



**Walking the Tightrope of an
SAP S/4HANA Migration:
How Automation Helps You
Move Faster with Less Risk**

ASUG

 **TRICENTIS**

What Customers Are Juggling on Their Journeys

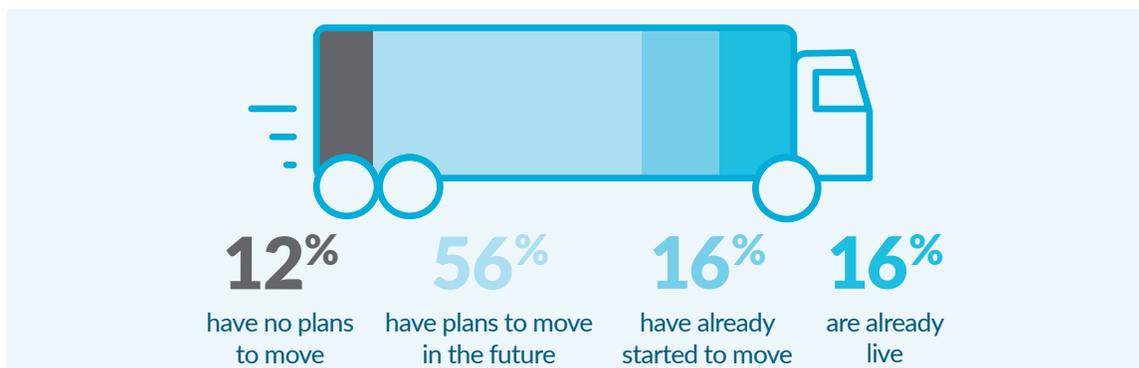
An SAP S/4HANA migration can feel like walking a tightrope. It is challenging enough to carry your standard SAP ECC functionality from one side to another. When you also have to juggle your customizations and connected third-party applications, it's more likely that you might misstep. Now, imagine attempting this exercise while blindfolded, which is what SAP customers face if they begin their migrations without a thorough understanding of the risks ahead.

It's no wonder that companies are taking slow, cautious steps toward SAP S/4HANA. To better understand the associated migration risks and how to avoid them, ASUG has been studying what SAP customers are experiencing at varying stages of their journeys to SAP S/4HANA.

Planning for a Safer SAP S/4HANA Migration

In 2019, ASUG partnered with Tricentis on a study of SAP customers to determine the status of SAP S/4HANA migrations and identify related challenges. The 2019 ASUG State of the Community study found that 32% of SAP customers are moving or already live, and 56% plan to migrate within the next two years (Figure 1). Our research indicates that ASUG members expect an overhaul of their business processes when adopting SAP S/4HANA. But it also exposes the fact that SAP customers' migration strategies may not be capitalizing on the opportunity to clean up custom code or to automate key processes that will help them streamline future upgrades.

Figure 1: The Status of Migrations to SAP S/4HANA



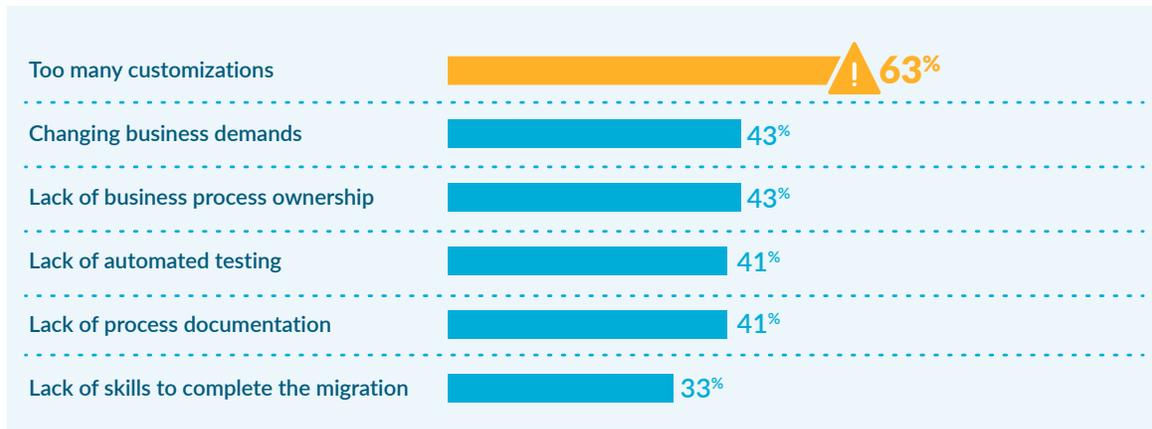
Source: ASUG research, January 2019

Although it might sound like it's impossible to migrate safely without issues, organizations can successfully overcome these blocks to their progress through careful planning and by making sound decisions in advance. For example, performing a thorough risk and readiness assessment at the earliest stages of planning effectively removes the blindfold and lets you clearly see where the technical and business risks lie ahead in your journey. With this knowledge, you can build a migration strategy that includes automation techniques to mitigate those risks, ultimately turning the migration tightrope into a well-engineered bridge with guardrails for a safe, efficient transition to SAP S/4HANA.

