



The rise of enterprise application testing

How leading organizations are extending quality strategies across enterprise apps, from SAP to Salesforce and beyond

Table of Contents

- 3 Introduction
- 4 The problem
- 7 Addressing enterprise application testing challenges: The fundamentals
- 14 A spotlight on SAP testing
- 15 A spotlight on Salesforce testing
- 16 Conclusion

Executive Summary

Digital disruption has fundamentally reshaped the business landscape over the last two decades. This year, the trend accelerated in a way few could have predicted, making existing IT modernization plans urgent. To meet the surge in digital demand, enterprises are ramping up plans for cloud migration, DevOps transformation, and enterprise application modernization.

As the foundation for an organization's most critical business processes – many of which are being profoundly, rapidly redefined – enterprise applications are an increasingly critical source of innovation. But modernization is complicated. IT leaders must juggle multiple initiatives, from adoption of SaaS technologies to legacy modernization and cloud migration – all while ensuring that the business workflows that rely on these applications are not interrupted in the process.

While testing transformation initiatives have typically focused on traditional software development, our research reveals a mounting imperative to extend modern quality strategies across the enterprise application landscape. A growing number of organizations are finding ways to align enterprise application delivery with the continuous testing processes that have transformed traditional software development.

We interviewed a handful of testing leaders who have successfully redefined their enterprise quality strategies to support continuous business innovation, increase the pace of application modernization, and accelerate cloud migration. This report explores the challenges they faced along the way and distills best practices for modernizing testing to accelerate innovation and minimize risk across a diverse enterprise IT landscape.

Introduction

Enterprise application modernization is foundational to a larger digital transformation strategy. It is often assumed that traditional software development drives digital transformation, but any differentiating or innovative capability will at some point rely on transactions with core systems, such as SAP and Salesforce, to deliver business value.

Whether your organization is adopting new technologies, incrementally modernizing legacy systems, or both, delivering updates must strike the right balance between innovation and risk mitigation. For enterprise applications, this becomes a question of how quickly changes can be deployed without business disruption. Previously, application teams relied on manual testing and hypercare periods to ensure the quality of application updates – if they tested them at all. But these methods no longer meet the demands of today's business.

In a recent [McKinsey](#) report, CIOs cited “agility and time to market” as their primary reason for pursuing infrastructure modernization, closely followed by “quality of services or reliability” and “cost efficiency.” To improve agility and time to market, many enterprise application teams are adopting the Agile and DevOps methods that have transformed traditional software development. While this shift is challenging for teams accustomed to manual testing and waterfall-style release cycles, the gains in application quality, delivery speed, and cost efficiency are well worth the effort.

The enterprise application conundrum

For many organizations, transforming software delivery processes for enterprise applications is a complex puzzle. These are the mission-critical systems that power an ever-increasing array of day-to-day business processes, from enterprise resource planning (ERP), customer relationship management (CRM), and IT service management (ITSM), to business intelligence (BI), finance, and human resources management tools. They are likely running in some combination of on-premises, private cloud, and public cloud environments, and they are often evolving in parallel.

Evolution comes in many forms – including changes driven by the business, updates released by the vendor, and upgrades driven by IT. As the core of business operations and the foundation of digital transformation, defects come at a much higher cost. Any single business process may span dozens of these applications, creating endless potential failure points that could bring those processes to a halt. And the scope is growing ever larger. [IDC predicts](#) that the global market for enterprise applications will grow to \$309 billion by 2023, as organizations build out new or replace legacy infrastructure to meet the challenges of the digital economy.

The question is, what does this mean for testing?

➤ The Problem

The enterprise application's greatest strength can also be its greatest challenge: customization. As more businesses rely on their IT infrastructure for productivity gains and operational efficiencies, the applications that make up this landscape are heavily customized for the organization's specific needs. This allows organizations to do more with their investment – but only if they can effectively test these customizations every time the application is updated.

