QA STRATEGY TO SUCCEED IN THE DIGITAL AGE

Infosys®
Navigate your next

"Digital" is the new buzzword for organizations. Across industries, organizations are at various stages of their digital transformation journeys. For some, this might mean reimagining their entire businesses around digital technologies; and for others, incorporating aspects of digital into their existing ways of working.

Examples of this are abundant across industries. In retail, the margin between online and offline is blurring. Retailers are incorporating technologies such as augmented reality, beacons to provide interactive in-store experiences to users. Targeted campaigns are being delivered to customers based on their proximity to a store. On one hand, customers have the option to order online and pick up in-store; and on the other, they can pay in-store and have it delivered at home. In the insurance industry, companies are enabling customers to purchase insurance anytime, anywhere, using pre-populated information from their Facebook profiles.

What this means is that IT is now at the forefront of business transformation. Technology is the driver for business improvements and hence, IT departments have a greater role to play in business success. Consequently, the stakes are higher than ever, for IT to deliver better value, faster and more efficiently.

However, the path to a successful digital transformation is wrought with multiple challenges, of which, a key challenge is one that is inherent to the most important aspect of digital transformations – the changing nature of customer interactions. While the digital revolution brings to organizations, newer models and channels of interaction with customers, the success of businesses is also becoming increasingly dependent on the quality of these interactions. The end customer experience is now the single most important factor in a business' success. Customers today are more demanding, and much more likely to switch loyalties if the customer experience

is not up to their expectations. Thus, the most important factor for success of digital transformations is ensuring a superlative end customer experience through the quality assurance function.

However, can traditional testing organizations that follow age-old ways, be able to provide quality assurance in the new scheme of things? To answer this, let us look at some of the imperatives of digital assurance.

Focus on Customer Experience

As discussed already, the nature of customer interactions has undergone a great transformation in the recent past. Businesses are increasingly engaging with customers through a multitude of channels such as web, mobile, and social media, in addition to the existing traditional channels. A single customer transaction can now span across multiple online and offline channels. Hence, customer experience across each of these channels is important; but so is providing similar and seamless experiences across all channels, as well as maintaining consistency in messaging all throughout. This also requires a change in the approach to quality assurance. QA needs to shift focus from the traditional functional validation, to more of customer experience validation, across the digital landscape. This requires a 360° view of quality, encompassing functional and non-functional aspects, and cutting across channels and technologies.

The anytime-anywhere nature of customer transactions pose challenges in all aspects of testing. With the increase in online transactions, usage of cloud infrastructure, the multitude of interconnected applications and devices, and the advent of big data analytics, there are newer challenges to application security and data privacy. Ensuring the security of applications from any breaches, along with adherence to security and data privacy guidelines is essential for ensuring a

good customer experience, and business continuity. Comprehensive security assurance is thus a key component of digital assurance.

Application performance is another key determinant of success. Users are much more likely to uninstall an app or abandon an online transaction with the slightest of reductions in application performance. Unlike traditional QA, performance evaluation needs to be incorporated at all stages of the application development lifecycle. Performance evaluation needs to be augmented with performance monitoring in production to ensure availability of business critical applications.

Strategies for compatibility, usability, and accessibility testing should also be optimized to cover multiple customer touch points and technologies like desktop, mobile, and other connected devices.

There is also an increasing focus on providing personalized experiences to customers. In addition to functional validation, personalized content validation across channels, and validation of digital content and assets also needs to be incorporated.

Another aspect of the digital world is the constant customer feedback and inputs, which have become important drivers for business decisions. Companies are co-creating products with customers, or using customer inputs to improve existing products. This is also now extending to using customer inputs to improve IT platforms and services. In this constantly evolving landscape, a continuous feedback mechanism is also important for QA organizations to understand the end customer requirements and preempt customer issues. End customer feedback, learnings from production, and findings from previous testing cycles can all serve as inputs to continuously improve testing effectiveness and efficiency, and provide a truly 360° view of application quality.

Manage Complexity

An important challenge that digital transformation brings about it is the increasing complexity of the application landscape. The IT landscape now needs to support multiple newer applications built on disparate technologies. The interconnectedness of applications, as well as the requirement to test them on different device configurations, pose additional challenges for the QA teams. On one hand, assurance needs to be provided for all application layers, from the database, to the UI, to isolate issues; and on the other hand, end-to-end business process assurance encompassing multiple applications is equally crucial. The testing strategy should be able to balance these requirements and provide optimal test coverage, ensuring early isolation of issues. A well planned approach involving service virtualization, judicious mix of automation tools, test data management and optimized testing scope should be implemented.

Thus, the need of the hour is a holistic assurance strategy encompassing all aspects of validation, which is also optimized for the changing application landscape.

Increase Agility

With the digital revolution, newer technologies are being adopted at a much faster pace. Organizations are now trying to pilot newer and sometimes unproven technologies, in a bid to enhance their business. For QA teams to support this effectively, they have to be extremely nimble and quick to learn. Teams should be tuned-in on technological changes, be able to innovate quickly, and come up with optimal solutions for new testing challenges.

In general, development cycles are getting progressively shorter, with businesses vying to provide better features, faster. Development methodologies are moving to Agile, and DevOps. Consequently, there is an increasing pressure on QA teams to reduce the turnaround time and deliver the code to production. It also has to be balanced with the requirement to support more and more devices and platforms. This needs a two-pronged approach to optimize testing requirements, as well as increase the speed of testing. With limited time to test, it is crucial to adopt methods to optimize testing requirements, so that the time is well spent on validating critical functionalities.

While automation has been the key enabler to increase testing effectiveness, it should not be limited to test execution alone. It should also encompass the entire testing lifecycle – from requirements analysis to reporting. Efficiencies need to be built into the testing process by a combination of tools, accelerators, and reusable test artifacts. Early automation strategies can be deployed to ensure availability of automated test scripts for system testing.

To conclude, an assurance strategy in the digital world has to address the following:

- Focus on customer experience, rather than functional validation

- Provide a 360° assurance, encompassing different aspects of testing as well as end-to-end validation

- Focus on continuous learning and innovation

- Continuously optimize and accelerate testing

For more information, contact askus@infosys.com

Infosys®

Navigate your next

Infosys.com | NYSE: INFY

Stay Connected   SlideShare