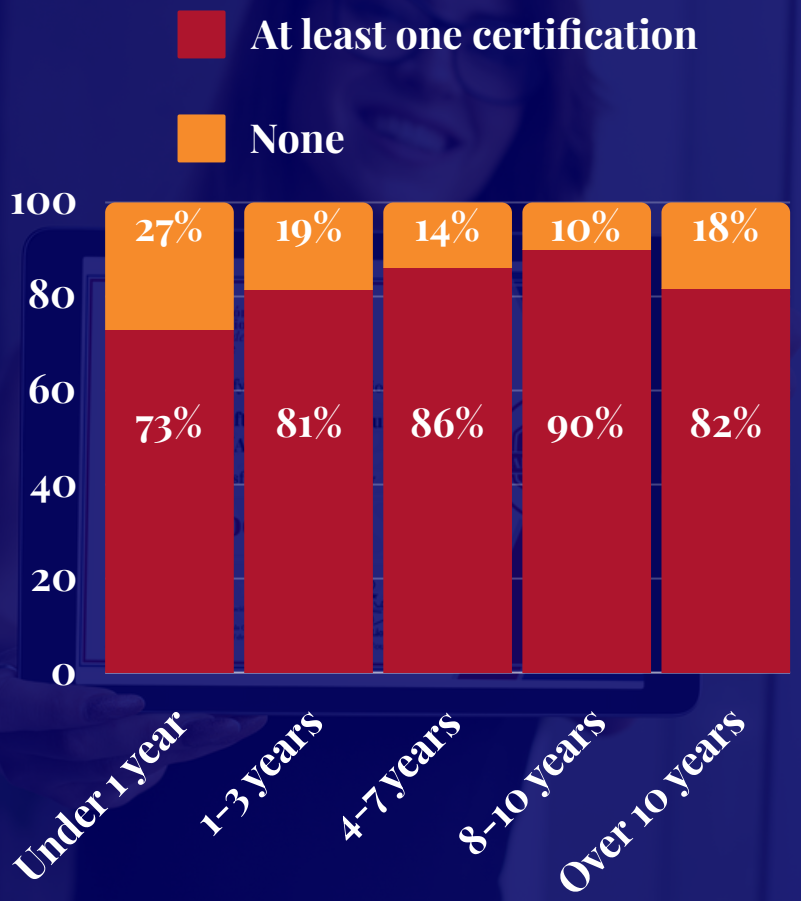


Figure 16. Influence of certifications on professional growth based on experience.

The data analysis reveals a clear pattern: greater experience in software testing correlates with the acquisition of more certifications over the past 5 years.

Professionals with less than 1 year of experience exhibit the lowest certification rates, while those with 4-7 and 8-10 years of experience show a greater inclination to obtain certifications. This suggests that professionals with moderate experience place higher importance on certifications, viewing them as essential for maintaining their competitiveness and credibility within the industry.

This leads us to infer that certifications are crucial for ongoing professional growth, offering official recognition and helping professionals meet the criteria for more advanced roles.

CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

Among survey participants who hold software testing certifications, 47% noted a favorable effect on their earnings. Within this group, 34% mentioned that certifications had a moderate influence on their salary increase, while 13% reported a significant boost in their income as a direct result of obtaining certifications.

Conversely, 53% of participants with software testing certifications reported no significant change in their salaries despite their certifications.

These results suggest that nearly half of professionals have experienced salary benefits from certifications, highlighting their importance and value. However, the majority still does not perceive a significant impact on their earnings.

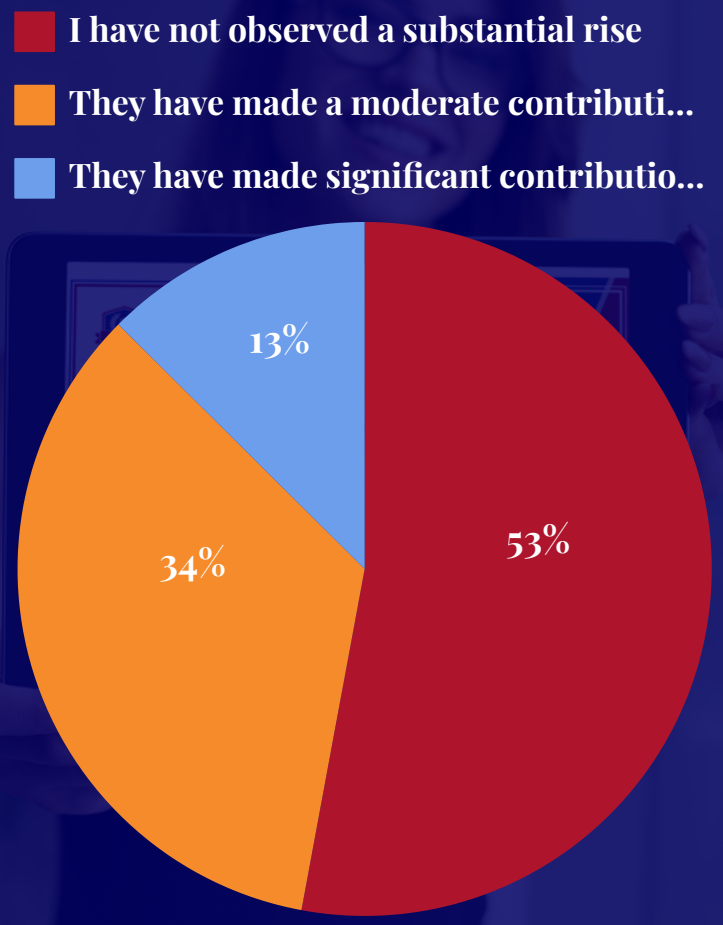


Figure 17. Impact of software testing certifications on salary growth.

SOFTWARE TESTING PRIORITIES

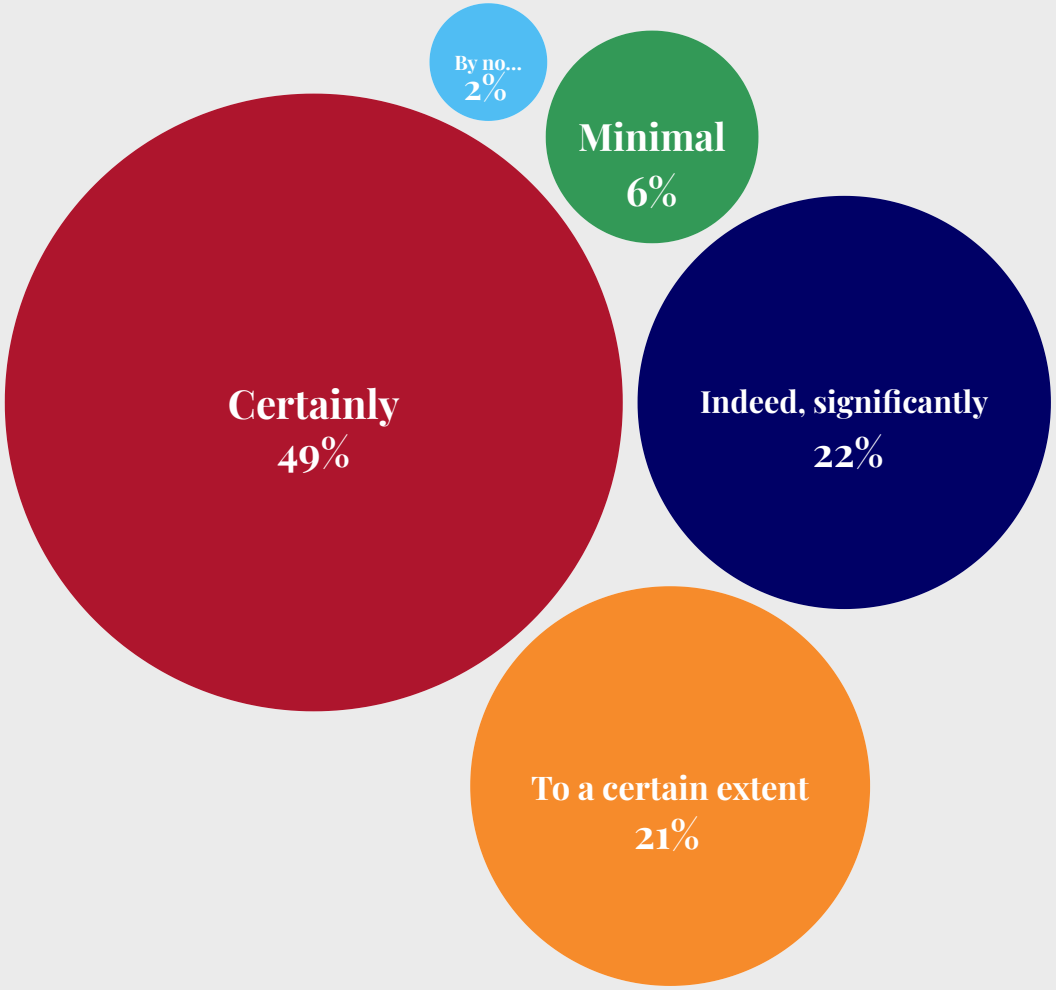


Figure 18. Recognition of the significance of software testing within organizations.