The Custom Code Balancing Act

On average, respondents anticipate dealing with two to three categories of risk as part of their move. The most significant risk they reported was too many customizations, with 63% of respondents citing this as a major concern they're anticipating during their migrations (Figure 2).

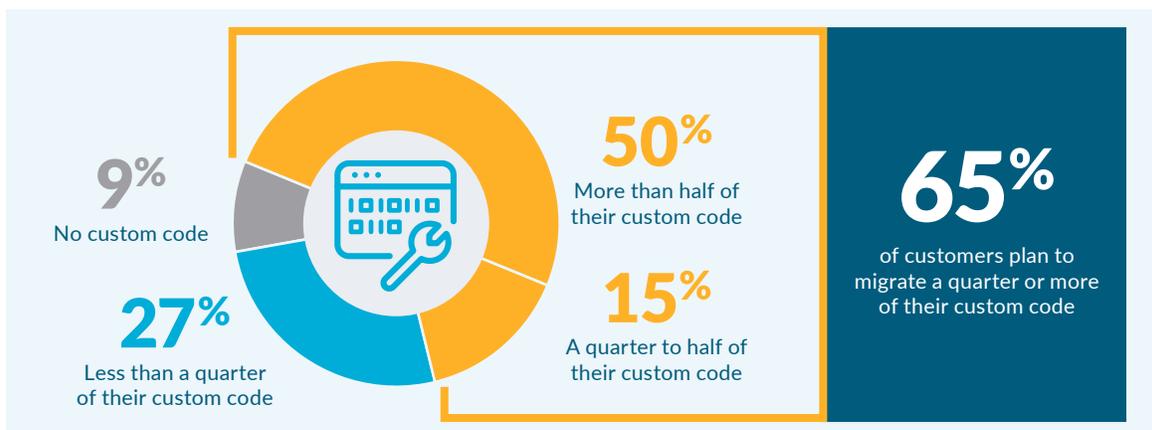
Figure 2: Anticipated Risks Within SAP S/4HANA Migrations



Source: ASUG research, June 2019

It is possible to avoid bringing over custom code in the first place. Many of the customizations that organizations made to their SAP systems are now standard features in SAP S/4HANA, which means they are no longer needed. Even so, a majority of customers plan to keep a quarter or more of their custom code as they migrate (Figure 3). Other studies have found that 28% of business process functionality depends on this custom code,¹ so it's no wonder some customers want to stick with what has worked in the past. The challenge for SAP customers is determining which customizations they can safely bring into their new SAP S/4HANA systems and which they are better off dropping.

Figure 3: Customers Expecting to Migrate Custom Code to SAP S/4HANA



Source: ASUG research, June 2019

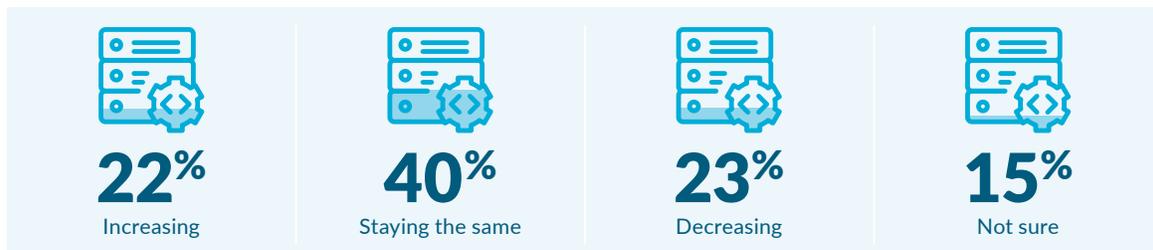


This is where risk assessments can help you make informed decisions. Completing an assessment will let you know how much custom code you currently have in your SAP stack, what is used in production, and which portions of your code can be retired, cleaned up, or replaced by what's already standard in SAP S/4HANA. A risk assessment can help you avoid costly duplications of work, end unnecessary maintenance, and prevent security gaps and other defects from knocking your new system off balance after you've gone live.

