SAPinsider

Change Management and Testing for SAP

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Executive Summary

Change is the only constant in life and technology. What is new for SAP customers over the last few years is the dramatically faster pace of change. In response to customer demand and competitive pressure, SAP has accelerated its product roadmap with new and enhanced functionality released almost on a quarterly basis.

New solutions from SAP such as SAP S/4HANA, SAP Business Technology Platform, SAP Cloud Platform, SAP Fiori, and the low-code/no-code platform demand faster and more collaborative approaches to development, change management, and testing. In addition to SAP solutions, most SAP customers continue to add non-SAP applications that integrate with SAP. The deployment of these solutions on multi-cloud and hybrid environments adds to the complexity.

SAP teams, used to multi-year development projects followed by years of maintenance, must now adapt to this rapid, multi-modal development world. Change management and testing functions become critical to meet this scenario, yet many customers struggle with them. This leads to subpar application quality, suboptimal business value, compliance issues, business disruption, project delays, and budget overruns. Several high-profile deployment failures continue to make the news.
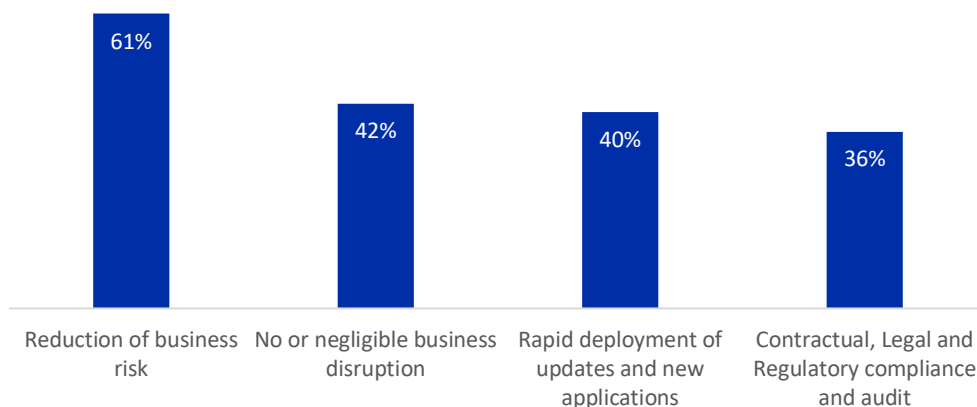
SAPInsider surveyed 210 IT professionals across the world during October and November 2021 on their change management and testing goals, challenges, and technologies.

We found that nearly half of respondents are not satisfied with their change management and testing functions. There is a desire to modernize change management and testing across the SAP landscape. Further, SAP S/4HANA plans are likely to accelerate modernization in change management and testing.

We start off with an analysis of the change management function and then follow up with testing.

The main goals of IT departments with respect to their change management function are to reduce business risk (61%), minimize business disruption (42%), enable rapid deployment of updates and new applications (40%), and meet compliance and audit needs (36%). Business risks are often thought to be triggered by externalities, while business disruptions are caused by internal breakdown of processes or infrastructure (**Figure 1**).

Figure 1: Goals with respect to change management

Reduction of business risk	No or negligible business disruption	Rapid deployment of updates and new applications	Contractual, Legal and Regulatory compliance and audit
61%	42%	40%	36%

Source: SAPinsider, December 2021

With these high goals to achieve, 43% of respondents claim a low level of satisfaction (partially, slightly, or not at all) with how their change management and testing for SAP are meeting their business requirements. Only 10% say they meet business requirements completely, while 47% say they mostly meet their business requirements (**Figure 2**). Clearly, such a state limits the organization's ability to deliver rapid transformation.

Several challenges present a hurdle to satisfaction as we will see later in the report (**Figure 9**).

**Figure 2: Satisfaction with change management**
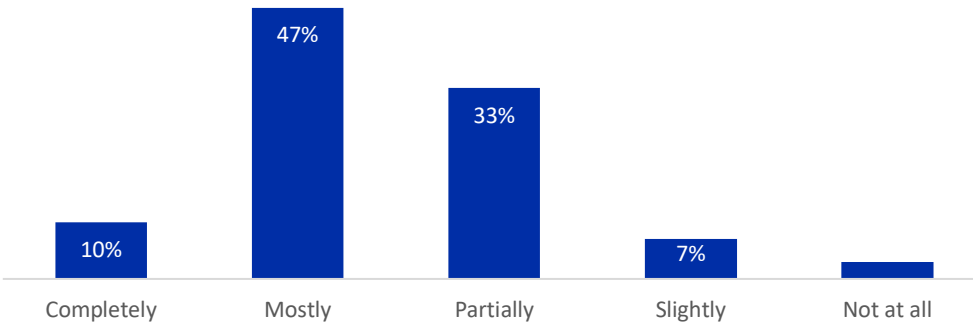
Source: SAPinsider, December 2021

We explored what approaches organizations were using for their change management across their various SAP systems. While the traditional waterfall model dominates over agile practices for SAP ERP Central Component (SAP ECC) or SAP Business Suite (37% vs. 28%) and for SAP GUI (31% vs. 22%), agile practices have become more prevalent for other systems. Over half of respondents claim to be using an agile approach for SAP S/4HANA (51%), SAP Business Technology Platform (40%), SAP Fiori (40%), and analytics, business intelligence (BI), and data warehousing (40%). DevOps is slowly starting to make inroads within SAP teams (**Figure 3**).

Based on discussions with some survey respondents and experts, we believe there is substantial variation in their competence with agile or DevOps approaches. Many efforts are likely to be limited experimental attempts by some project teams versus enterprise-wide efforts.