A majority of participants, 49%, responded affirmatively, clearly acknowledging the significance of testing within their organizations. Additionally, 22% replied "Yes, to a large extent," while 21% stated "To some extent," indicating an overall favorable view of testing evaluation.

Nevertheless, a small proportion of participants expressed less positive views: 6% indicated "Not particularly," while only 2% stated "No, not in any way."

The results suggest that while most individuals view testing as crucial, there are still opportunities to improve the understanding and value of software testing in certain organizations.

SOFTWARE TESTING PRIORITIES

The analysis shows that the perception of software testing varies depending on the size of the company. Large companies (over 500 employees) have a notably positive view, with 77% of respondents indicating that testing is highly valued within their organization.

In medium-sized companies (50-500 employees), 72% of respondents share this view. In small companies (fewer than 50 employees), although the assessment remains notable, it is lower, with 65% placing a high value on testing.

Additionally, a larger proportion of employees in small companies perceive testing as moderately important or of low value.

In summary, the significance of software testing tends to increase with the size of the company.

SOFTWARE TESTING PRIORITIES

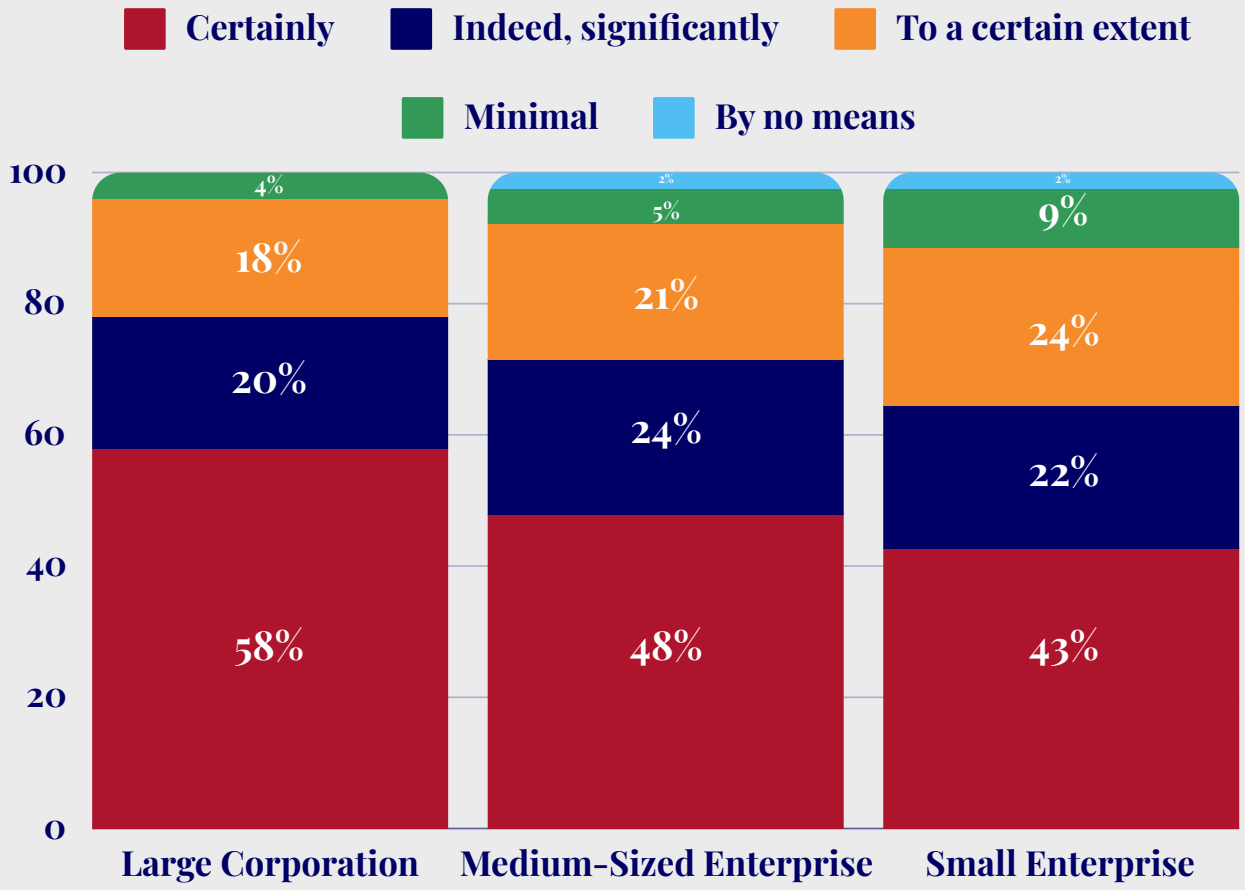


Figure 19. Recognition of the significance of testing based on the company's size.

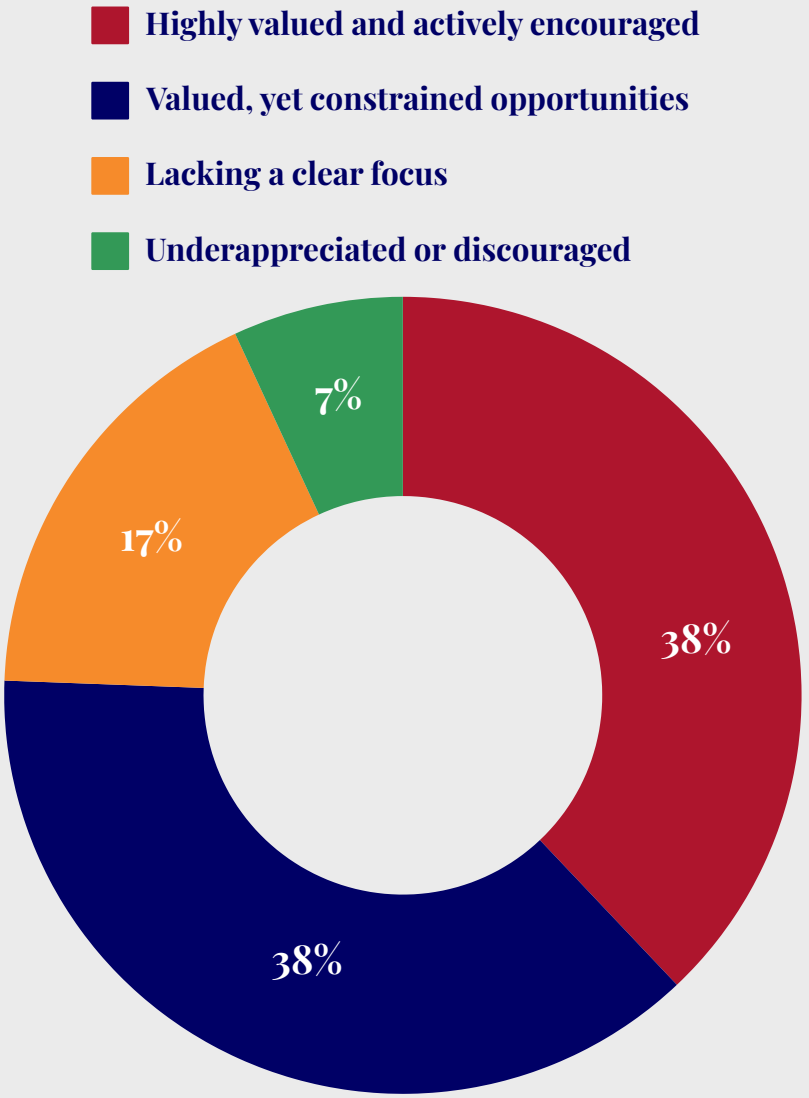


Figure 20. Importance attributed by companies to training and learning in software testing.

The data shows that 38% of survey participants believe their organization actively promotes ongoing training in the field of testing, while another 38% feel that, although valued, opportunities for training are limited.

Additionally, 17% of respondents perceive a lack of clear focus on training within their organizations, and only 7% feel that their company places little or no importance on continuous training in testing.

These findings suggest that while most companies prioritize training, there remain significant opportunities for improvement in how training is implemented and made available.

SOFTWARE TESTING PRIORITIES

The analysis shows that large companies place a high value on ongoing testing training, with 44% rating it highly and 36% viewing it as 'Valued, but with limited opportunities.' Medium-sized companies also express a positive evaluation, with 37% and 40% holding similar views.

On the other hand, small businesses show a more varied assessment, with 32% giving a high valuation, 36% noting limited opportunities, and 24% remaining neutral.

These findings suggest that while large and medium-sized enterprises prioritize training, they face challenges in offering adequate opportunities, particularly in smaller companies.

