



ESTABLISH THE RIGHT PURPOSE FOR TESTING TO WIN BIG IN TODAY'S DIGITAL WORLD

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Abstract

The need for quality and agility across all enterprise offerings – a top priority in this digital world – underscores the need for robust software testing. Over the past few years, software testing has undergone significant transformation. However, to ensure transformation delivers relevant outcomes, organizations must first understand and redefine the purpose of quality assurance across all their offerings. This paper outlines the importance of defining the right purpose of testing across four critical dimensions. It also explains how such an approach will help organizations increase the overall value and quality in the product and software delivery lifecycle.

A woman with brown hair, wearing a green jacket over an orange shirt and blue jeans, stands in a server room. She is holding a black tablet and looking down at it. She has a lanyard with an ID badge around her neck. The background consists of several tall server racks filled with various electronic components and cables. The room has a red wall and a white floor.

Introduction

The rise of new technologies is creating a world driven by the need for real-time and relevant solutions that make customer lives easier. In fact, most of the innovation we see today is about making breakthroughs to support this demand. As customer expectations increase, organizations are under pressure to deliver more at superior quality within ever-shrinking timelines. Thus, to sustain their edge, enterprises are looking at optimizing their software testing lifecycle to become lean and agile in order to support quality assurance and shorter time-to-market. But first, they must evaluate what their purpose of testing is. Without such understanding, initiatives to amplify value and deliver positive customer experience will remain limited in efficacy.

What is the purpose of testing?

Testing has a significant role to play in the software industry. It is no longer confined to ensuring that specific software components work. Today, testing is about enabling understanding and clarity in the end-to-end lifecycle – from origin of business requirements to customer acceptance.

However, as software becomes complex, there is a steep rise in the number of checks to be conducted, making software assurance impossible through only human intervention. Thus, it is imperative for companies to augment the entire testing process with selective accelerators like automation. Establishing a balance between human testing and automated testing is the key success factor here. Moreover, the strengths of each can

only be fully leveraged when there is clarity on the overall purpose of testing. In order to achieve this, we recommend defining the right purpose across four critical dimensions, namely test maturity, strategy, accelerators, and agility. A balance between these four factors will enable robust and outcome-driven testing for business success.

These four dimensions are further described below:

1. Test maturity

It is extremely important for organizations to understand their current testing maturity if they want to adopt digitization and meaningful innovation. They should identify the purpose of testing and introduce clarity into its objectives through effective assessments. This involves defining a clear vision and future state that

reflects how the organization views the overall role of testing as well as its role in the digitization journey. Thus, end-to-end traceability from business goals to IT goals to testing goals form the winning criteria for successful testing assessments. Moreover, organizations should also focus on change management during digital transformation to ensure enterprise-wide success.

The strategy outlined below can help define the purpose of testing by first understanding the overall objective. This assessment strategy can help organization identify potential and current gaps as well as the corresponding next steps to solve them. The differentiator of this strategy is that it provides end-to-end traceability across all phases, thereby aligning with the overall purpose of testing.