Figure 3: Change management frameworks across SAP systems
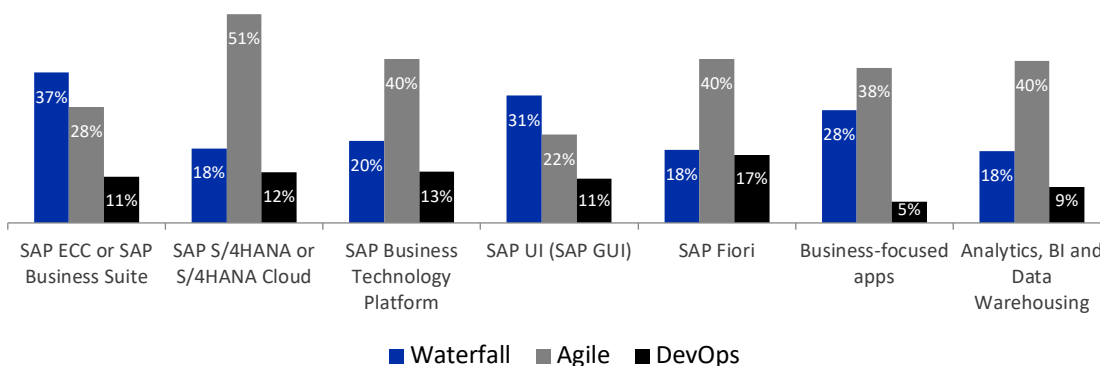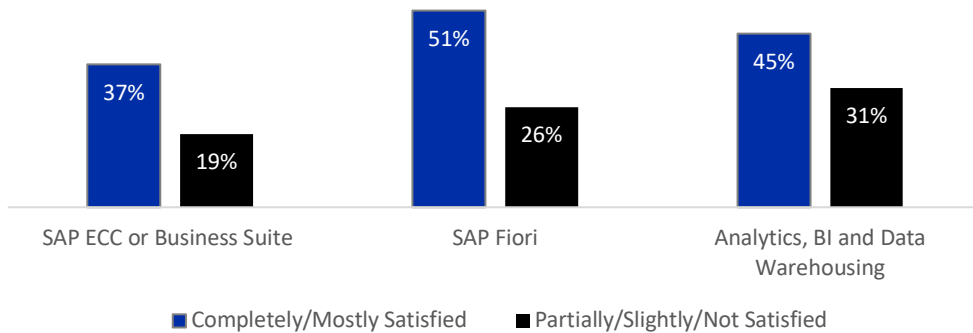

Source: SAPinsider, December 2021

We compared the change management approaches among the respondents who are completely or mostly satisfied and those who are not. The former group does use agile methodology more often compared to the latter group: SAP ECC or Business Suite (37% vs. 19%), SAP Fiori (51% vs. 26%), and analytics/BI and data warehousing (45% vs 31%) (**Figure 4**).

The best-in-class group is also deploying DevOps for S/4HANA cloud more — 21% vs. 15% — though there is not much difference across other applications. It is possible that many companies use S/4HANA deployment as an opportunity to implement DevOps practices.

Figure 4: Agile approach comparison between best-in-class versus other comparisons

- Completely/Mostly Satisfied
- Partially/Slightly/Not Satisfied

Source: SAPinsider, December 2021

Companies do intend to modernize their change management approach: 34% are planning to roll out agile/DevOps across all their SAP, while another 32% are evaluating a rollout (**Figure 5**).

Figure 5: Plan to roll out agile/DevOps
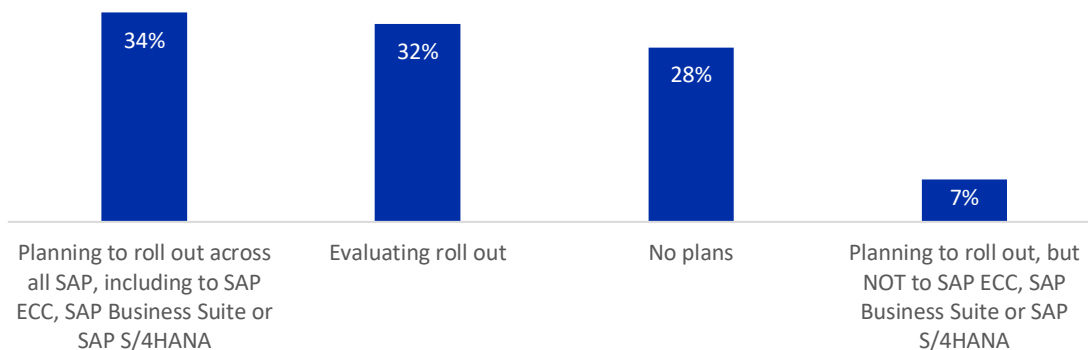
Source: SAPinsider, December 2021

Modernization of change management for SAP can be a strong foundation for the future, which can increase collaboration between IT and business and result in more impactful, timely, and innovative transformation.

We then analyze similar goals, satisfaction, and approaches in the testing function.

Speed of testing to meet business needs (69%) is by far the most cited goal with respect to testing. Reducing costs with reusable artefacts and scalable processes comes next (49%), followed by the need for integration testing (48%) (**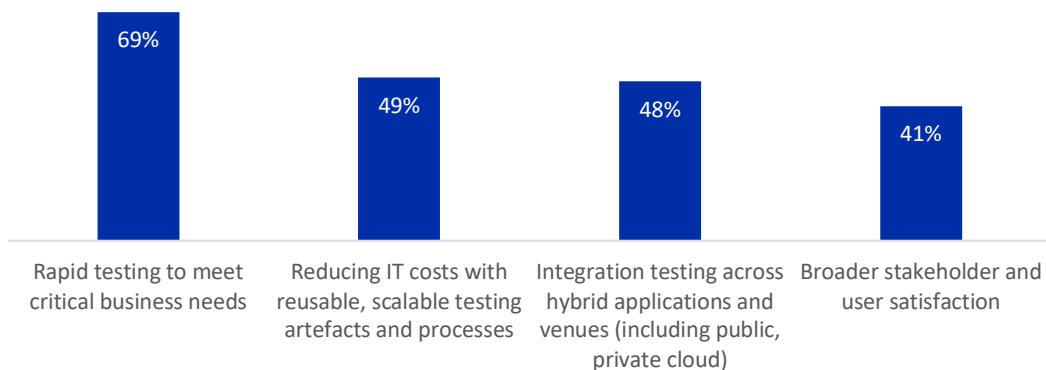Figure 6**). With integration points around SAP increasing, it is understandable to see the increasing focus on integration testing.