SOFTWARE TESTING PRIORITIES

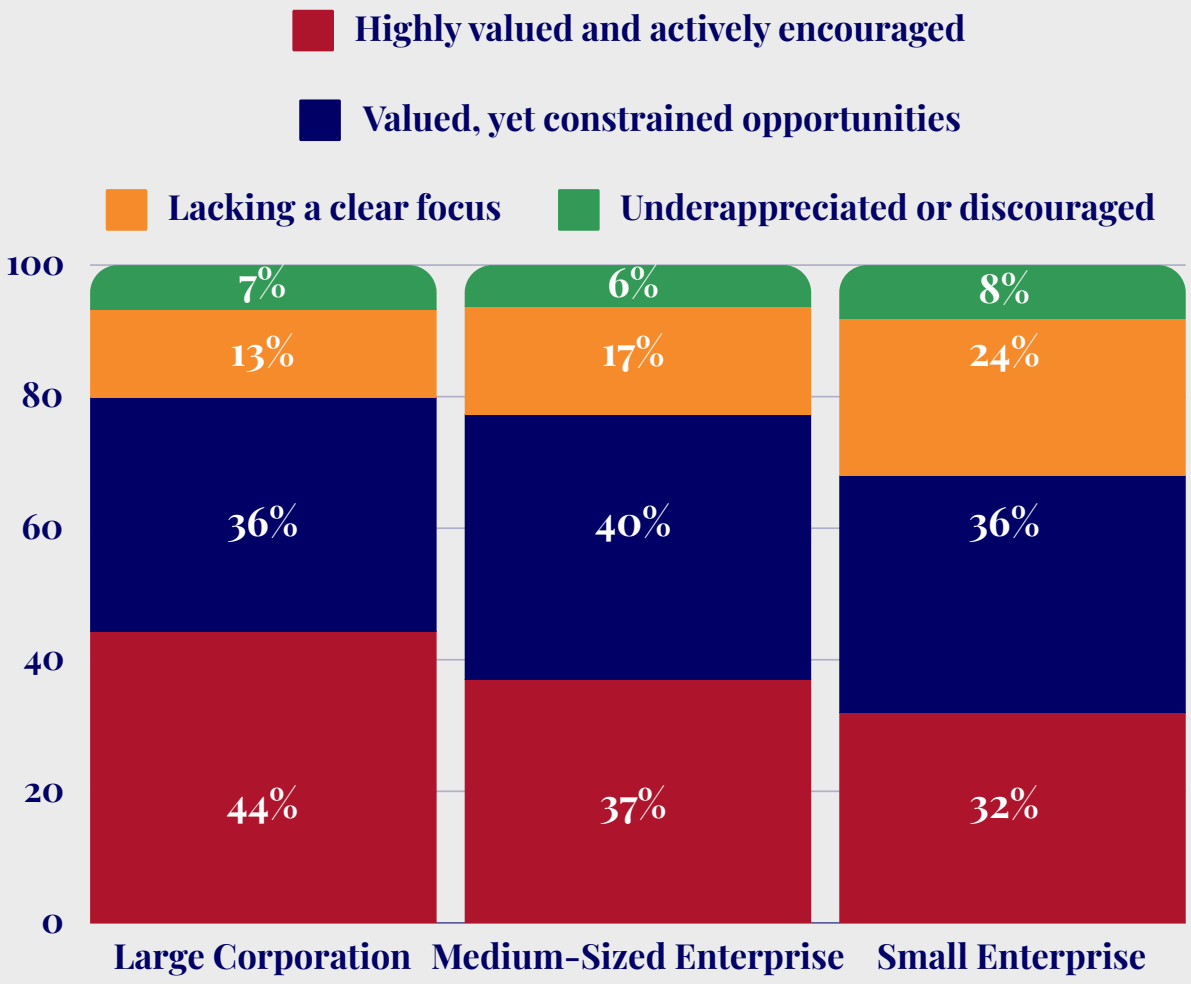


Figure 21. Importance attributed to training and learning in software testing based on company size

SOFTWARE TESTING PRIORITIES

The analysis of weekly time allocation to specific testing activities reveals that 34% of professionals dedicate over 75% of their work hours to testing activities.

Additionally, 31% of individuals allocate between 50% and 75% of their time to testing.

Furthermore, 23% allocate between 25% and 50% of their workday to these tasks, whereas 12% devote less than 25% of their time to testing.

These data underscore the significant importance of testing activities in the roles of the surveyed professionals.

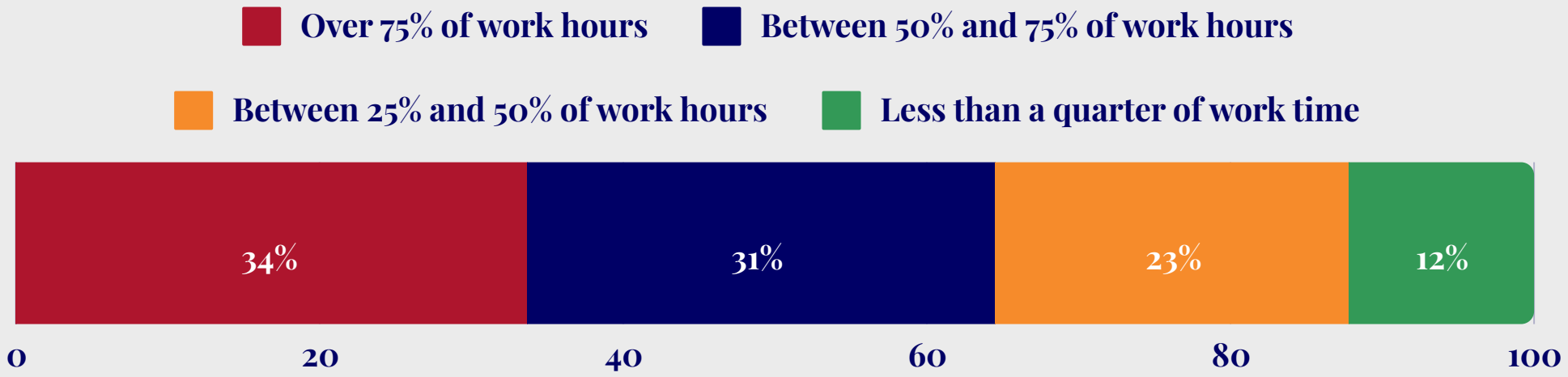


Figure 22. Weekly time allocation for specific software testing activities.

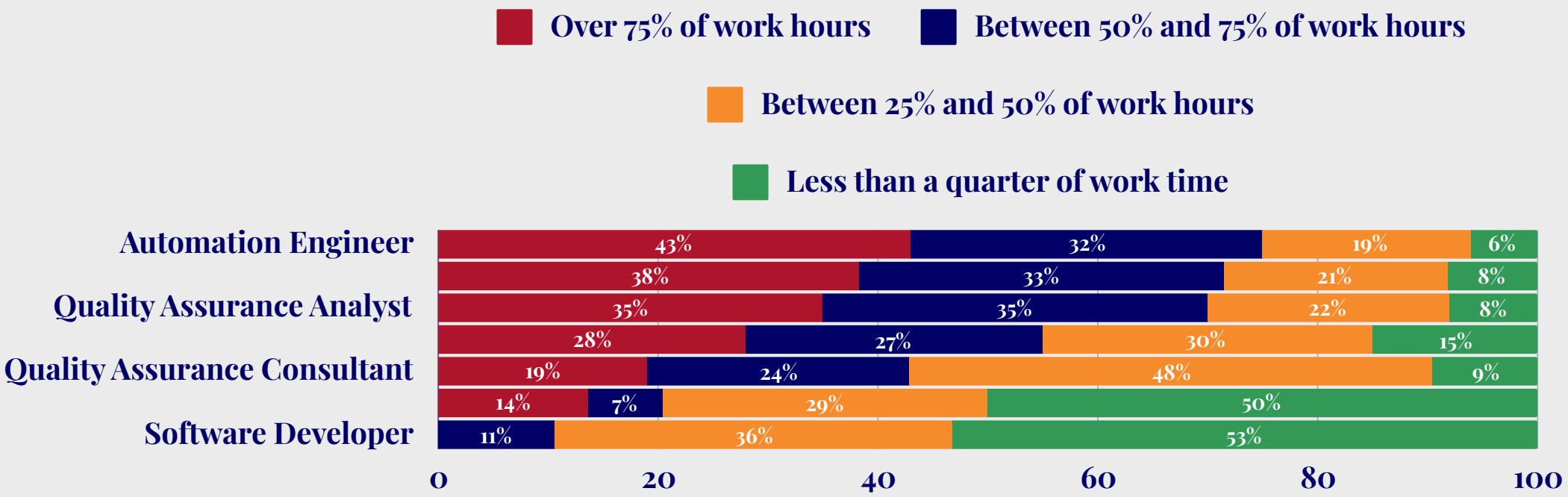


Figure 23. Weekly time allocation for specific software testing tasks based on role.

The roles of "Test Analysts" and "Software Testers" primarily allocate over 75% of their time to testing activities, as expected. In contrast, "Software Developers" dedicate considerably less time to testing activities, with 53% spending less than 25% of their time, indicating that their main emphasis is on software development.

"Test Consultants" and "Test Managers" may exhibit reduced commitment to testing, possibly due to their involvement in strategic and managerial responsibilities.

In summary, roles closely linked to testing, as anticipated, allocate the majority of their time to these tasks, whereas hybrid and managerial roles demonstrate a more diverse time allocation with less emphasis on testing.