The highly integrated nature of most enterprise applications further complicates things. The average organization uses more than 900 applications today, according to [MuleSoft's 2020 Connectivity Benchmark](#), and a single business workflow might touch dozens of these applications via microservices and APIs. To ensure business processes keep running, testers must replicate the work users perform across multiple applications and ensure none of those workflows are impacted when one of those applications is updated. That means that tests must work across multiple applications, architectures, and interfaces.

When we asked technology leaders about the challenges they have faced when navigating this complexity, the most common responses generally fell into three categories: speed, risk, and cost.

Speed

In [GitLab's 2020 DevSecOps survey](#), respondents cited testing as the #1 reason for delays in software delivery cycles. For enterprise applications, the challenge is even more pronounced. Testing enterprise applications requires testing end-to-end scenarios that span multiple business units and technologies. This often leads to extensive regression suites designed to test every possible scenario

– an extremely time-consuming exercise for teams carrying out testing manually. Even with test automation solutions in place, the process can still take several weeks.

With SaaS applications, updates are compulsory for users, requiring teams to accelerate testing to match the pace of the vendor's updates. As release frequency increases, the problem compounds. Even when delivery teams have control over how and whether updates are installed, constant update requests from business users can create a time crunch.

To combat these challenges, some organizations have pivoted away from extensive pre-release testing in favor of hypercare, a post-release period that can last weeks or months in which IT teams dedicate their time to fixing defects quickly after they emerge in production. Hypercare is a recognition that business users are unlikely to catch all defects in pre-release testing, but it is not an adequate replacement. If every delivery requires weeks of hypercare, it doesn't matter if your development teams can update software on a daily, weekly, or monthly cadence.

“The biggest challenge we face is too little testing done too late.”

- Innovation leader, global FMCG company

With the hypercare approach, businesses will not have confidence in their releases until weeks later, and even then, defects may go unnoticed.

Risk

Testing must be designed to mitigate risk, whether you are making standard updates or planning a major upgrade to an enterprise application. Recent research shows that the risks associated with application modernization may not be apparent at first. One [survey](#) found that 70% of SAP customers were not fully confident that their company understands the business and technical risks of migrating their existing SAP systems to S/4HANA.

Given the highly customized nature of most SAP landscapes and the difficulty of assessing the risk of a release in advance, this uncertainty is easy to understand. It also helps explain why the average SAP customer is six or more years behind in their updates, as SAP co-founder Hasso Plattner noted in a keynote speech at SAPPHERE NOW. But this risk aversion is costing companies years of innovation.

Implementing test automation can help improve test coverage, but test coverage does not equate to risk coverage. A multinational oil and gas company learned this lesson the hard way. They spent millions on a proprietary functional test automation solution and took months to automate 9,000 scripts. When all was said and done, however, these test scripts only covered 8% of the business risks the team had identified.

Another factor that contributes to risk is a lack of alignment between the business and IT. In some organizations, testing is the responsibility of key business users. This creates an organizational problem where the people responsible for testing are not the testing professionals, and therefore are not skilled enough in the area. These business users may spot-check an application to make sure the most commonly used functions still work, but this inconsistent approach is unlikely to account for every process that the update affects.

“We struggle to ensure that we have consistency across all testing processes.”

- Global architecture leader, European bank

In other organizations, this work may be delegated to testers who do not understand how the software is being used or which functions are most critical to business continuity – and therefore cannot understand the level of risk defects pose.

Some of those defects can put organizations at risk for serious data security and compliance issues. For example, many testers use admin-level privileges when testing applications like SAP and Salesforce. As a result, misconfigurations of data security and access control can easily find their way into production, making sensitive customer data available to people who do not have permission to access it. Protecting this data requires testers to understand not only testing best practices, but also the configurations and user management protocols that are unique to their organization's instance. Designing an effective risk-based testing strategy requires collaboration between business users and IT – but this is easier said than done.

“If we don't have the technical knowledge specific to the application, our testing isn't specific enough”

- Test engineering director, global payments infrastructure provider

Cost

Leaders may not believe they have the resources to dedicate to extensive pre-release testing, but waiting to address defects until critical business processes break can come at a much higher cost. With manual testing, it is nearly impossible to test for every potential impact an update could have. That means defects are often not discovered until something breaks in production, resulting in downtime that interrupts critical business processes.