Figure 6: Goals with respect to testing

Bar chart:
- Rapid testing to meet critical business needs: 69%
- Reducing IT costs with reusable, scalable testing artefacts and processes: 49%
- Integration testing across hybrid applications and venues (including public, private cloud): 48%
- Broader stakeholder and user satisfaction: 41%

Source: SAPinsider, December 2021

Only 9% of respondents are completely satisfied with their testing. Forty-nine percent are mostly satisfied, but the remaining 42% are partially, slightly, or not satisfied with how their testing is meeting their business requirements (**Figure 7**).

Figure 7: Satisfaction with testing

Bar chart:
- Completely: 9%
- Mostly: 49%
- Partially: 35%
- Slightly: 5%
- Not at all: 2%
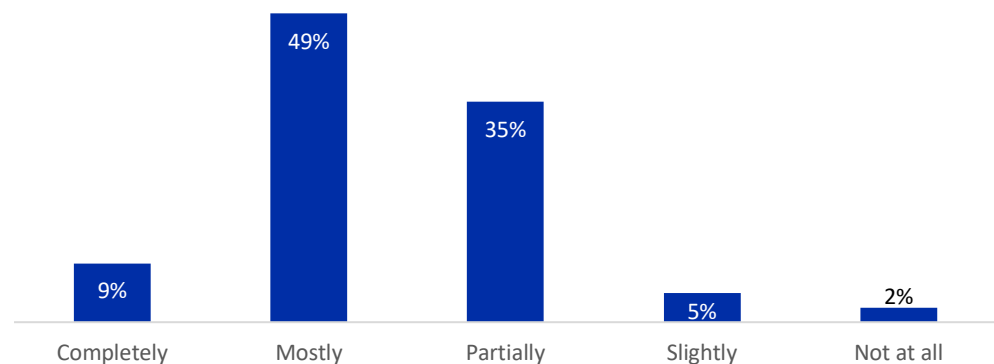
Source: SAPinsider, December 2021

Testing today is a complex function that has to meet goals on many fronts ranging from performance, security, and user experience to integration testing. Use of technologies and automation tools are becoming a vital part of the testing function.

With the hyper-connected nature of today's SAP systems, more respondents are using end-to-end process testing platforms (53% for business-focused apps, 50% for SAP S/4HANA and S/4HANA Cloud, 47% for SAP ECC or SAP Business Suite, and 46% for SAP Fiori). User-experience testing is also at robust levels, especially for SAP Fiori (46%), SAP ECC or SAP Business Suite (45%), and business-focused apps (45%). Adoption of test automation is increasing, especially for SAP S/4HANA and S/4HANA Cloud (32%). Artificial intelligence/machine learning (AI/ML) is making an entrance in S/4HANA and analytics/BI applications (10%) but negligible in other applications (**Figure 8**).

Figure 8: Testing tools for SAP

Legend: ■ Test automation ■ End-to-end process testing platform ■ Performance testing ■ User Experience testing
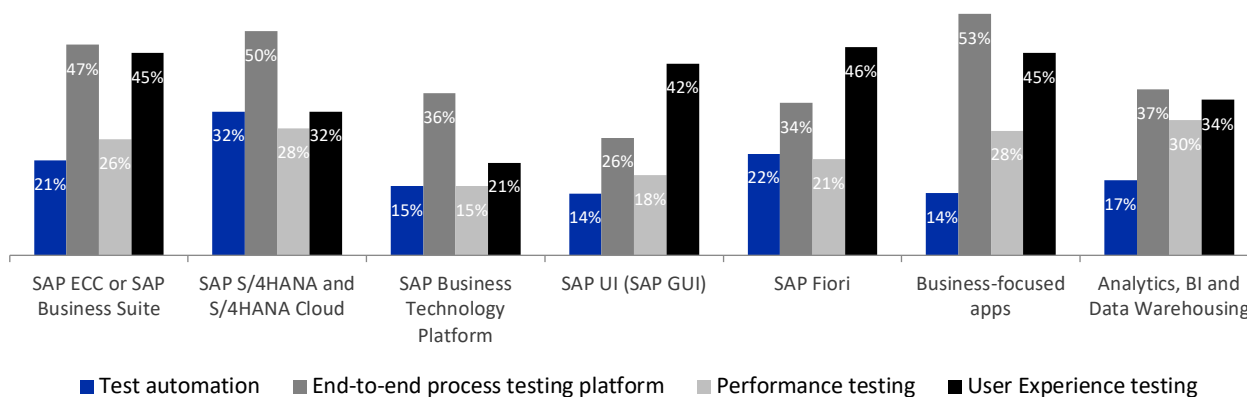
Source: SAPinsider, December 2021

While many modernization activities are underway, challenges remain in both the change management and testing functions. Integration complexities (60%) are by far the biggest challenge respondents cite to meet business requirements in these two functions. Orchestrating development, testing, and change across a complex, integrated landscape involving several teams, technologies, and compliance requirements is understandably a mammoth challenge.

Tight IT budgets (40%) and ineffective collaboration (37%) follow. Respondents also claim limited expertise in newer approaches such as agile, DevOps, and automation (35%) (**Figure 9**).

Figure 9: Challenges in change management and testing
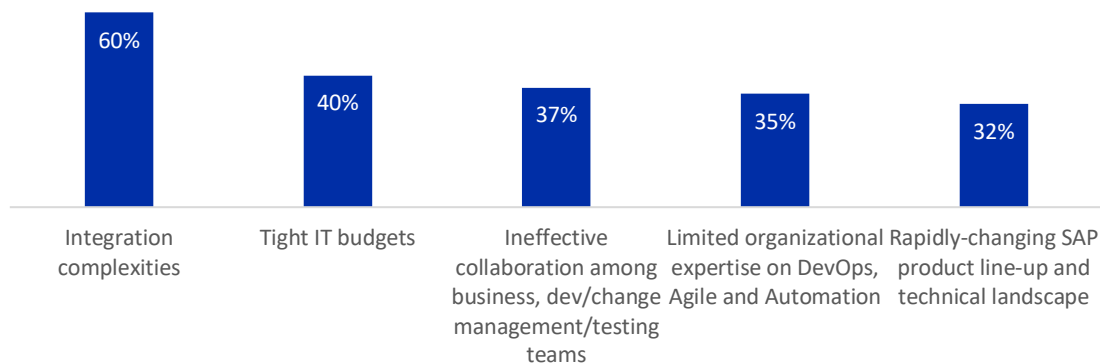
Source: SAPinsider, December 2021

This survey further revealed that SAP S/4HANA plans do have an impact on change management and testing. Fifty percent of respondents are either using SAP S/4HANA or are moving to SAP S/4HANA in the next 24 months. Of those, the most impacted activities due to SAP S/4HANA plans are the increase in integration testing (65%), increased use of test automation (43%), and implementation of agile/DevOps (28%).