SOFTWARE TESTING PRIORITIES

The primary activity occupying the most time for respondents on a weekly basis is "Execution of tests" (29%), followed closely by "Analysis and preparation of test cases" (23%) and "Design and planning of tests" (20%). "Automated testing" accounts for 12% of the time, while "Review and Documentation of Test Results" and "Research and Education" represent 9% and 7% of the time, respectively.

The results demonstrate a notable emphasis on practical test implementation and thorough test case preparation, underscoring the significance of meticulous planning and the growing integration of automation in software testing procedures.

SOFTWARE TESTING PRIORITIES

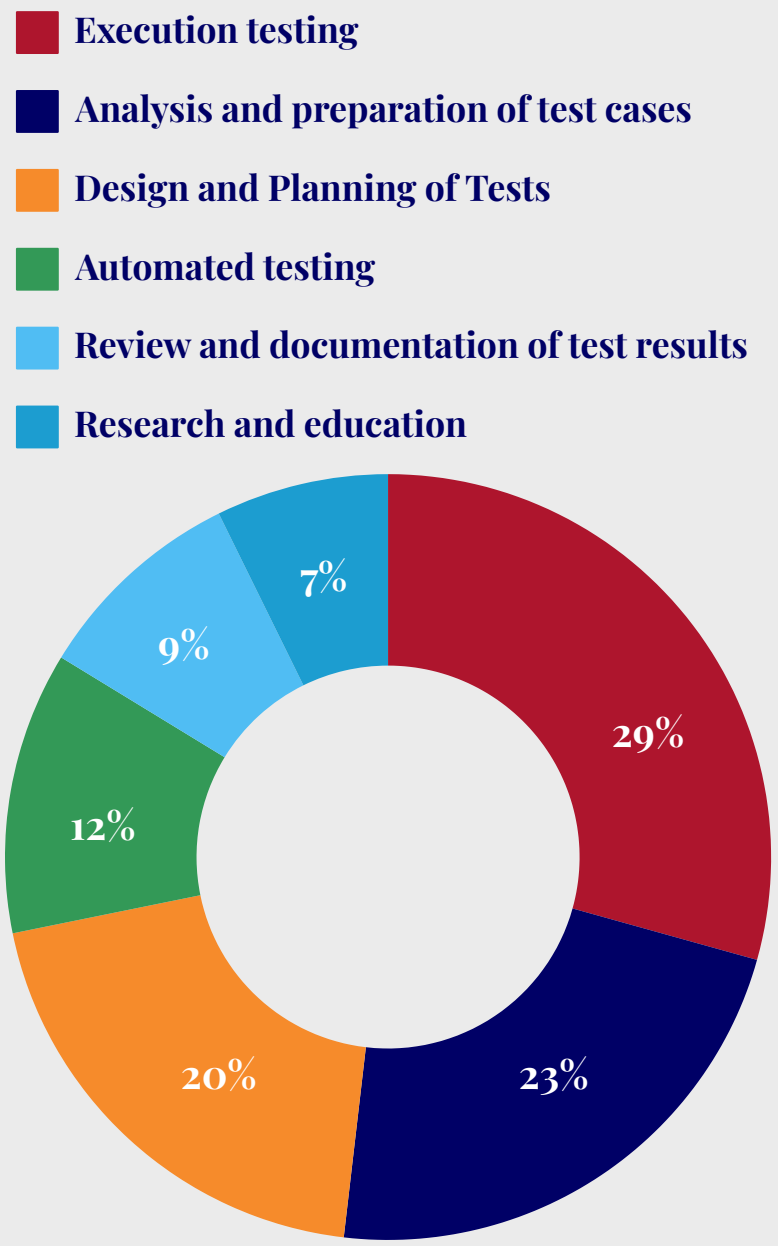


Figure 24. Test activities that demand additional time.

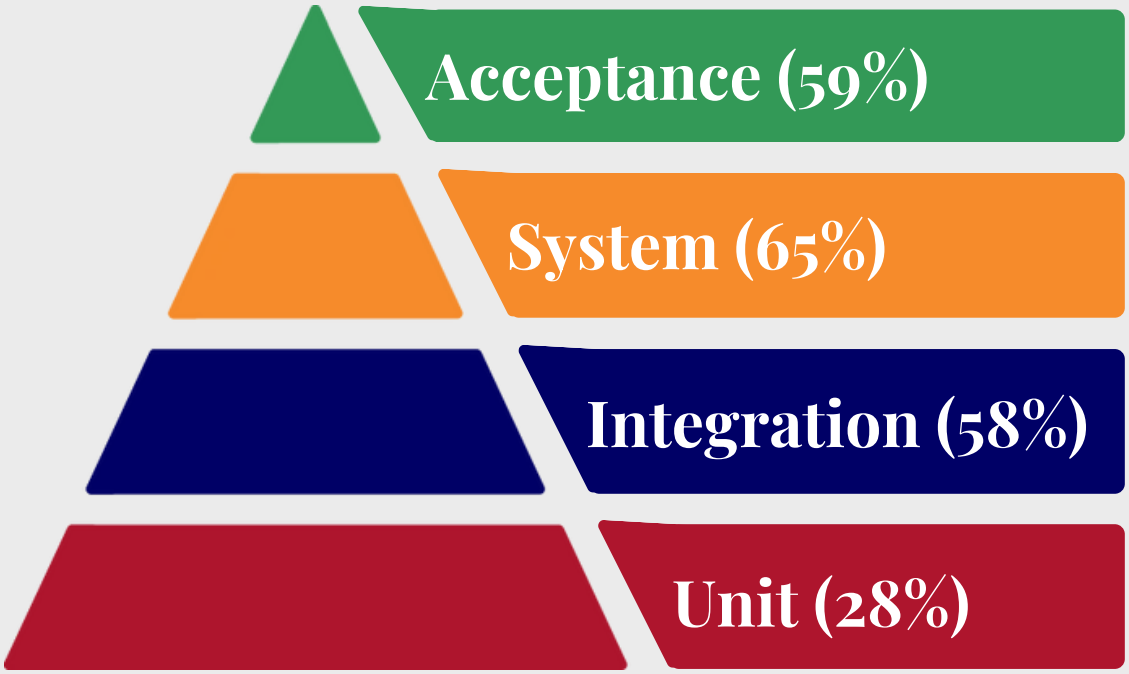


Figure 25. Test levels that teams primarily concentrate on.

Test teams primarily concentrate on System testing (65%), followed by Acceptance (59%) and Integration testing (58%). Unit tests, while crucial, are less common (28%).

The results demonstrate a clear preference for validating full functionality and ensuring end-user satisfaction.

Reducing the emphasis on Unit testing indicates a potential area for enhancing the validation of individual components, thereby bolstering software quality from its foundation.

SOFTWARE TESTING PRIORITIES

SOFTWARE TESTING PRIORITIES

The primary quality aspect prioritized by teams is "Functionality and adherence to requirements", cited by 84% of participants. This is followed by "User experience and usability" at 55% and "System reliability and stability" at 50%.

Performance and efficiency are prioritized by 43% of respondents, while 27% value product adaptability and portability, and 26% focus on maintainability and ease of modification. Only 2% of participants highlight other quality aspects.

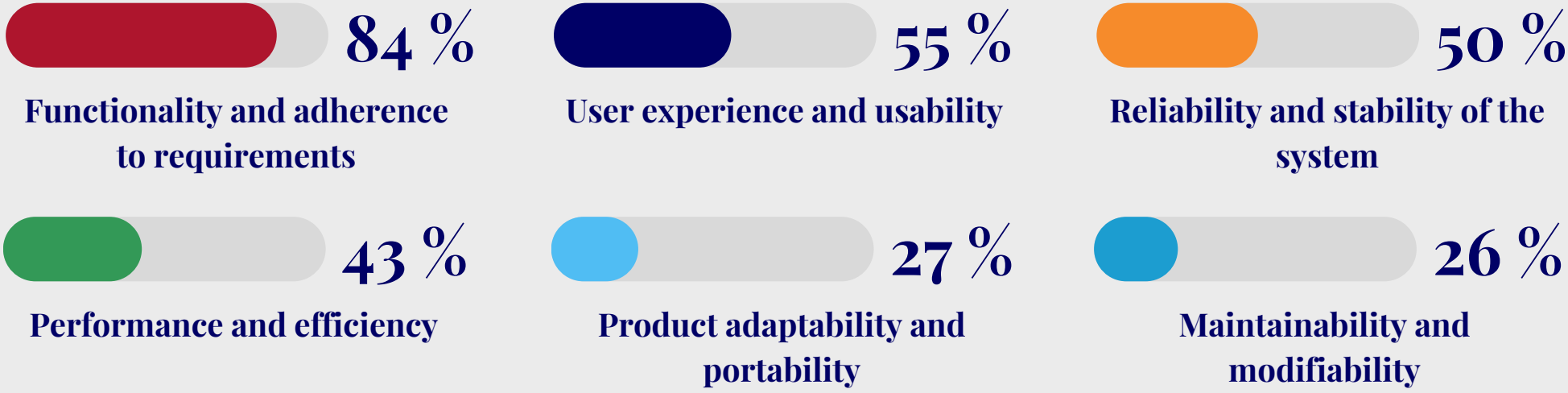


Figure 26. Primary Quality Aspects Prioritized by Teams.