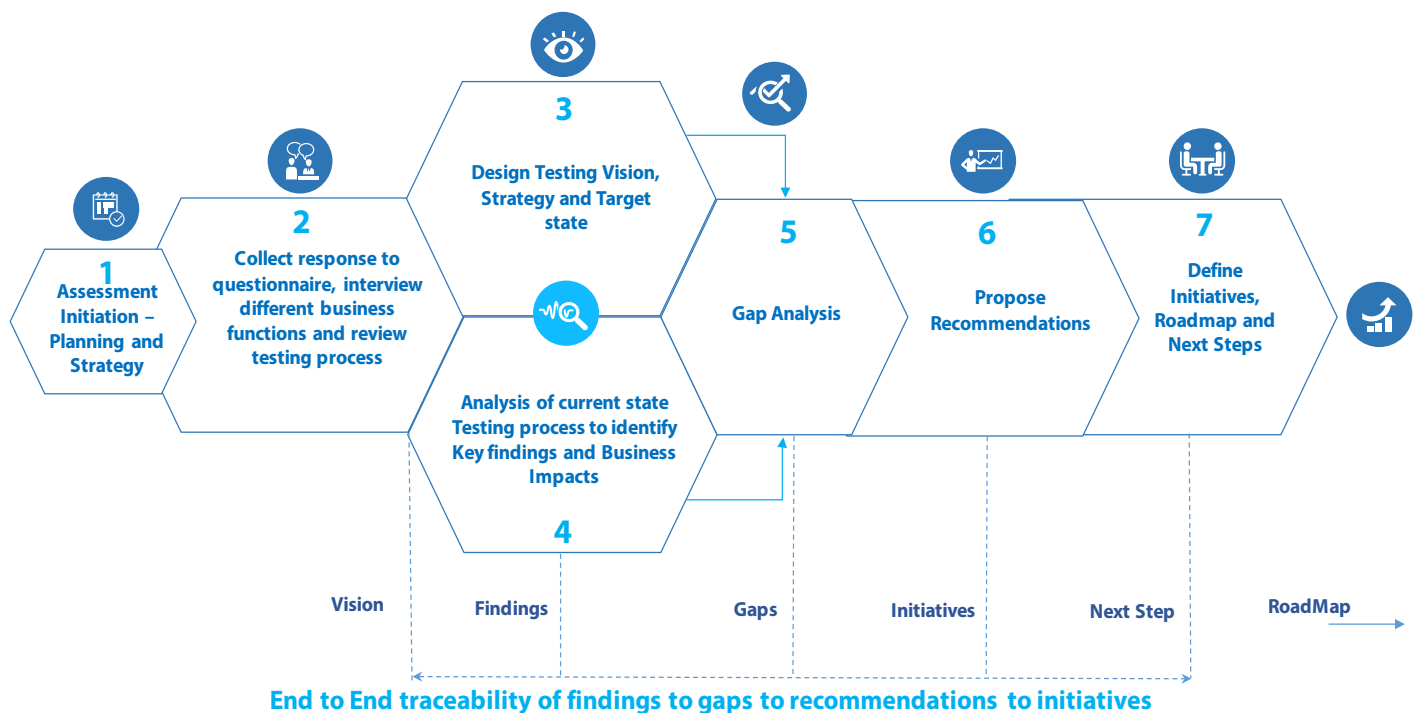


Fig 1: An assessment strategy to effectively identify current testing maturity

2. Strategy

Increasing customer expectations, aggressive product release timelines, competitive product margins, and steep compliance measures present a new type of challenge for nearly every department in an organization, namely, quality assurance. Addressing this calls for extreme agility, value-based delivery and increased efficiency in operations. In this new era of quality assurance, testers can no longer manually assure all the functional and non-functional points of a software product or solution. In fact,

this is a key factor driving transformation within testing strategies. Nowadays, testers are moving away from traditional phased 'test-all' approaches all to more agile and 'purposeful' testing. While many organizations have not explicitly embarked on such agile journeys, it is important to infuse a certain degree of agility in testing by first understanding the purpose and overall objective of testing. Hence testers should have a good understanding of technology along with sound domain knowledge in the current business landscape. This

balance of techno-domain knowledge will enable agility in an organization's quality assurance journey.

We recommend that organizations further optimize their testing strategy by incorporating twelve selective focus points as mentioned in Fig 2. Once there is clarity and understanding of the relevancy of testing in the overall business context, these twelve points can be implemented through various means like test accelerators, bots, new operational models, etc.

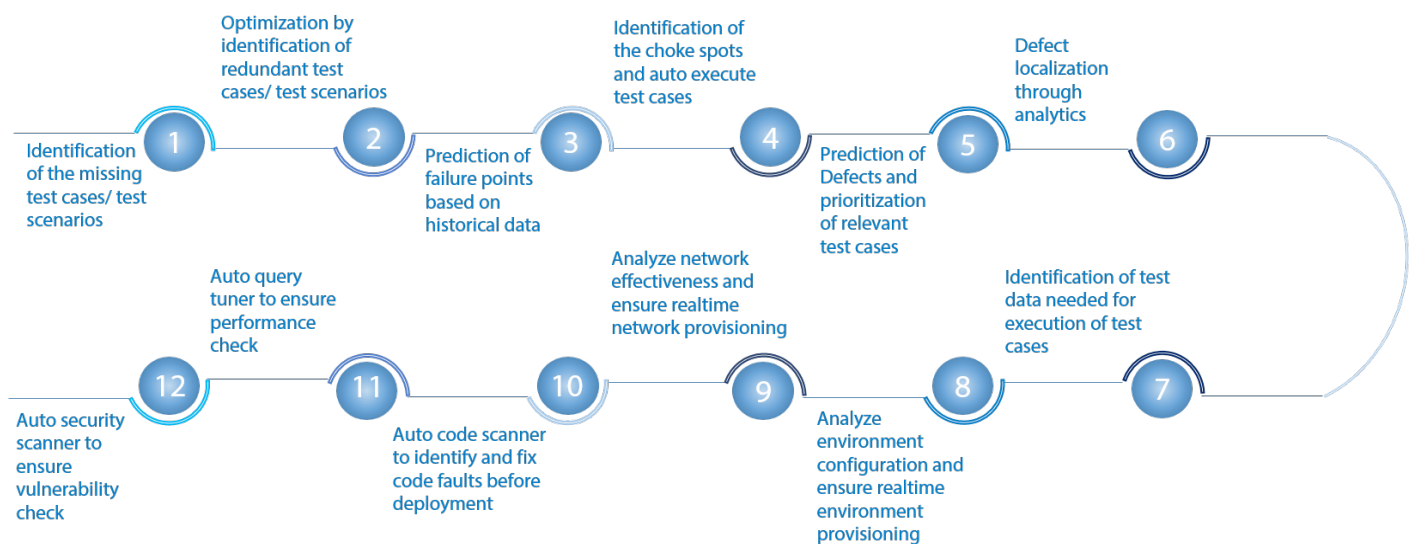


Fig 2: Twelve selective points to improve the testing strategy for robust quality assurance