With the increasing importance of these functions, we also see senior IT employees involved in change management and testing decisions. The Chief Information Officer (CIO) or Chief Technology Officer (CTO) made the decisions for 46% of respondents, while IT Director or Vice President made the decisions for 42%. In 22%, individual project teams made their own change management and testing decisions.

Required Actions

Based on the survey responses, organizations should make the following plans around their integration strategies:

- **Develop enterprise-wide change management and testing strategies to deploy applications with high impact and low risk.** The challenges around integration, IT costs, and rapid demand for updates are not going away. Organizations need an enterprise-wide approach with the flexibility to be tailored for projects based on complexity and priority.

- **Ensure integration across applications and data is a vital and early part of implementation planning to avoid issues and frustration later in the deployment timeline.** It is too risky for integration discussions to be put off for later. An enterprise architecture team with single-point ownership for integrations can ensure there are no unpleasant surprises later in the development lifecycle.

- **Improve collaboration among IT teams, as well as between IT and business, through processes and collaboration tools.** Both change management (in the form of continuous integration/continuous delivery [CI/CD], agile, DevOps) and testing require significant collaboration to be effective. Change and project management tools can influence collaboration but building a collaboration culture is a must.

- **Build expertise to deploy agile/DevOps frameworks to deliver initial successes.** Organizations often get frustrated when new approaches become bottlenecks. Initial trials must succeed for the uptake. Hence, building a team to develop expertise and thoughtfully lead the rest of the organization in modern approaches is essential.

- **Follow up on strategy by deploying relevant testing tools to enable rapid testing, reuse of testing artefacts, and automation.** Deploying new testing tools is a big step to achieve the business goals for high quality, rapid transformation. Evaluate and deploy such testing tools and platforms with the joint consensus of IT and business.

Chapter One: Change Management and Testing for SAP Overview

Experts observe that we are living through the fourth industrial revolution. Systemic transformation of work, information, and technology is happening at a pace unimaginable in the first three industrial revolutions. Not only the fast-growing technologies of AI/ML and automation, but also the infrastructure driven by 5G are expected to revolutionize business in unimaginable ways.

The demand of business for rapid innovation to support digital transformation has increased across all organizations. Non-SAP applications, especially those on the cloud, are often deployed within months. Even within SAP, the days of long SAP implementation projects followed by years of maintenance with little updates other than security patches are over. In addition, more and more SAP and non-SAP applications involve less coding and more configuration and integration work. All these trends place more demands on change management and testing.

This research unpacks the various dynamics that impact change management and testing.

Best Practices Model — DART

SAPinsider grounds all its research insights in our proprietary DART model. This research model provides practical insights that connect business **D**rivers and **A**ctions to supporting **R**equirements and **T**echnologies. Drivers represent internal and external pressures that shape organizational direction. Organizations take Actions to address those Drivers. They need certain people, processes, and capabilities as Requirements for those strategies to succeed. Finally, they need enabling Technologies to fulfill their Requirements.

In this report, the top driver cited impacting change management and testing is clearly the fast-changing business demands requiring resilience to change and adaptability. However, there is recognition that this driver can be addressed only by enabling the core SAP system to integrate with critical applications that may be hosted on different deployment venues. There is pressure to deploy new SAP updates with minimum or no downtime, all while keeping IT costs under control.

To address these drivers, respondents are interested in modernizing their change management and testing through transforming their people, process, and technologies — improving collaboration and expertise and rolling out agile/DevOps processes and technologies to deliver faster and better change management and testing with efficiency and quality.

Every organization operates under a set of requirements. With respect to change management and testing, we learnt about the need to maintain compliance, support both SAP and non-SAP systems, and better understand goals.

The tools and technologies landscape for change management and testing have proliferated. Many new vendors are innovating with automation, AI/ML, and user-experience platforms. We see many respondents experimenting and deploying several of these tools.

Respondents' answers to our survey and interview questions revealed clear trends that are summarized in **Table 1** and will be examined throughout this report.

**Table 1: DART model framework for change management and testing for SAP**

Drivers	Actions	Requirements	Technologies
• Fast changing business demands requiring resilience to change and adaptability – 50% • Integration of SAP with increasing number of applications on many deployment venues - 34% • Need to minimize IT costs with scalable, reusable process and tools - 32%	• Implementing end-to-end process testing discipline to tackle increased integrations with SAP - 55% • Implementing a new change management strategy and framework (DevOps, agile, etc.) for SAP - 43% • Enabling early collaboration across SAP and non-SAP IT and business teams - 37% • Increasing automation to reduce costs and increase scalability - 36%	• Meeting regulatory and legal requirements and documentation - 79% • Support alignment of core SAP systems (ECC, S/4HANA, etc.) with other SAP and non-SAP applications - 79% • Clearly stated goals for functional and non-functional testing - 75% • Comprehensive project management for deployment and testing - 73% • Process understanding to support smooth migration and optimize testing outcomes - 73%	• Integration/API testing tools - 43% • Process mining and process discovery - 43% • Test automation - 42% • AI/ML tools - 41% • Mobile testing tools - 40% • Performance/scalability testing tools - 39% • CI/CD or DevOps pipeline orchestration tools - 38% • Agile process/backlog management tools - 35% • Test case/test data management tools - 35% • Change and release management tools - 34%

What Drives Change Management and Testing for SAP?