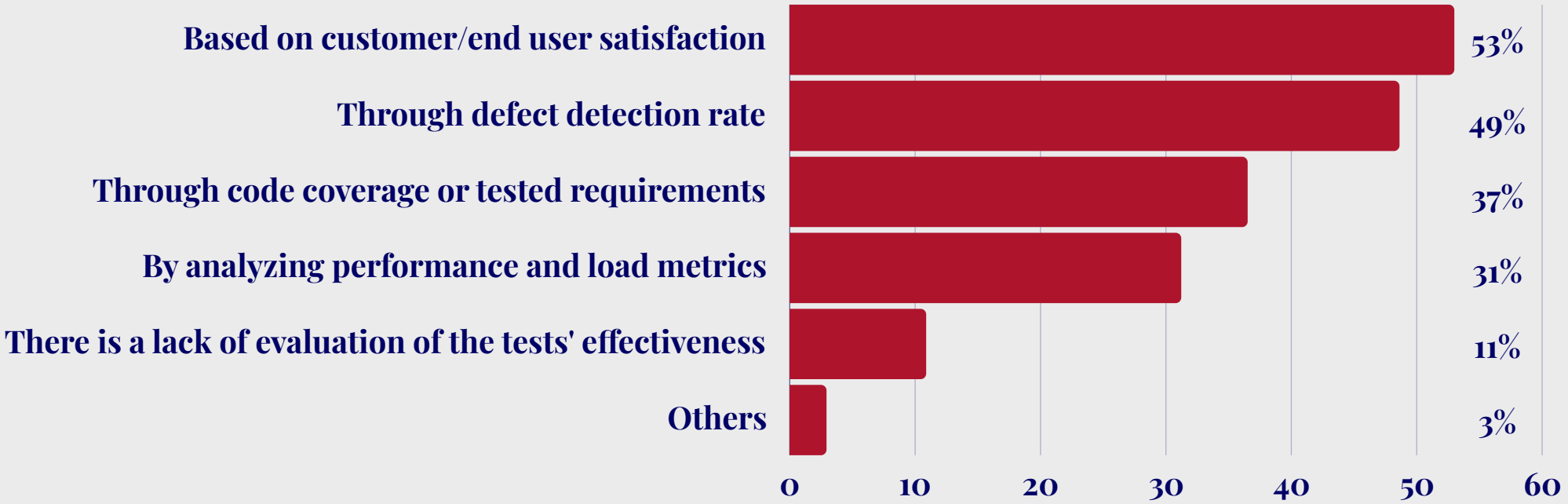


Figure 27. Methods used to assess the effectiveness of conducted tests.

The majority of participants (53%) assess testing effectiveness based on customer or end-user satisfaction. This is followed by the defect detection rate at 49%, and code coverage or tested requirements at 37%. Additionally, 31% incorporate performance and load metrics into this assessment.

However, 11% of participants do not assess the effectiveness of testing within their teams. The "Other" option was selected by a smaller group, comprising 3% of the responses.

These findings suggest that customer satisfaction and defect detection are the most highly regarded metrics for evaluating the effectiveness of software testing.

SOFTWARE TESTING PRIORITIES

SOFTWARE TESTING PRIORITIES

Most teams (42%) assign the task of writing test cases exclusively to the testing team. Additionally, 25% note that while this duty primarily falls on the testing team, other members also provide some input. Another 22% distribute this responsibility between the testing team and other members.

Only 6% of individuals do not formally write test cases, while 4% specify that developers do so under periodic supervision from the testing team. These figures highlight the critical role of the testing team in this responsibility, showcasing substantial cooperation in certain organizations.

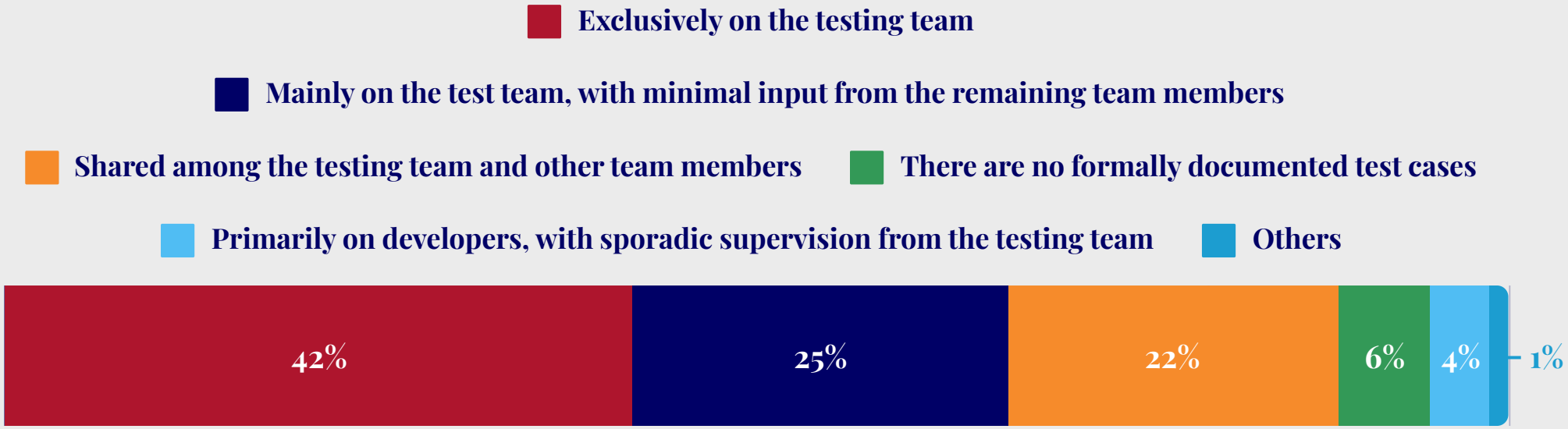


Figure 28. Allocation of responsibilities within teams for test case design.

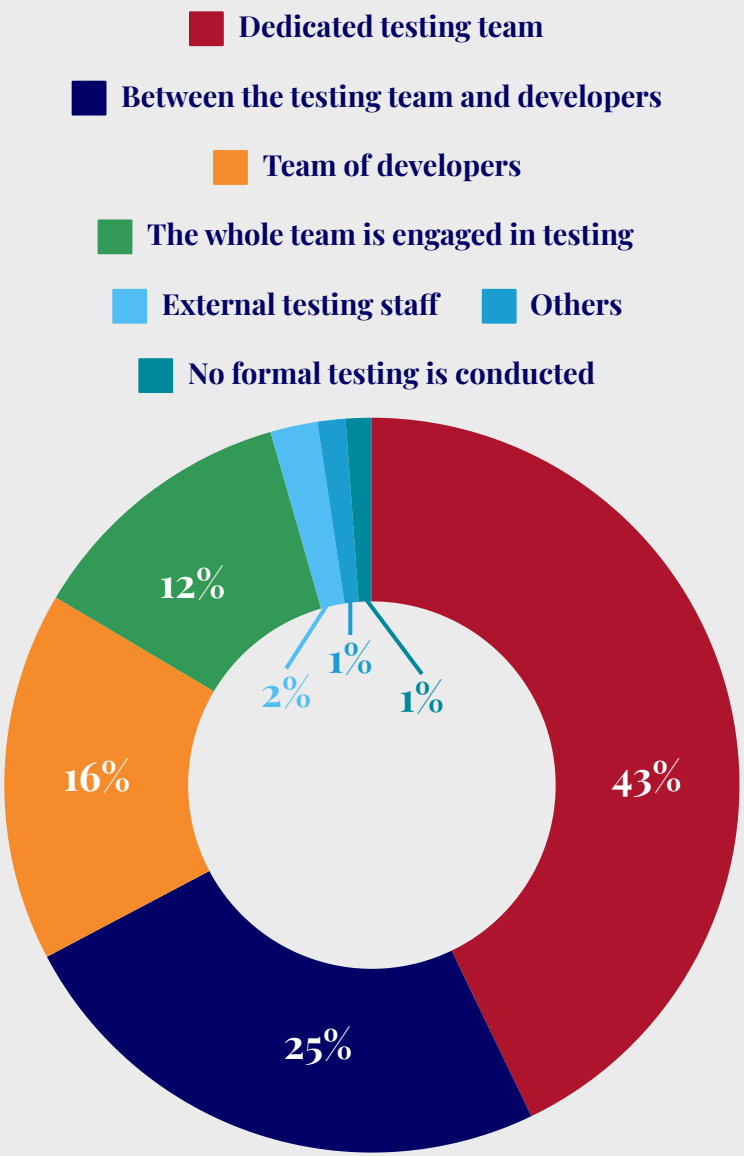


Figure 29. Distribution of responsibilities in test execution.

In 43% of instances, the primary responsibility for test execution lies with the dedicated testing team. In 24% of cases, this responsibility is shared between the testing team and developers. Developers take on the responsibility in 16% of cases as part of their development cycle. The entire team engages in the testing process in 12% of instances.