Forrester found that for SAP customers, one hour of production downtime as a result of relying on business users costs between \$500,000 and \$1m.

Some organizations have turned to automation to reduce the high cost of manual testing, but not all test automation solutions offer the same return on investment. When specialized scripting knowledge is required to build and maintain test cases, your highest-cost test automation resources can quickly become overburdened by test script maintenance, which is required each time there are changes to the application under test. If the test scripts are not maintained, teams will often revert to manual testing. A recent survey conducted by Tricentis and the Americas SAP Users' Group (ASUG) showed that users of a legacy, scripted test automation tool are still doing 75% or more of their SAP testing manually, despite the investment in automation.

"With a script-based tool, maintaining our test cases required a lot of technical effort"

- Braulio Obando, Technical Lead, QA Center of Excellence, Experian

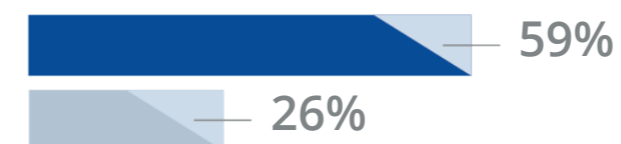
➤ Addressing enterprise application testing challenges: The fundamentals

Whether an organization is undergoing a major migration or simply trying to keep pace with regular updates, testing represents the number one barrier to software delivery, and, by extension, business agility. Building a smart testing strategy is crucial to overcome the delivery barrier, without introducing business risks or the high costs associated with fixing defects in production.

We asked testing leaders across the globe how they have overcome these challenges and distilled their advice into the following key steps.

Speeding up testing

In a world where 59% of enterprises deploy a new software build daily and 26% deploy one hourly (according to [GitLab's 2020 research](#)), it is clear that speed is of the essence. Enterprise architectures – and the processes with which they are updated – must be built to accommodate this perpetual evolution.



Fostering business-IT collaboration

[According to McKinsey](#), 58% of today's CIOs consider lack of talent and gaps in training their biggest barrier to modernization. The challenge is particularly pronounced for enterprise applications. Effective testing requires business users to be involved, but these users often lack the technical knowledge to contribute to test automation.

To bridge the gap, many enterprises have adopted codeless test automation solutions for their most critical business applications. Investing in a

business-readable test automation solution can democratize testing and provide a foundation for creating an organizational culture of quality to which all stakeholders can contribute.

Recent [research from Forrester](#) showed that most enterprises today opt for a testing platform that makes advanced test automation more accessible to a broader range of skill levels. According to the research, the best tools provide a consistent, easy-to-use experience that facilitates collaboration among various stakeholders. More accessible test automation means more scalable test automation and less time wasted on manual effort.

"After adopting model-based test automation, we realized we could train subject matter experts or people that are not as technical. With a couple of weeks of hands-on experience, they are able to start developing their own test cases, as well as execute functional test cases that we already built."

- Braulio Obando, Technical Lead, QA Center of Excellence, Experian

IT leaders should also consider investing in an automation recorder, which business specialists can use to record processes that need to be tested and turn them into automated test cases.

Aligning testing across the organization

Many organizations also need to make a decision about how to organize testing and QA functions: Should there be a quality assurance center of excellence with test automation engineers who are deployed to various projects across the organization? Or should each business unit be responsible for testing their own applications, with testing teams distributed across the various business units? For enterprise application testing, many organizations are opting for a central testing team whose members are trained on the same test automation platform but specialize in different testing disciplines. These specialists can be deployed to support specific teams at the outset of a project.

“It’s hard to have enterprise application shared services teams. If you have a team that is completely dedicated to an application, they develop a deep understanding of that tool. It would be really hard to take a Salesforce tester and put them on an SAP team.”

- Test engineering director, global payment technology provider

Other organizations have invested in building dedicated, Agile teams for each mission-critical application. In this model, developers, testers, and other IT stakeholders can become highly specialized in the nuances of a particular application.

“Our QA Center of Excellence helps teams across different business units build reusable test case libraries based on the systems they are testing. We also define best practices for test automation and provide the infrastructure for each team’s testing efforts.”