The major driver for change management and testing is the fast-changing business demand requiring resilience to change and adaptability (50%). Other top drivers are integration of SAP with the increasing number of applications on many deployment venues (34%) and the need to minimize IT costs with scalable, reusable process and tools (32%) (**Figure 10**).

In addition to the above top three drivers, pressure to deploy new SAP applications or updates rapidly with no or negligible downtime (28%) and increasing regulatory, governmental, and legal requirements (20%) were also cited by respondents.

Figure 10: Top drivers for change management and testing for SAP
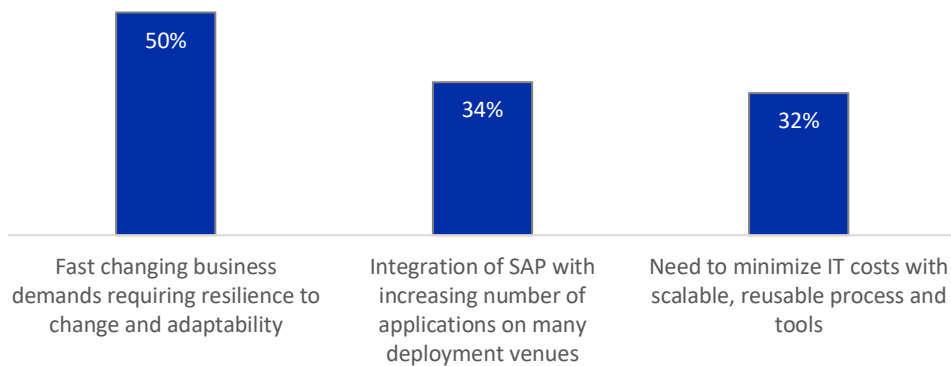
Source: SAPinsider, December 2021

Resilience to change and adaptability are emerging as foundational for digital transformation. High-impact business requests can no longer sit in the pipeline for months. Further, while business requirements can be thought through ahead of time, they cannot be frozen in place for long, as they were earlier. The changes in product line, the impact of competitive moves, and the availability of new technologies mean that project teams must deal with unpredictable requirements.

While business may make major demands for applications, IT departments have the challenge to orchestrate integration across SAP and other applications, while also maintaining compliance requirements and IT budgets. As shown in **Figure 9**, integration complexities (60%) and tight IT budgets (40%) are the most significant challenges in the change management and testing functions.

Further, 20% of respondents cite the increased role of business users in deploying new applications and updates. This is a welcome change, which is likely to increase whether organizations roll out true DevOps or not.
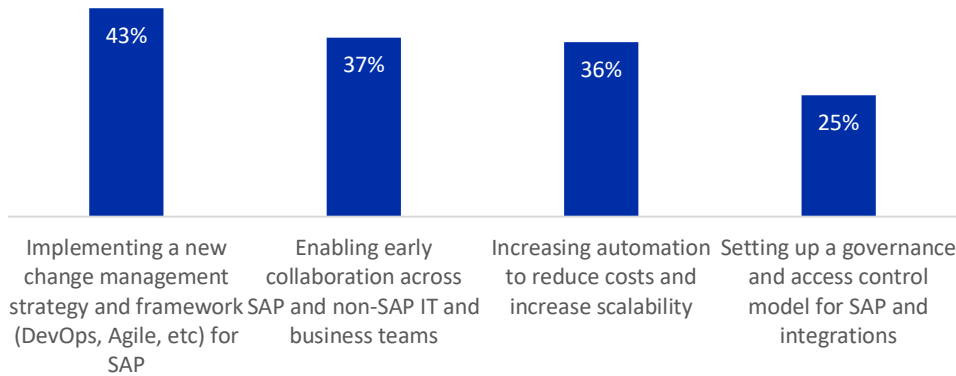
How Do SAPinsiders Address Drivers?

Since the actions to address the drivers vary between the change management and testing functions, we analyzed them separately.

While 43% of respondents are implementing a new change management strategy and framework for SAP (such as agile/DevOps), 37% are looking at improving overall collaboration across SAP and non-SAP IT and business teams.

Automation tools for change management, whether from SAP or others, are also being deployed in 36% of respondents (**Figure 11**).

Figure 11: Top actions in change management to address top drivers

| 43% | 37% | 36% | 25% |
| Implementing a new change management strategy and framework (DevOps, Agile, etc) for SAP | Enabling early collaboration across SAP and non-SAP IT and business teams | Increasing automation to reduce costs and increase scalability | Setting up a governance and access control model for SAP and integrations |

Source: SAPinsider, December 2021

In addition, 22% of respondents are implementing new change management platforms and tools and 21% are streamlining the SAP change management process by leveraging and integrating existing tool chains.

Clearly, in further discussions with survey respondents, there is recognition that frameworks are only as good as the people who use them. Agile and DevOps are powerful approaches to deliver rapid, high-quality implementations and updates; however, they require a new mindset backed by processes and tools.

We analyzed the actions that organizations are taking with respect to testing.

The integration theme repeats here, with more than half of the respondents claiming to be implementing end-to-end process testing discipline to tackle increased integrations with SAP (55%). Just like with change management, collaboration across SAP and non-SAP IT and business teams (34%) comes as the second most popular action.

Often, testing is left to the discretion of individual project teams. However, 28% of respondents claim to be implementing a company-wide testing strategy and framework now.
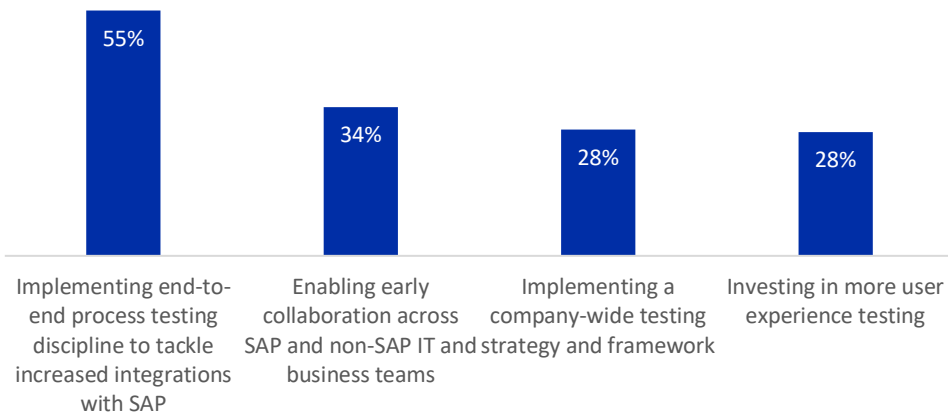
If there is one area apart from integration that has become critical, it is user experience, with 28% investing in more user-experience testing (**Figure 12**).