Specialized external personnel oversee 2% of the tests, while a small 1% of respondents indicated that tests are not conducted formally.

One percent of respondents mentioned using alternative approaches to distribute the responsibility for test execution.

SOFTWARE TESTING PRIORITIES

An examination of pay equity in the software testing industry reveals that 40% of participants view their salaries as aligned with the industry average, while 36% believe their salaries are below average.

A portion of respondents, 16%, report lacking sufficient information to make an evaluation, while only 8% perceive their salaries as exceeding the industry average.

The results suggest that while many professionals believe their salaries are in line with industry standards, there is notable unease regarding salary fairness, as a considerable number feel their earnings are below the norm.

SOFTWARE TESTING PRIORITIES

Figure 30. Perception of salary equity within the sector.

Employees at large corporations generally hold a more favorable view of salary fairness, with 44% believing their pay aligns with industry standards and 13% considering it exceeds them.

In medium-sized and small enterprises, a significant proportion (40% and 44%, respectively) perceive their salaries to be below the industry average, indicating greater dissatisfaction in these environments.

Enhancing transparency and communication regarding pay policies could help alleviate this dissatisfaction and improve the perception of pay equity across companies of all sizes.

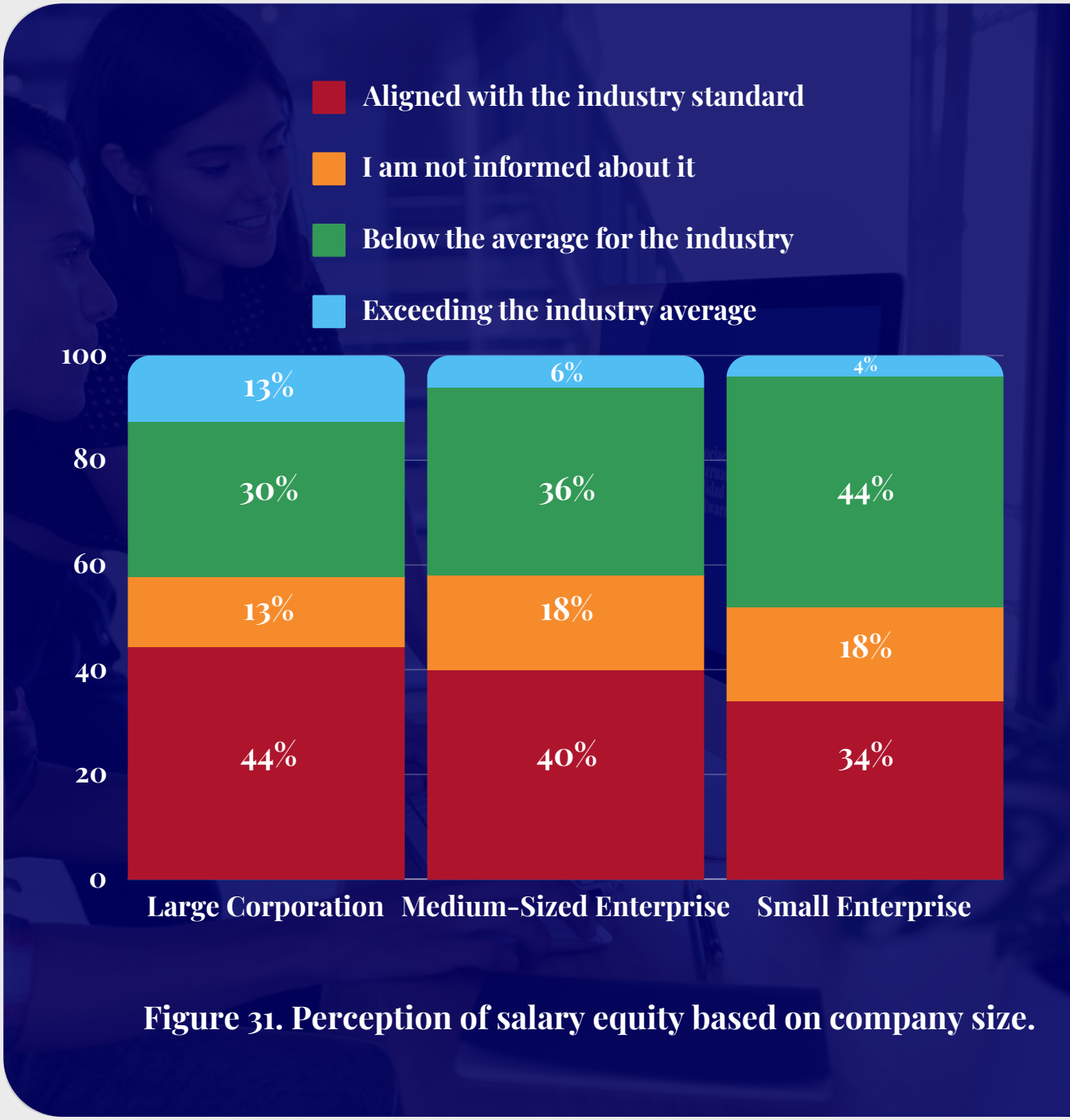


Figure 31. Perception of salary equity based on company size.

SOFTWARE TESTING PRIORITIES

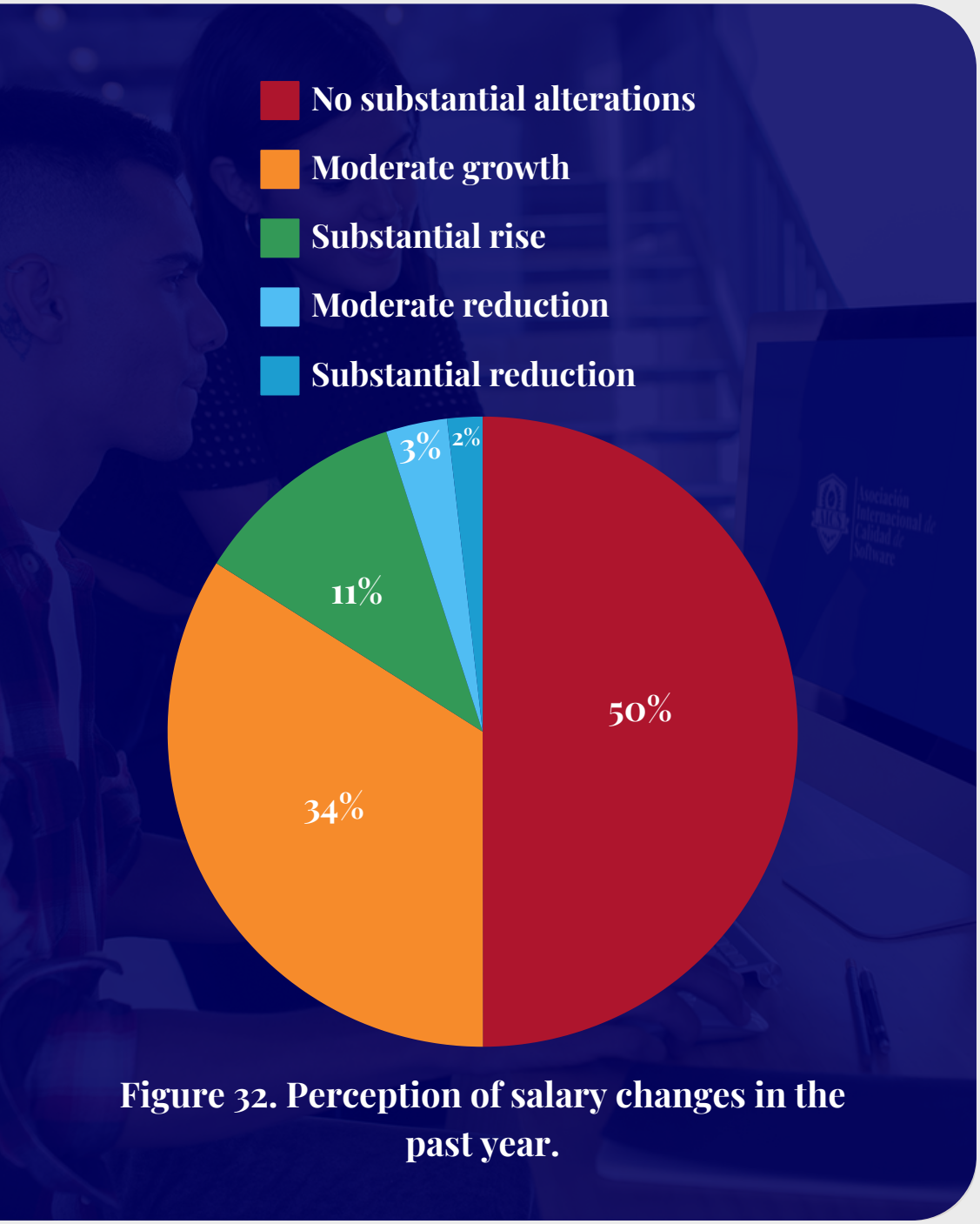


Figure 32. Perception of salary changes in the past year.