- Braulio Obando, Technical Lead, QA Center of Excellence, Experian

Using a risk-based approach

Risk-based testing can not only improve quality and reduce production defects, it can also significantly cut down on the amount of testing required. This approach shifts the focus from test coverage to risk coverage. While both metrics are important, incorporating risk coverage into your testing strategy will make it easier to align testing activities with business objectives. Risk coverage tells you what percentage of your business risk is covered by test cases. It is often the case that 10% of a test suite will cover 80% of the business risk. That means you can significantly cut down on the number of tests required, and therefore overall testing time, and still deploy with a high level of confidence.

A risk-based approach is also helpful in the event of a major upgrade or migration. Some enterprise application vendors offer readiness checks, but enterprises should also consider seeking advanced assessments from third parties. These advanced assessments should focus on identifying the im-

pacts of the upgrade on development, testing, integration, and security. The result is a clear picture of the risk the upgrade poses, the tests that need to be executed, and the test cases that are redundant or no longer required in the new environment. This can significantly cut down on test execution time both during and after a major upgrade.

Addressing business risk

Advanced enterprise application testing teams employ two key strategies to address business risk: understanding business requirements and knowing what to test.

Understanding business requirements

The first step in mitigating business risk is understanding the business outcome the update is designed to achieve. Starting with the business requirements allows the rest of the delivery strategy, including testing, to align on key business impacts. This up-front alignment ensures that the most business-critical functions of an application are identified and accounted for in the test automation strategy.

“We approach critical business requirements with a concept called the high business value test case – meaning if this workflow was not working, our business is not functioning properly. For an e-commerce company, the high business value workflows would be things like the checkout process, or the ability to make a payment or view a bill.”

- Test engineering director, global payment technology provider

Some organizations have introduced a “business translator” role to bridge the gap between technical roles and business teams. Others are adopting technology solutions that enable business users to record business processes and turn them into test cases. Whichever route you choose to address this problem, this step is critical for ensuring that the functional requirements of the business team and the technical requirements of the delivery team are effectively communicated.

Aligning with business users gives testers a clearer understanding of the impact of the update. As a testing leader from a financial institution explained, “maybe the way that you’re doing your testing isn’t the way that the user is actually using the application. You might need to do some sort of adjustment there.”

“The biggest thing that teams need to work on is making sure that they identify the business need, because everyone’s journey is different.”

- Test engineering director, global payment technology provider

Similarly, when a software release impacts business processes across multiple teams, it is important to align on proper acceptance criteria across the organization. This ensures that the health of the product is maintained across the organization and simplifies testing business processes across the enterprise. Many organizations struggle with fragmented teams that have their own processes, which can both stunt software maturity and introduce risk.

Knowing what to test

With more frequent releases across an increasingly diverse IT landscape, it's easy to quickly arrive at test bloat. That is, as test cases are added to accommodate each new business requirement in each release, teams can rapidly arrive at an unmanageable volume. This makes it difficult to know which test cases to run for a given release.

Developing an efficient test plan requires a thorough understanding of which business processes will be affected by a given release. If an organization can run the right tests before each release, they can eventually eliminate hypercare, by catching the defects that would have otherwise gone live in production.

11 → 88

the increase in releases per year that a consumer product organisation was able to achieve when they began to answer the question, "what should I test?"

When impact analysis is combined with risk-based testing, testing teams can identify the areas of each release that create the highest risk, then identify the test cases that will most effectively cover those areas. This approach enables a high level of risk coverage without a high volume of testing.

Addressing data security issues

One of the major challenges with cross-team testing is changing user access to the data. Multiple copies of data volumes are often required for test, patch, and development purposes. As big data gets

bigger, your IT organization must develop scalable strategies to mitigate the increased risk of losing control of it.

Enterprises should seek a test data management solution that enables testers to mask production data or generate synthetic data. The right test data management approach can both ensure your test data is compliant and reduce the time it takes to identify optimal test case data. To minimize data access risks, look for a solution that enables role and profile-based testing via UI and API that can verify whether profile and permission sets have been configured correctly.