Figure 12: Top actions in testing to address top drivers

55%	Implementing end-to-end process testing discipline to tackle increased integrations with SAP
34%	Enabling early collaboration across SAP and non-SAP IT and business teams
28%	Implementing a company-wide testing strategy and framework
28%	Investing in more user experience testing

Source: SAPinsider, December 2021

Apart from the above top four actions, 26% are implementing testing automation to scale and accelerate testing while also reusing artefacts and reducing labor costs. Use of AI/ML for testing is still experimental, with only 13% of respondents claiming to try it.

Some organizations have been able to adapt to the mindset while others deploy tools without the accompanying organizational change management. Often, these methodologies are driven bottoms-up with individual project teams piloting them and then sharing them across IT departments. They require substantial time commitment from business users as well.

Key Takeaways

Based on our research, the following takeaways are clear:

- **Develop a comprehensive enterprise-wide change management and testing strategy, but with the flexibility to be adapted for individual projects.** For the next phase of modernization, it is important to invest in evaluating, formulating, and training the company on an enterprise-wide change management and testing strategy, processes, and technologies. Ideally, this should be a joint exercise between IT and business stakeholders. Collaboration was cited as both an important goal and one of the top challenges for seamless change management and effective testing. However, some level of flexibility may be given to individual project teams to customize collaboration based on their needs.

- **Use SAP S/4HANA implementation as an opportunity to modernize change management and testing discipline.** The research showed that SAP S/4HANA plans are impacting change management and testing. Respondents using SAP S/4HANA or implementing or planning to implement SAP S/4HANA showed an increase in integration testing (65%), increased use of test automation (43%), and implementation of agile/DevOps (28%). Value from SAP S/4HANA and other newer SAP and non-SAP applications can come from agility and adaptation. IT departments can make the case to modernize to agile/DevOps or implement newer testing tools during or soon after a move to SAP S/4HANA.

- **Deploy agile/DevOps models that enable collaboration within IT and with business.** Organizing teams to achieve specific outcomes and develop skills needed to achieve those outcomes can help deliver impact as opposed to siloed teams working on a linear model. Agile/DevOps models can achieve continuous integration, continuous delivery, continuous deployment, and continuous improvement — important ingredients of success today. Investing in organizational change and change management and release tools can ease this modernization.

- **Roll out testing disciplines that test end-to-end processes and user experiences in the hyper-connected SAP world.** With the potential security, performance, and compliance issues that can arise out of complex integration scenarios, many respondents are focusing on end-to-end testing platforms. Both horizontal and vertical testing are vital as multi-modal hybrid systems become the norm. Many new vendors provide automation for this as well as user-experience testing.

  Some of these actions will make the change management and testing functions a mean, lean machine that can help the IT teams deliver high quality, secure applications and updates rapidly.

Chapter Two: How Do SAPinsiders Approach Change Management and Testing for SAP?

As discussed, many respondents are launching modernization efforts for their change management and testing function. However, such modernization cannot happen in a vacuum. it is also important for these organizations to meet critical requirements from both a business perspective and a technology perspective.
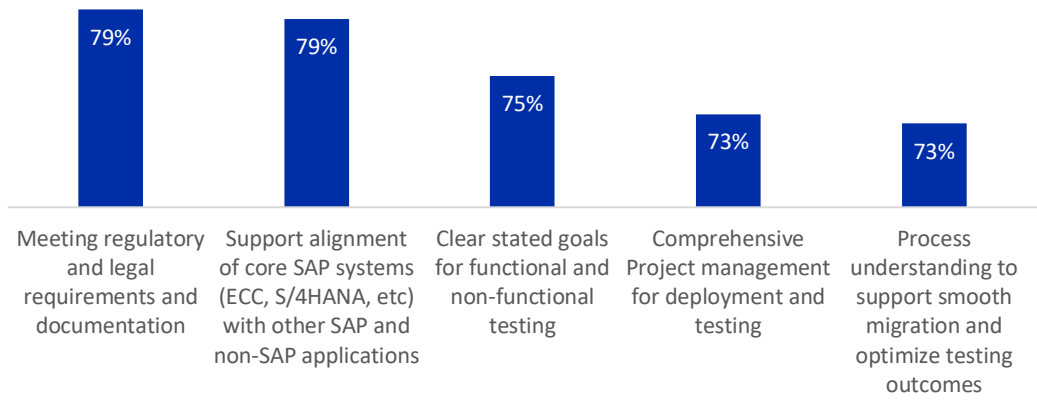
In this chapter, we will assess those requirements and also enquire into the various technologies that respondents are using to address the requirements while also meeting their goals.

Top Change Management and Testing Requirements

Compliance — meeting regulatory and legal requirements and documentation — is a vital demand from change management and testing teams cited by 79% of respondents. The documentation requirements alone can be quite daunting.

Aligning core SAP systems with other SAP and non-SAP applications (79%), need for clear stated goals for testing (75%), project management (73%), and process understanding (73%) are also cited as major requirements (**Figure 13**).

Figure 13: Top requirements for change management and testing for SAP

Meeting regulatory and legal requirements and documentation	Support alignment of core SAP systems (ECC, S/4HANA, etc) with other SAP and non-SAP applications	Clear stated goals for functional and non-functional testing	Comprehensive Project management for deployment and testing	Process understanding to support smooth migration and optimize testing outcomes
79%	79%	75%	73%	73%

Source: SAPinsider, December 2021

In addition, respondents want streamlined deployment and feedback process across IT and business teams (72%) and proper access management for both SAP and non-SAP applications and data (71%).