Half of the respondents have not experienced significant salary fluctuations. Additionally, 34% reported a moderate increase in their salary, while 11% observed a substantial rise.

In contrast, a small segment of participants reported salary reductions, with 3% noting a moderate decrease and 2% experiencing a significant cut.

These findings suggest that while the majority of surveyed professionals have maintained or slightly increased their salaries, a minority have faced salary reductions over the past year.

SOFTWARE TESTING PRIORITIES

Test automation ranks as the primary area for enhancement, cited by 54% of respondents, with test planning and design following closely at 42%. Furthermore, collaboration between development and testing teams, along with software quality management, are also key areas, identified by 36% and 33% of participants, respectively.

Defect reporting and tracking (27%) and the validation of customer satisfaction and requirements (19%) are other significant areas requiring attention. Finally, test execution is mentioned by 18% of respondents as an area for improvement.

These data emphasize the importance of prioritizing automation, planning, and collaboration to enhance the software testing process.

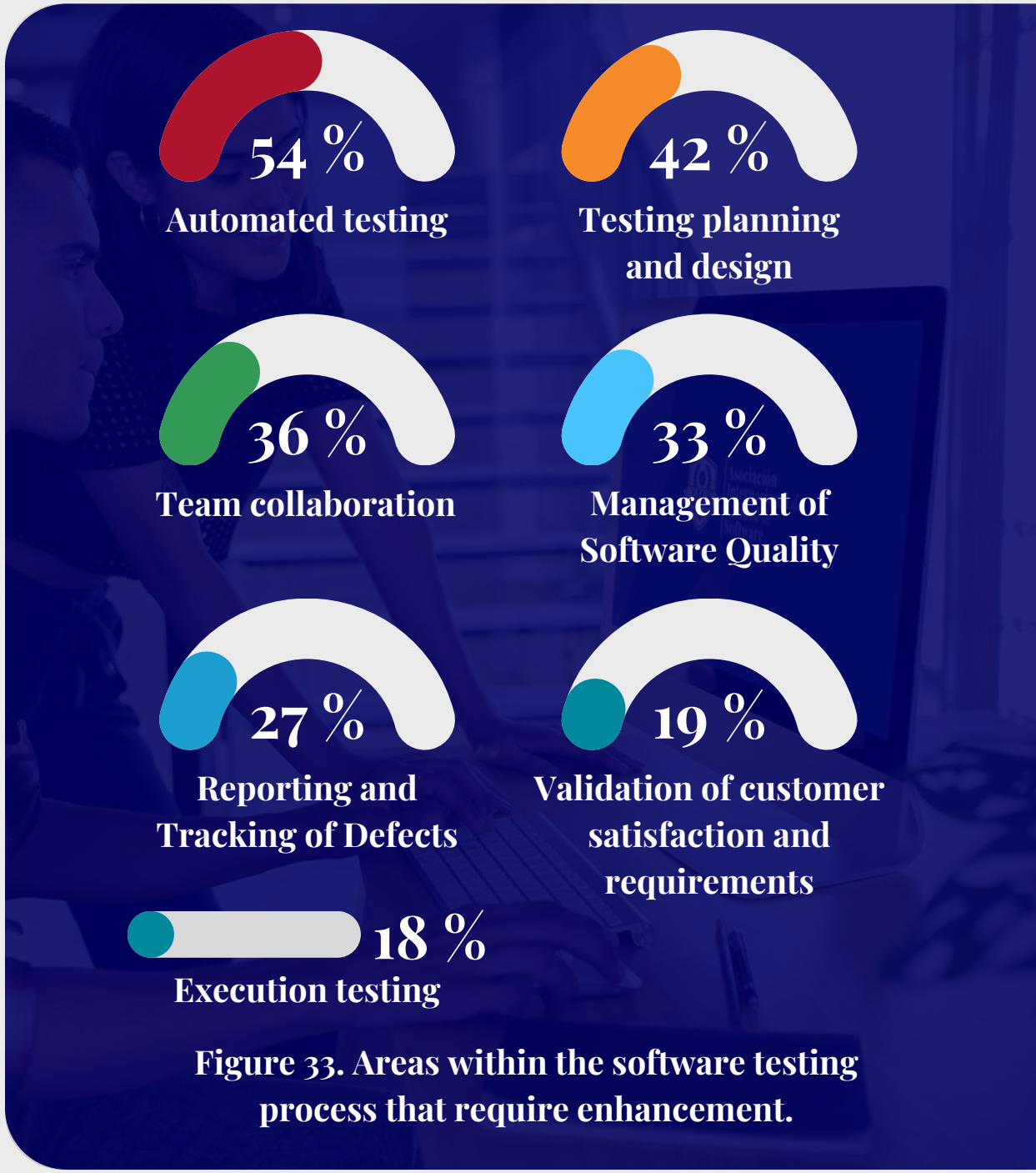


Figure 33. Areas within the software testing process that require enhancement.

SOFTWARE TESTING PRIORITIES

AUTOMATION AND TOOLS

AUTOMATION AND TOOLS

Test management tools are the most widely used, with 66% of respondents reporting their use. These are followed by incident tracking tools (61%) and test automation tools (53%), indicating a clear preference for tools that streamline the management and automation of the testing process.

Loading and performance tools are also widely utilized, with 37% of participants using them, while security tools are less common, employed by 19%. A small portion (9%) of respondents do not use any testing tools, and 5% have adopted alternative tools. These findings underscore the industry's shift towards the formalization and enhancement of software testing.

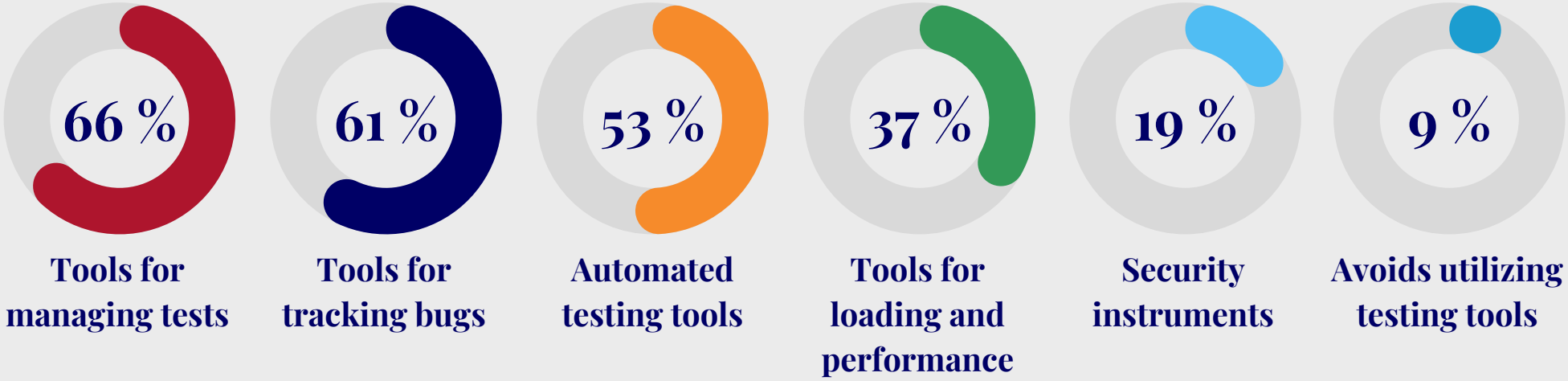


Figure 34. Most commonly utilized testing tools.

An analysis of the proportion of automated testing in companies indicates that a substantial number of organizations, 28%, automate 25% to 50% of their tests.

Additionally, 26% of businesses automate less than a quarter of their tests, while 18% do not automate any. Another 18% automate between half and three-quarters of their tests, and just 10% automate over three-quarters of their tests.

These results suggest that while automation adoption is increasing, a significant portion of testing is still carried out manually in many companies.