Testing across major upgrades and cloud migration

Application modernization requires a testing strategy that will verify that business processes and integrations still function after a major application upgrade. This is especially crucial for organizations as they migrate business-critical workflows to the cloud, which can create additional security, data integrity, and business continuity challenges. When migrating legacy applications and workloads, organizations must develop testing processes to verify that migrated data and functionality – and everything it interacts with – remains intact in the cloud implementation.

“Always keep your learning hat on. Your customers are probably adapting. Your competitors are definitely adapting. It's critical to ensure that you're keeping up with the changes.”

- Braulio Obando, Technical Lead, QA Center of Excellence, Experian

One of the best ways to address this challenge is by building resilience into tests so they can be re-used as the application evolves. With resilient test automation, you can build baseline tests based on the existing legacy system, then use those tests to uncover discrepancies and errors in the migrated application.

Many organizations struggle to scale test automation because test scripts require maintenance each time the application changes. After a cloud migration, they may need to be rewritten entirely. To avoid this rework, some teams opt to delay automating at all until the upgrade or migration is complete, but this is a mistake. Transitioning to automated testing requires both process changes and cultural adjustments. If you can start building test automation now that offers compatibility across system upgrades, you can avoid having to simultaneously navigate testing transformation and a significant upgrade project. Instead, opt for solutions that make it possible to build test automation that is extensible and reusable across upgrades.

Reducing costs

The best practices listed above, which contribute to testing efficiency and effectiveness, have the power to significantly reduce testing costs, and to transform testing from a cost center into a value generator.

Scaling test automation

The key to reducing testing costs lies in an organization's ability to efficiently scale test automation. With test automation, organizations can significantly improve test coverage and catch defects much earlier in the delivery lifecycle, when they are less expensive to fix. The National Institute of Standards in Technology (NIST) found that the cost of fixing a production defect is 30 times higher than the cost of fixing it during development. After moving away from manual testing and significantly increasing test coverage, a global payment pro-

cessor calculated that achieving the same level of coverage manually would have cost the company \$500,000 each month.

Organizations can scale test automation both horizontally across applications and vertically within an application with low-code and no-code solutions. These solutions can be adopted and learned quickly by existing testing resources, regardless of technical skill level. A model-based approach can extend the benefits further, by organizing test cases into reusable building blocks that can be repurposed across projects and teams. By increasing test resiliency, this approach eliminates the high maintenance costs associated with script-based tools.

With codeless test automation paired with a risk-based approach, the medical device manufacturer [Varian reduced testing costs](#) by 35% across a complex enterprise application landscape that includes SAP, Salesforce, SQL Server, Dell Boomi, ServiceMax, and more. Within six months, Varian had automated testing across these applications and reduced test cycle times by 93%.

Tightening delivery timelines

As enterprise application delivery shifts to DevOps models, organizations must find ways to scale test automation beyond current levels. DevOps teams report that testing represents the most significant delay in the software delivery pipeline. And recent research from Tricentis and the World Quality Report show that a majority of organizations automate 20% or less of their total testing effort.

Because testing is the most significant delay in the delivery process, modernizing it represents the most significant opportunity for improvement in delivery timelines. The faster delivery teams can ship updates, the faster the organization can build innovation that streamlines business processes and unlocks new streams of revenue.

Aligning testing with Agile and DevOps methods

The age of the digital economy, and the resulting wave of digital transformation, means that customer expectations are constantly increasing. Enterprise applications are the critical enablers of an organization's response to this new demand. That means businesses need to be able to update and improve them as quickly as they deliver new products, features, and services to customers – without introducing risk.

In order to align innovation across the organization, enterprise application delivery is shifting to Agile and DevOps models. However, for many organizations, getting teams to shift to these new ways of working presents a significant cultural challenge. After years of working in a waterfall way, shifting to DevOps processes can be uncomfortable. It requires teams to undergo significant changes before they can see tangible results.

Focusing on improving these areas does show results. [DORA's State of DevOps survey](#) found that in comparison to low performers, elite DevOps performers had 208 times more frequent code deployments, a 7 times lower change failure rate, and a 2,604 times faster recovery time from incidents.