More and earlier collaboration with business is vital for both documenting clear goals for testing and gaining a better understanding of processes to support smooth deployments and better testing outcomes.

Which Technologies Do Respondents Use for Change Management and Testing?

While tools and technologies proliferate in the change management and testing space, legacy SAP shops continue to use spreadsheets substantially, with 58% using them for test management and 54% for change management (**Figure 14**).

With respect to testing, use of security testing (58%), defect trackers (51%), test monitoring (50%), and test case/test data management tools (47%) are most popular. Currently, test automation (35%) and integration/API testing tools (35%) are not substantially used

With respect to change management, ABAP source/version control tools (50%), change and release management tools (47%), and agile process/backlog management tools (41%) are most used.

Figure 14: Change management and testing tools and technologies currently in use
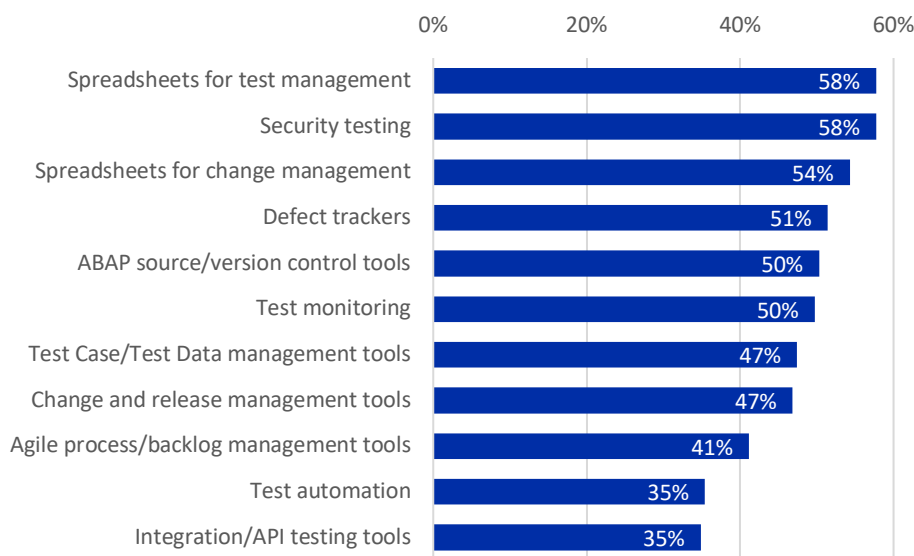
Source: SAPinsider, December 2021

All these tools currently being used most are the basic ones needed by the respective functions. Clearly, use of spreadsheets and skeletal defect trackers can neither scale nor adapt to changing needs rapidly.

A very small percentage has started using process mining and process discovery (21%) and AI/ML tools (13%).

However, the future of tools and technologies for change management and testing is bound to look very different. It is interesting to note that a large percentage of respondents are investing in many of the technologies to modernize their functions.

Almost half of the respondents are deploying integration/API testing tools (43%) and process mining and process discovery tools (43%), underscoring the need to handle the complexity of integration as well as legacy business processes that cut across both SAP and non-SAP systems. Testing automation (42%) and AI/ML tools (41%) are well on their way to mature adoption (**Figure 15**).

Figure 15: Change management and testing technologies being implemented or evaluated
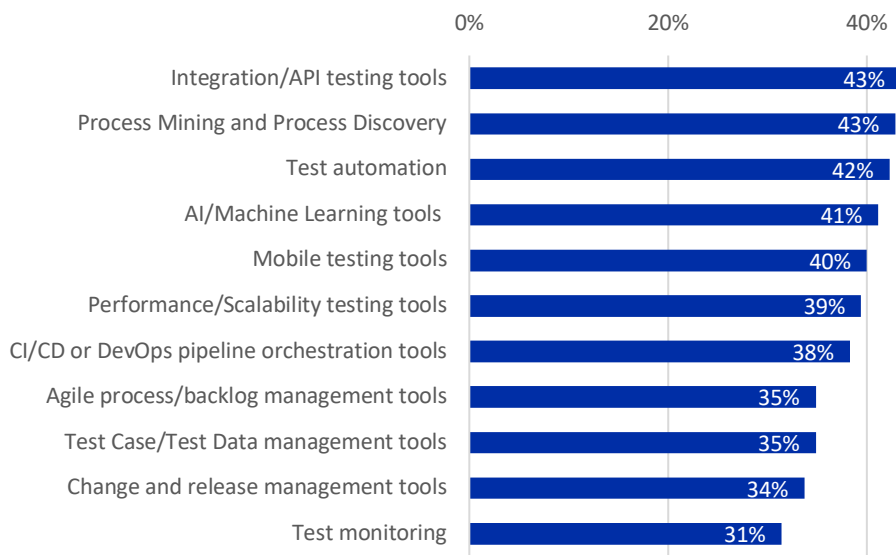
Source: SAPinsider, December 2021

From a testing standpoint, tools for mobile testing (40%), performance/scalability testing (39%), and test case/test data management (35%) top the list.

From a change management standpoint, more respondents are deploying CI/CD or DevOps orchestration tools (38%), agile process/backlog management tools (35%), and change and release management tools (34%).

All these technologies can make a dramatic change in the processes, as well as create a seamless collaboration among both SAP and non-SAP teams, as well as with business stakeholders. A collaborative, notification-based system can keep the communication channels open and enable reacting to change faster.

Key Takeaways

When it comes to modernizing capabilities and technologies related to change management and testing, consider the following:

- **Set up processes to clarify goals for change management and testing.** Documented goals for each project including compliance requirements, testing outcomes, timelines, and budget can help plan delivery and prevent frustrations. Tools for collaboration can be used to document them and make them available as a point of reference, so all stakeholders work towards the common goal.