AUTOMATION AND TOOLS

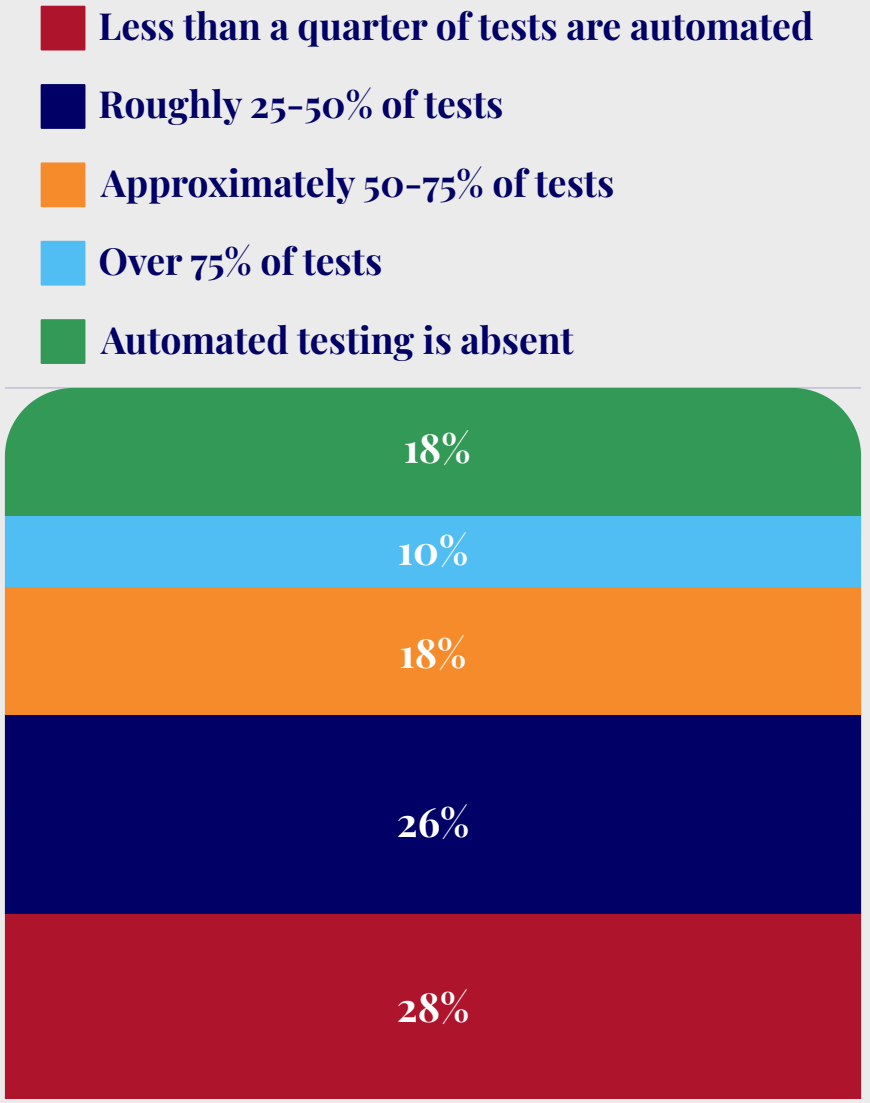


Figure 35. Proportion of automated tests.

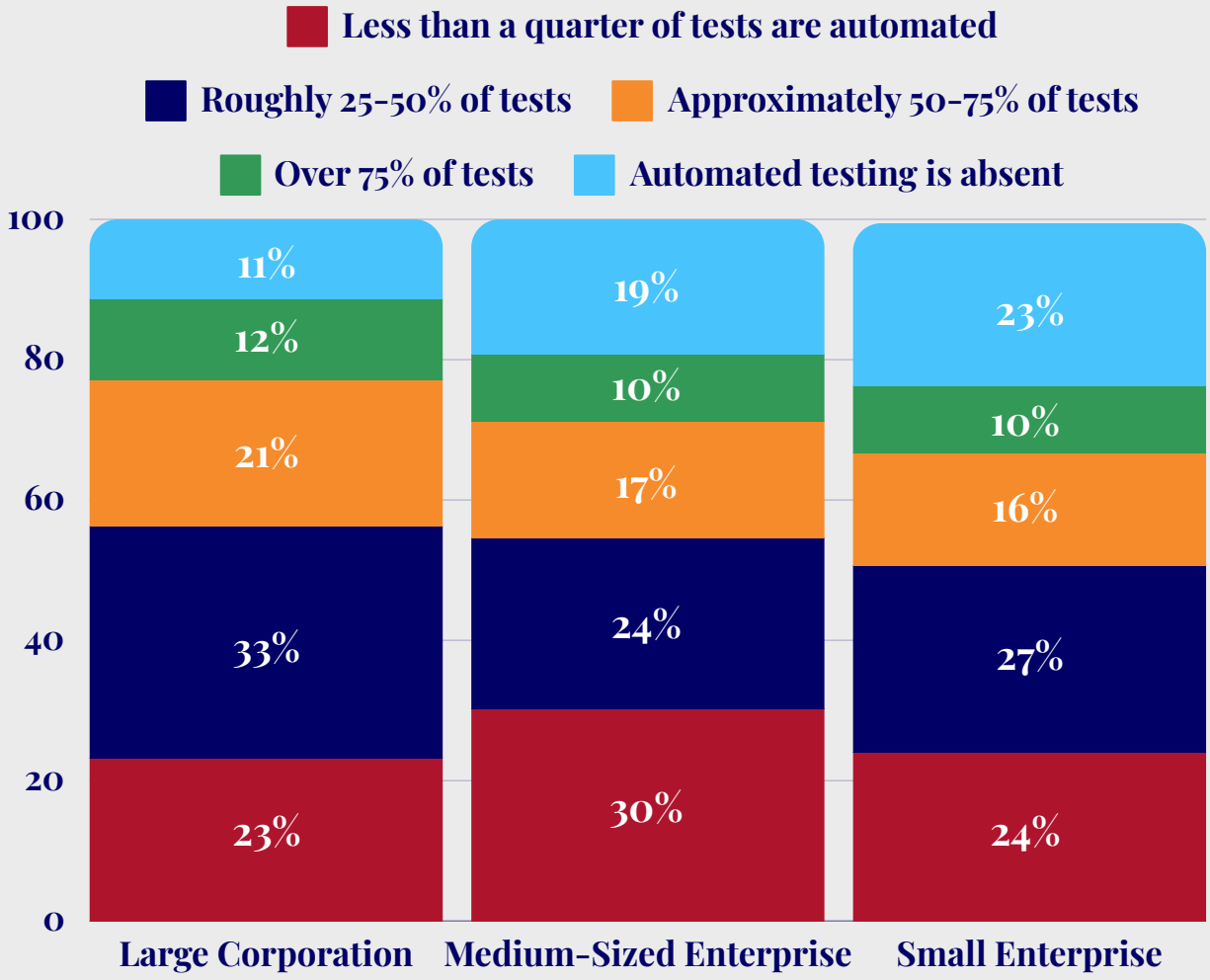


Figure 36. Proportion of automated tests categorized by company size.

Within large corporations, 33% automate 25% to 50% of their tests, 23% automate less than 25%, 21% automate 50% to 75%, and only 12% surpass 75% automation.

In medium-sized companies, 30% automate less than 25%, while 24% automate between 25% and 50%. In small companies, 27% automate between 25% and 50%, and 24% automate less than 25%.

Additionally, 23% of these companies do not automate at all. The results indicate that significant corporations lean towards partial automation (25%-50%), whereas medium and small enterprises exhibit more diversity in their automation approaches.

AUTOMATION AND TOOLS

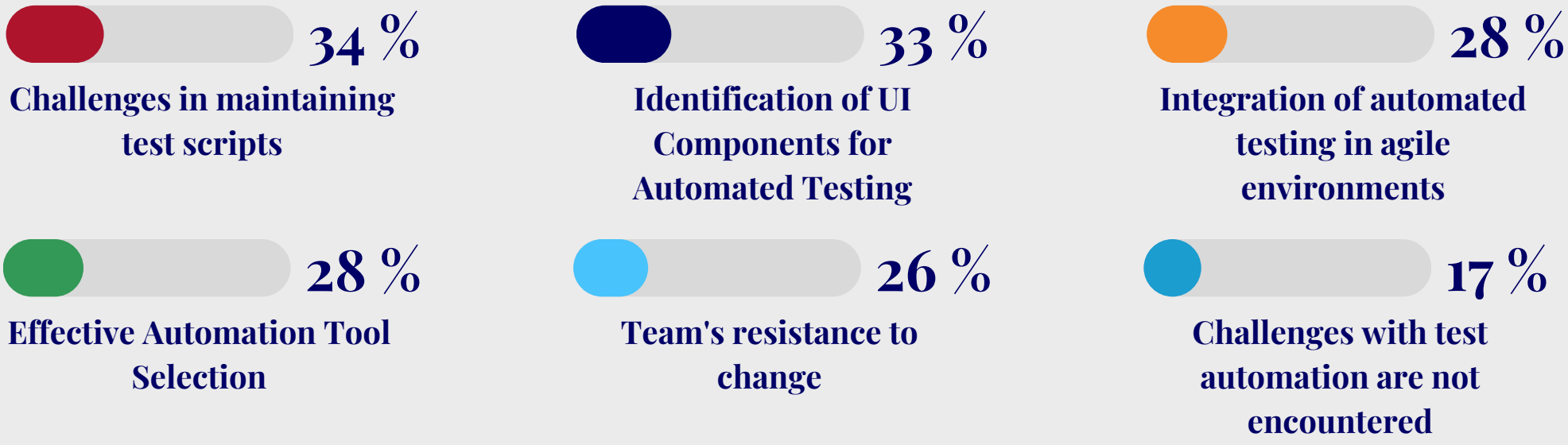


Figure 37. Typical obstacles encountered during the integration of automated testing.

AUTOMATION AND TOOLS

When incorporating test automation, common challenges include maintaining test scripts (34%) and identifying UI elements (33%). The integration of automated tests into development environments and the careful selection of automation tools are also emphasized, each by 28% of respondents.

Resistance to change within the team was noted by 26% of respondents. Meanwhile, 17% reported no obstacles in automation, while 10% cited various other issues. These findings highlight crucial areas for improving the efficiency and effectiveness of test automation.

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