Weighed Down by Third-Party Integrations

Integrations between third-party applications and SAP systems also can threaten the progress of your migration projects. We learned that many respondents (62%) plan to maintain or increase the number of third-party applications connected to their SAP systems after migrating to SAP S/4HANA. If these third-party integrations fail once the new system is live, this could interrupt your business processes and ultimately affect your bottom line.

Figure 4: Predicted Use of Third-Party Applications Integrated with SAP S/4HANA



Source: ASUG research, June 2019

As with custom code, customers must understand the impact of SAP S/4HANA changes on their integrations with external applications early in the process. It is possible that integrations that were stable in SAP ECC will not be compatible with your new SAP code base. Doing a simple check to verify compatibility is easy to overlook, yet this could have profound consequences after launch—including causing unplanned delays to your SAP S/4HANA rollout. This is an issue that will be ongoing for customers after they launch, considering that each third-party application has its own release cycle.

An early risk assessment can analyze the impact of SAP S/4HANA on your application interfaces and help you understand which of your connections will need attention during updates.

Organizations Uncertain of Migration Risks

Part of the challenge for organizations migrating to SAP S/4HANA is that they just aren't confident in their understanding of the associated risks. Of our study respondents, fewer than a third are extremely or very confident about whether their companies understand the risks to their business processes when transitioning to SAP S/4HANA. Those furthest away from going live are the least confident, with only 12% who are extremely or very confident in their understanding of the risk environment.

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Interestingly, only 29% of those undergoing hybrid implementations (a combination of on-premise and cloud systems) say they are confident in their awareness of their risk environment. This suggests that hybrid SAP S/4HANA implementations could be more complex than implementations that are on-premise or in the cloud alone. This also could be a factor in why a low number of customers are using a hybrid strategy today.

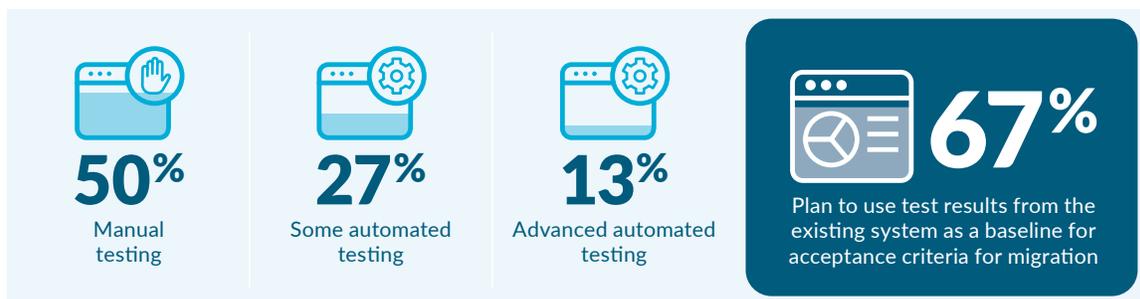
Testing: Concern or Safety Net?

The benefit of early change-impact analysis is that it provides a focused list of risks that organizations can then test. A full 41% of survey respondents noted that a lack of automated testing is a concern. This could be because half of all respondents still plan on using manual testing when they upgrade to SAP S/4HANA. While there always will be a place for manual testing, it is time-consuming, tedious, and expensive. It can cause bottlenecks and isn't guaranteed to find the defects you're looking to fix.

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Even more worrisome, 67% of SAP customers intend to use test results from their existing SAP system as their baseline for acceptance criteria for migration (Figure 5) in an effort to minimize time and cost. Considering how different SAP S/4HANA is from SAP ECC, looking backward into your old system is not an accurate or effective way to prepare for the significant changes that can happen to your system after a migration.

Figure 5: Manual and Existing Tests Bring Risk to SAP S/4HANA Migrations



Source: ASUG research, June 2019

Adding Guardrails to Your Migration Strategy

Organizations don't have to carry so much uncertainty on their journeys. By following our recommendations, you can accelerate your SAP migrations with greater confidence. Because you can apply these recommendations to any SAP change, you can get started with them now while you are still on SAP ECC and continue benefitting from them as you move to SAP S/4HANA and beyond.

More than half (56%) of respondents have not yet begun to move to SAP S/4HANA (Figure 1). If you are in this group, there are steps you can take that will enhance your current environment while reducing the time it takes to complete your future SAP S/4HANA migration.

Step 1: Incorporate change-impact assessments into your current update process. Third-party vendors provide automated solutions that reveal the risks in any custom or SAP-issued update, not just SAP S/4HANA migrations. When integrated with an automated testing platform, these solutions can automatically create test plans for an upgrade based on the identified risks. This can amplify your savings of time and resources, compared with manual efforts, while delivering better quality, coverage, and analytics.