[Tricentis research](#) found successful DevOps transformation was strongly correlated with prioritizing testing as part of the transformation effort. Nearly 90% of organizations surveyed said testing was critical to the success of the DevOps initiative.

The following case studies demonstrate the journeys of two different organizations to significantly improve test automation rates and streamline enterprise application delivery.

“People have this muscle memory for how they’ve always done projects: testing was part of a process that happened at a specific time of a software development. But working in a DevOps way demands that to change.”

- Innovation leader, global FMCG company

208



Times more frequent code deployments

7



Times lower change failure rate

2,604



Times faster recovery time from incidents.

Case study: A 9-month automation journey

One international payments company went from no automation to saving thousands of hours on testing in 9 months.

1. The need was identified: Significant overhead and extensive regression testing timelines needed to be reduced.

2. A no-code, automated regression testing suite was created to address both issues, saving thousands of hours.

3. Next was examining how to make it run more effectively. This meant looking at cloud solutions to improve performance and availability.

4. The final stage was automating performance testing and implementing continuous performance monitoring.

Case study: Achieving DevOps maturity

An international bank leveraged DevOps methodologies to bring fragmented teams together across the development process.

1. Addressing fragmentation across teams started with a consistent, centralized testing toolset.

2. Once processes and tools were aligned and integrated, a unified DevOps process could run.

3. This facilitated faster testing and release timelines, as well as visibility across teams and projects.

4. Using real-time code analysis, CI/CD capabilities could be monitored and compared across teams. Targets were set for DevOps maturity, and the team is now well on their way.

“Before we embarked on our DevOps journey, teams were across the whole spectrum: some had very little testing in place, some had written their own testing frameworks, some actually had defined acceptance criteria. But there was no overall visibility in place.”

- Global architecture leader, European bank

➤ A spotlight on SAP testing

Modernizing your SAP landscape promises many benefits. Migrating to S/4HANA can remove technical limitations, simplify existing business processes, and provide a foundation for creating entirely new business models. Leveraging SAP in the cloud simplifies maintenance, accelerates adoption of new features, and allows users to take advantage of cloud-native applications such as SuccessFactors, Ariba, Hybris, and Concur.

But getting there is not easy. Many SAP customers today find themselves years behind on their ECC updates: as found by ASUG and Tricentis, 65% of users are still using SAP ECC 6.0. Moving to SAP S/4HANA is a major undertaking that can have significant impact on business continuity. Citing customers' need for flexibility in their migration timelines, SAP has extended mainstream maintenance for core applications of SAP Business Suite 7 from 2025 until 2027, with the option to extend maintenance on a custom basis until 2030. While this extended deadline certainly gives you more time to get everything in order before the migration, it is not an excuse to procrastinate. Now is the time to prepare for the increased release frequency from both SAP and the ongoing change requests within your business.

A recent survey of members of the Americas SAP Users' Group found that 41% are already updating SAP systems at least every two months, and sometimes on a daily basis. A third said SAP update frequency will increase even more over the next 12 months. To accommodate this, many of these organizations are aligning SAP delivery processes with Agile and DevOps methods – and they cite testing as the biggest barrier to success. Traditional testing approaches, which are often slow, manual, and opaque, will no longer fit the bill. By modernizing their approach to testing, some of the leaders we spoke with were able to improve testing timelines by tenfold.

➤ A spotlight on Salesforce testing

With over 150,000 customers, Salesforce is the biggest CRM platform in the world and one of the largest providers for enterprise applications globally. For many organizations worldwide, Salesforce is the foundation for customer-facing innovation. It comes with several apps that can sit on top of the platform, with endless customization opportunities.

Unlike SAP S/4HANA, Salesforce users can choose whether and when to update their Classic Salesforce to the new Lightning version. However, this upgrade can cause the test cases built for the Classic platform to break, adding to the cost and pain of test maintenance. Another challenge specific to Salesforce is the unreliability of script-based tests, which frequently break when reused across test environments. This leads to heavy maintenance for developers and testers.

