Techstrong Research

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How can you increase the pace of testing and decrease the number of tests you perform while making testing more valuable?

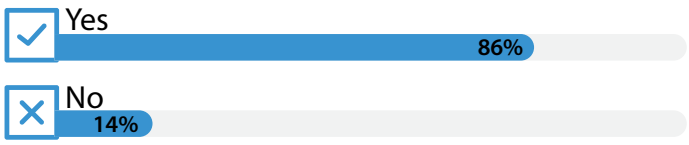
Emerging technology enabled by machine learning (ML) and artificial intelligence (AI) is making it possible to run fewer tests by selecting only the tests that will result in valuable insight. Why is this important? It addresses an age-old DevOps challenge – testing is viewed as important, but also a bottleneck. Far too often developers are left waiting for code from testers. In addition, in many cases the data that comes back from many tests doesn't result in meaningful insights, but the traditional wisdom is that you must run every test.

During April of 2022, our team conducted several flash polls among the Techstrong Group member community. Techstrong Group members include practitioners as well as business and technical leaders focused on DevOps, cloud-native, security and digital transformation. The goal of these polls was to understand our members' evolving priorities around application testing and AI-augmented testing. Across all of the polls, we received more than 700 responses.

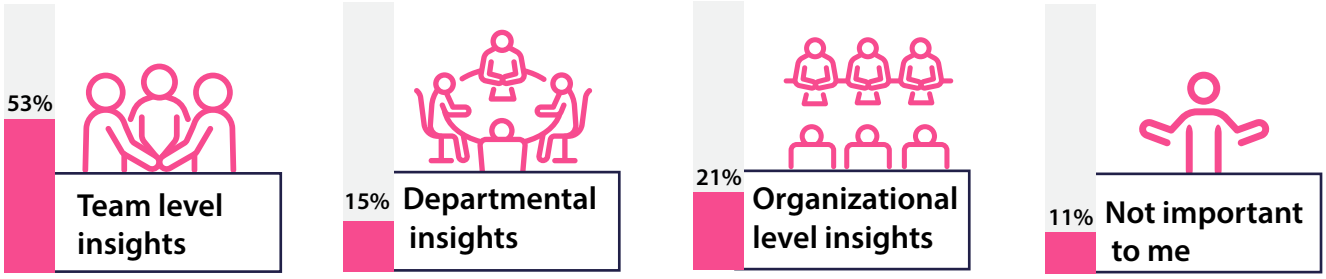
Shifting Left is a Priority, But Insights are Siloed

Identifying code defects as early in the development process as possible is an emerging priority across nearly every DevOps organization. However tools and data often fail to give leadership meaningful visibility across the entire organization.

Is shifting tests left a priority? [what are you doing today?]



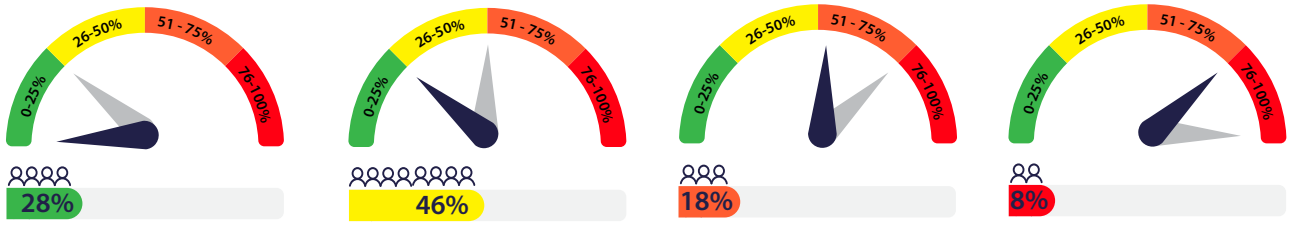
What level of visibility do you have into your organization's testing practices and their effectiveness?



Testing Continues to Get in the Way of Developer Productive

Testing is important from a variety of perspectives, including security, compliance and user experience; however testing is a productivity loss for many developers. Nearly three quarters of participants say that they have at least a 26% productivity loss from waiting on test execution.

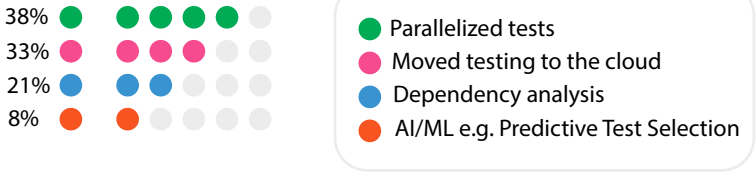
How much productivity is lost from developers waiting on test execution?



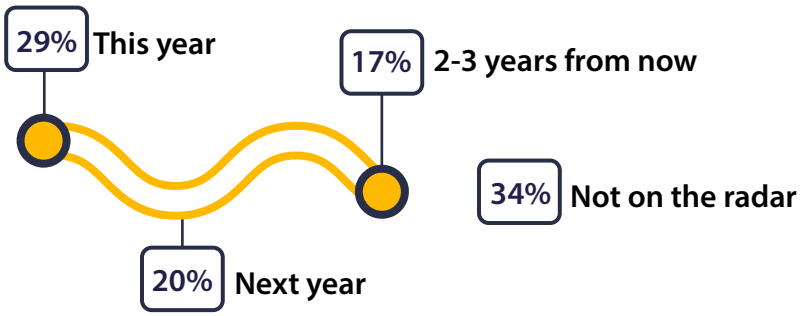
How to Reduce the Pain of Testing

Automation is increasingly being incorporated into application testing processes. In addition, nearly 70% of organizations are looking to augment their DevOps pipelines through ML and AI.

What optimization or efficiency practices have you adopted around automated testing? [what are you doing today?]



Are you planning to use ML/AI in your DevOps pipelines?



Techstrong Research Analyst View

Your engineering team already has the data they need to improve testing. The challenge isn't running more tests, instead there is an increasing need to gain more value from the testing data that you should care about.

The reality is that in most cases the majority of testing data is useless. Rather than focusing on massive amounts of testing data, you need to identify the right types of tests that will yield actionable insights.

In the past some very large organizations have built their own ML-based testing platforms that use Predictive Test Selection. Emerging vendors are now incorporating ML and AI into testing platforms to abstract the complexity of machine learning. These platforms are trained using an organization's own testing data rather than this-party generic testing data. The ultimate goal of this approach is to ship higher quality software more quickly to continually satisfy increasing customer expectations.