

HOW SHIFTING LEFT TO EARLY TESTING BRINGS SUCCESS FOR DEVOPS AND BUSINESS APPLICATIONS

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The problem of having buggy and poor-performing applications in production can be solved by moving to testing early in the development process. Leading DevOps teams see many benefits by finding problems early and producing the best code possible.

There's a maxim among carpenters that one should measure twice and cut once. And it's really good advice.

After all, it makes sense that anything that goes wrong early in a project will lead to problems in the finished product.

However, in the world of DevOps and application development, many organizations haven't embraced this philosophy — especially when it comes to testing their applications. In fact, many put off testing until the application coding is complete.

It's sort of like cutting all the wood by eye and hoping you don't end up with a crooked chair.

Luckily, we're starting to see a change in this approach. Many businesses, especially those that are embracing DevOps and agile development, are shifting left and doing testing much earlier in the development process. This is vital, as applications have become the life blood of modern businesses. Whether targeted at customers, partners, machines, or employees, building the best applications possible is critical to the success of any organization.

To achieve these goals, businesses are embracing DevOps and agile development practices to code more quickly and effectively. However, many companies report that their DevOps practices fail when they aren't built on strong testing at each step in the pipeline. This results in poor application performance, bad application design, and the inability to consistently deliver high-quality software at the speed that the business demands.

In this Aberdeen Knowledge Brief, we will look at the challenges businesses are facing when trying to achieve better outcomes for their application environments. And we'll analyze how leading organizations are shifting left to bring testing and performance optimization into development cycles much earlier and are analyzing usage patterns in production to optimize their testing. By testing earlier, learning from production usage, and engaging key stakeholders more effectively, these leading businesses see higher performance, more reliable applications, and greater satisfaction from their end-users.

Businesses that are Leaders in application performance are 45% more likely to use performance testing tools.

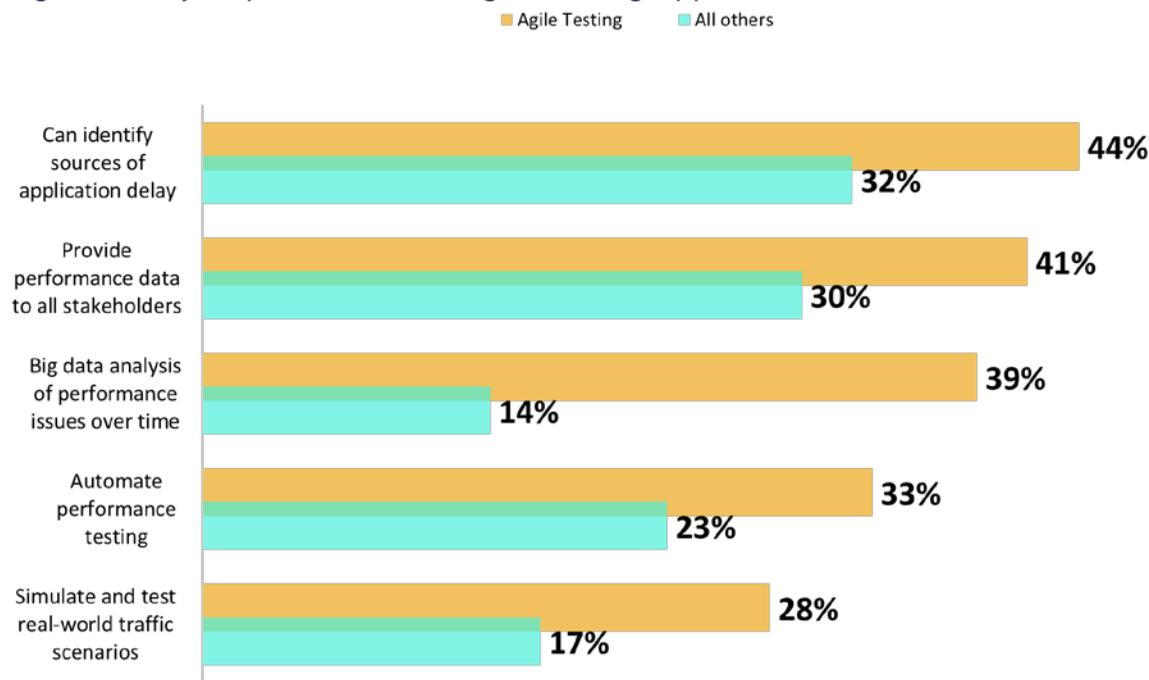
Taking an Agile Approach to Testing and Development