This challenge is compounded by fast and frequent release cycles: Salesforce has 3 releases per year and gives customers a 1-month window to test the changes before they go live. With this release frequency, enterprises must improve both testing speed and scalability.

To address these issues, many enterprises are adopting a Quality 360 approach in which testing of custom, third-party, and standard Salesforce updates – as well as data integrations – are all automated under a single platform. Automating your approach with model-based tests built for reuse can save hundreds of hours by eliminating manual testing, while avoiding script-based testing challenges.

Measuring success

Quality should be central to any organization's business strategy. It underpins core business goals, including speed to market, revenue growth, customer satisfaction, and reduced operational costs. When we asked software leaders across the globe what distinguishes an elite testing team, nearly all of them said measuring success was critical. Additional best practices include:

- Effectively using value stream analysis to understand how long each part of the lifecycle takes – and to identify areas for improvement
- Ensuring that proper testing is in place at each application layer
- Implementing in-sprint automation that aligns testing with DevOps processes
- Developing strong baseline Agile metrics, such as burndown, sprint metrics, and cycle time

These teams track metrics like the number of incidents, production defects, release frequencies, lead time, change failure rates, and meantime to recovery, among others. It's also critical to track how test automation is paying off in terms of speed, cost, and quality.

Others stressed the importance of using reporting to tie testing to larger business outcomes, such as customer satisfaction, retention, and acquisition; employee engagement; and top- and bottom-line business performance. As one testing leader asserted, it's critical to identify which metrics matter most to the business, and to track these metrics over time at the project, team, and organization level.

“You can have death by metrics. The flip side is, if you actually have the right metrics to see where problems are occurring, you’ll be able to take better direct action to fix those problems.”

- Innovation leader, global FMCG company

Monitoring performance across the organization

Quality metrics should be aligned across projects, teams, and tools, so they can be rolled up into an organization-wide report. If the right metrics are tracked, the ability to see individual teams’ performances across the business gives executives a window into the health of the company and its ability to meet overall quality objectives. This allows executives to both to identify and address weak spots, as well as identify how best-in-class teams achieve success so that these methods can be applied more broadly.

“If you’re not tracking those types of things, there’s no way to figure out what exactly is going on, and there’s a lot of time spent trying to figure out where projects went wrong.”

- Global architecture leader, European bank

Increasingly, teams are developing holistic, retrospective views of defects and incidents to learn from their mistakes. According to [Capgemini](#), 84% of software teams do this regularly or occasionally, and the remainder plan to do so in the coming year.

➤ Conclusion

As the infrastructure that supports the whole business, enterprise applications are central to both internal and customer-facing innovation. Modernizing this infrastructure gives enterprises a solid foundation for digital transformation – but only if they can do so without introducing business risk. The complex nature of these applications, coupled with misconceptions about the level of testing required, means many enterprises face an uphill quality battle that could stall transformation efforts. But enterprises that recognize the importance of a modern testing approach that is aligned to business objectives stand to make significant gains. Best-in-class teams are seeing thousands of hours saved in testing, significantly fewer production defects, and a measurable reduction in costs. These organizations have recognized the power of aligning testing with business goals.

As argued in [Capgemini’s World Quality Report 2019-2020](#), “it’s far better for quality to be implicit in everything an organization does, than for it to be simply a stage in a process.” The challenge for IT leaders now is to respond: with the right strategies, testing teams can fulfil their potential to improve quality and drive innovation across the business.

About Tricentis

Tricentis is the global leader in continuous testing and automation, widely credited for reinventing software testing for DevOps and agile environments. The Tricentis AI-based, automation platform enables enterprises to accelerate their digital transformation by dramatically increasing software release speed, reducing costs, and improving software quality. Tricentis has been widely recognized as the leader by all major industry analysts, including being named a leader in Gartner's Magic Quadrant five years in a row. Tricentis has more than 1,800 customers, including the largest brands in the world, such as Accenture, Coca-Cola, Nationwide Insurance, Allianz, Telstra, Dolby, RBS, and Zappos. To learn more, visit <https://www.tricentis.com> or follow us on LinkedIn, Twitter, and Facebook.

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