Step 2: Conduct a change-impact assessment as part of evaluating an SAP S/4HANA migration. This will help you understand the differences between SAP S/4HANA and your current implementation. It's important to take this step, otherwise you risk breaking your business processes when you migrate.

You can start with the SAP S/4HANA Readiness Check offered by SAP, but you also will want to consider advanced automated assessments from third-party vendors. Taking advantage of these assessments can identify the impacts of your migration on development, testing, integration, security, and training.

Doing this now will give you a better understanding of your risk environment, as well as provide a better baseline you can use as you move forward with your migration. You might find, for example, that many of your customizations are outdated, redundant in SAP S/4HANA, or receive little or no use. It's possible that the user provisioning and access needed at the infrastructure level may have added back doors into your system that open it up to security weaknesses.

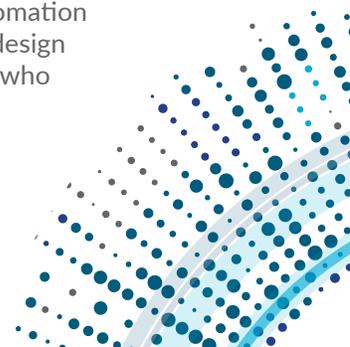
You also will gain insight into the business processes that are not yet supported by SAP S/4HANA. With this information, you'll have a fuller picture of where your migration could fall off course. You can then use what you've learned as you begin the migration and testing process to make sure your go-live is as painless as possible.

Step 3: Consider adopting model-based test automation. You'll recall that 41% of respondents say a lack of automated testing is a risk, but only 15% of respondents said testing was a key part of their migration strategy. This implies that respondents know how important automated testing is, but most of them haven't figured out how to make it a key part of their migration strategies.

Why Model-Based Test Automation Is Better

Advanced testing tools could be more difficult to build into a business case because of internal biases or past challenges. SAP customers might have experience with automated testing tools that rely on scripts, which are brittle and tend to break. This can lead to situations where teams are spending more time fixing testing scripts than actually accomplishing their testing goals.

A model-based test automation (MBTA) approach can quell these issues. MBTA allows for resilient test cases that won't break when the software undergoes test changes. Because this automation approach is not based on scripts and requires no technical expertise, business users can design and maintain test cases themselves. This is key because they typically are the individuals who



know the most about the applications and business processes involved in your project. And while manual testing will definitely slow down the migration process, the MBTA approach can help reduce testing time by 85% while providing 100% risk coverage.

Bring Advanced Test Automation Practices on Your Journey

Moving from SAP ECC to SAP S/4HANA—or performing any SAP update, for that matter—doesn't need to feel like walking a tightrope. As upgrades become more complex, automated testing can build a solid bridge, guardrails and all, to the other side and beyond. While organizations can and should use manual testing for some functions, automated testing also should be a critical part of their testing process. By starting now, you can take advantage of all the speed and coverage benefits of MBTA while still in your current SAP ECC environment. Then, when you are ready to migrate, the automated test cases you'll need to validate the migration will already be available.

Building a Bridge for Future Updates

SAP will be releasing updates for SAP S/4HANA more frequently than what you received for SAP ECC. Relying solely on manual testing can delay these upgrades, increase the risk of software failure, and prevent business improvements. It's possible for even the most conservative companies to become more innovative when they move to SAP S/4HANA.

If you view the move to SAP S/4HANA as an opportunity to improve your testing processes along with your business processes, you can make the transition much smoother. Automated testing is the future for successful SAP customers. To take control of your risk environment, it's worth it to investigate the opportunities you have now before you start walking across a migration tightrope.

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About ASUG

Founded in 1991, Americas' SAP Users' Group (ASUG) is the world's largest SAP user group, serving 2,300-plus businesses via company-wide memberships. ASUG's mission is to help people and organizations get the most value from their investments in SAP technology. The Chicago-based organization accomplishes this by connecting and educating people through in-person and virtual events, delivering customer feedback to SAP, and advocating for its members. Find additional information at www.asug.com/about



About Tricentis

With the industry's #1 Continuous Testing platform, Tricentis is recognized for reinventing software testing for DevOps. Through agile test management and advanced test automation optimized to support SAP and other enterprise technologies, we provide automated insight into the business risks of your software releases—transforming testing from a roadblock to a catalyst for innovation. The result is accelerated software delivery speed, improved cost efficiency, and reduced business risk. For more information, visit www.tricentis.com/sap