There are some things that can be considered “one and done” tasks. However, application testing is definitely NOT one of those things.

Throughout Aberdeen’s research into how leading businesses build the most resilient applications with the best user experience, we’ve found that a key characteristic of these organizations is that they test early and often, and they take advantage of all data, including production usage, to keep these applications running at their best.

To understand this, we analyzed our application performance data to identify businesses that took an agile approach to testing, made testing an end-to-end part of their development process, and used all testing and analytics to improve performance and usability.

Figure 1: Key Capabilities of an Agile Testing Approach



Source: Aberdeen, April 2018 percentage of respondents, n=157

Looking at the data from Figure 1, we see many of the key capabilities that agile testing organizations are leveraging to get the best application performance. These businesses put performance information in the hands of all key stakeholders, ensuring that those who understand the application use cases and users’ needs have good insight into how the application is performing.

These organizations use the wealth of information they are getting to know where problems in an application are occurring, which lets them fix issues more quickly. They not only test early and often, they also take advantage of testing automation.

Most importantly, these businesses are nearly three times more likely to track production performance over time. This information not only allows them to keep production apps running well, but also informs their ability to test new applications. In fact, these organizations are 70% more likely to test their application using real-world traffic scenarios that they have gleaned from production usage analysis.

How Shifting Left Pays Off for Agile DevOps

Throughout my many years in the IT space, I've seen many businesses neglect application testing. It can be understandable. After all, they just want to get the apps out the door and into the hands of customers and users. Testing can seem like something that just creates delays, and that doesn't pay off.

But Aberdeen research shows that the exact opposite is true. In fact, when we analyzed the benefits that agile testing businesses gained by shifting left and doing testing throughout the application lifecycle, we found that testing paid off in many different ways.

Looking at the data in Table 1 below, we see that agile testing organizations are 2.5 times more likely to see increased usage of their applications. This is key for any business application, as we all have stories about companies that invest a lot of time and money in a new application only to see users stick to their old processes because they didn't find the new application helpful.

These agile testing businesses are also more likely to meet their SLAs, meaning they aren't giving any money back to customers, and they fix application performance and reliability issues quickly, often before they impact users and customers. Most importantly, these leading organizations, are four times more likely than their competitors to see increased sales and revenue.

Businesses doing early performance testing are 40% more likely to improve customer retention

Table 1: Making the Grade through Agile Testing

2.5x	more likely to see increased application use
35%	more likely to meet SLAs
40%	more likely to resolve application performance issues quickly
4x	more likely to see increased sales and revenue

Key Takeaway

The creation of almost anything great involves good testing right from the beginning. Whether it's a sports car testing aerodynamics in a wind tunnel, an electronics designer testing smartphone durability, or even an artist trying out new concepts, early testing can weed out mistakes, bugs, and just plain bad ideas.

This is especially true in the world of DevOps and application development. The move to agile processes and continuous improvement doesn't remove the need for testing — it makes it more important than ever.

Businesses that are leaders in agile development are those who test early on to remove problems and bugs before they get baked into the product. And these organizations also rely on real production data to not only fix issues in live applications, but also to inform how they test new applications.

By embracing these agile testing concepts, leading businesses have high application usage, better performance, and see greater return on investment.

Rather than “measure twice, cut once,” for DevOps the phrase should be, “test frequently, and have great code all the time.”

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