- **Set up service level agreements (SLAs) for change management and testing.** Project management functions can use SLAs to develop project plans so adequate time is allocated for change management and testing. Best-in-class organizations set clear expectations and meet them. Collaboration tools can set up rules and enable close communication so there is a coordinated effort to deliver to preset goals.

- **Move away from manual, inflexible tools that limit your ability to stay compliant and to deliver rapid testing and change management.** Make a deliberate push to retire old tools (including spreadsheets) that can no longer meet the demand for rapid, high-quality deployments. It is better to replace them rather than blame them for poor, delayed outcomes. However, new tools often suffer from poor setup, ineffective training, and high expectations that do not pan out. Setting up a champion team to set up, train, and roll out can be a big step for broad adoption.

- **Evaluate/pilot new tools for integration testing, testing automation, AI/ML, and process mining to speed deployments and manage budgets.** A specialized council made up of business and IT users can be assigned to come up with tools that make sense for the enterprise. Such tools can be piloted in smaller projects before being propagated through the enterprise.

Chapter Three: Required Actions

SAPInsider's earlier research this year on topics such as enterprise cloud deployment, integration, and data management/data warehousing have confirmed the dramatically different models SAP customers are deploying to meet their digital transformation needs.

Moving to SAP S/4HANA, deploying SAP applications on the cloud, implementing cloud applications on SAP Business Technology Platform, SAP Fiori, SAP Cloud Platform, etc., will continue to skyrocket. SAP development teams, typically consisting of ABAP developers, will face challenges in migrating to cloud and developing for cloud.

In this scenario, it behooves change management and testing teams to adapt themselves in parallel to this new deployment normal and modernize their processes and tools.

Steps to Success

Our research reveals that SAP customers should apply the following key steps to build a successful change management and testing function:

- **Make change management and testing a vital part of overall IT strategy — ensure their criticality for transformation is well-known and communicated.** IT leaders should assess if they are making change management and testing an important part of IT strategy. Are change management and testing leaders involved in the IT strategy discussion? Is there sufficient budget allocated? Are all IT and business stakeholders aware of the needs? Are SLAs being created and communicated? Affirmative answers to these questions will ensure better outcomes.

- **Upskill teams in agile/DevOps, AI/ML, testing automation, process mining, etc. — enable bottom-up modernization for maximum adoption across SAP and non-SAP teams.** Introduce learning sessions to expose stakeholders to these models with case studies to create enthusiasm. Identify champions in project teams who have the vision and passion to drive the change. Demand must percolate through teams before it is made into an enterprise-wide strategy.

- **Engage business users early to be critical collaborators for user experience and end-to-end process testing.** The biggest change that will have the most impact is the engagement of business users in the process, especially around process and user-experience testing. It may be necessary to add these responsibilities into their job description and performance goals.

- **IT budgets are not going to be generous for change management and testing — identify ways to do more with less with concepts such as testing artefact reuse, automation, and AI/ML.** All these modernization approaches will be welcome, but it is unlikely that IT budgets will be increased to meet the needs. Identifying ways to do more with less is essential. IT departments can present a business case by swapping out existing cost buckets for new ones and showing the higher impact possible with just an incremental budget increase.

A modernized, agile, and collaborative change management and testing function is an asset to organizations and should be treated as such.
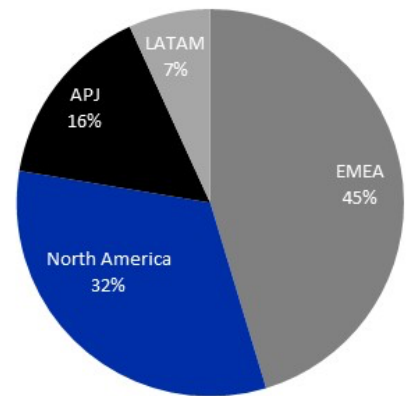
Methodology

In October and November 2021, SAPinsider examined the experiences of business and technology professionals about how they are approaching change management and testing. Our survey was administered to 210 members of the SAPinsider community and generated responses from across a wide range of geographies, industries, and company sizes. Respondents completed an online survey and provided feedback in customer interviews that questioned them on topics such as:

- What are your primary goals with respect to change management and testing?
- What are your organization's challenges regarding change management and testing?
- Are your change management and testing functions meeting your business requirements?
- What is the impact of your SAP S/4HANA plans on your change management and testing functions?

The demographics of the respondents included the following:

- **Job function:** Functional areas reported by respondents including Information Technology (36%); Change Management (12%); SAP Platform (11%); IT Operations (9%); Application Development (7%).

- **Market sector:** The survey respondents came from every major economic sector including Industrial (35%); Software and Technology (30%); Retail and Distribution (12%); Public Sector (11%); Financial Services and Insurance (9%); Hospitality, Transportation, and Travel (2%); and Media and Entertainment (1%)

- **Geography:** Of our survey respondents, 45% were from Europe, the Middle East, and Africa (EMEA); 32% were from North America; 16% were from Asia-Pacific, Japan, and Australia (APJ); and 7% were from Latin America (LATAM).

PARTICIPANT PROFILE

LATAM 7%

APJ 16%

EMEA 45%

North America 32%

Appendix A:
The DART^{TM} Methodology

SAPinsider has rewritten the rules of research to provide actionable deliverables from its fact-based approach. The DART methodology serves as the very foundation on which SAPinsider educates end users to act, creates market awareness, drives demand, empowers sales forces, and validates return on investments. It's no wonder that organizations worldwide turn to SAPinsider for research with results.

The DART methodology provides practical insights, including:

- **Drivers:** These are macro-level events that are affecting an organization. They can be both external and internal and require the implementation of strategic plans, people, processes, and systems.

- **Actions:** These are strategies that companies can implement to address the effects of drivers on the business. These are the integration of people, processes, and technology. These should be business-based actions first, but they should fully leverage technology-enabled solutions to be relevant for our focus.

- **Requirements:** These are business and process-level requirements that support the strategies. These tend to be end-to-end for a business process.

- **Technology:** These are technology and systems-related requirements that enable the business requirements and support the company's overall strategies. The requirements must consider the current technology architecture and provide for the adoption of new and innovative technology-enabled capabilities.

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