3. Accelerators

Testing accelerators like automation and soft tools are now being viewed very differently as compared to the past few years. Previously, automation meant using software capabilities to perform repetitive tasks with a tester's partial attendance to monitor the process. Now, automation has transformed to become more structured and guided with a definitive purpose. It has moved beyond performing repetitive tasks and focuses on using software intelligence for complex tasks, which may even require decision-making capabilities. Moreover, the need for extensive human

intervention for close monitoring has reduced to a large extent and is required only in specific situations beyond the software capability.

Simply automating every process can be time-consuming, costly and may not even yield the expected outcomes. Instead, it is important to understand the purpose of automation and the value it brings. Once there is clarity on this, the next step is to generate a heat map of all the automatable processes, identify high impact zones and categorize and prioritize the most important ones for automation. The heat map must clearly reflect time-consuming tasks, actual or

potential choke points, friction zones, and processes having high complexity. When automation is leveraged efficiently in this way with a definitive purpose, organizations can derive positive impact on speed, cost, time, and agility.

Fig 3 depicts the simplified architecture of an application landscape reflecting the value generated through automation across different layers. The key success factor here is identifying the correct purpose for automation across different layers, thereby crafting an effective automation strategy that strikes a right balance in each layer.

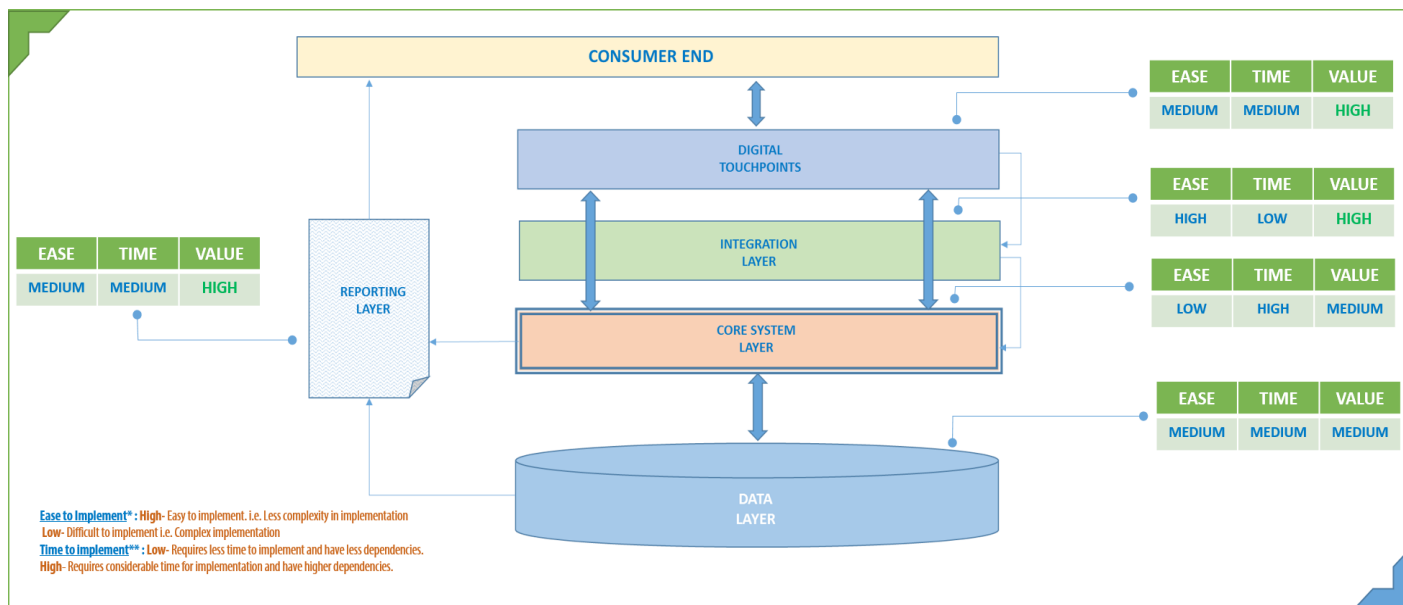
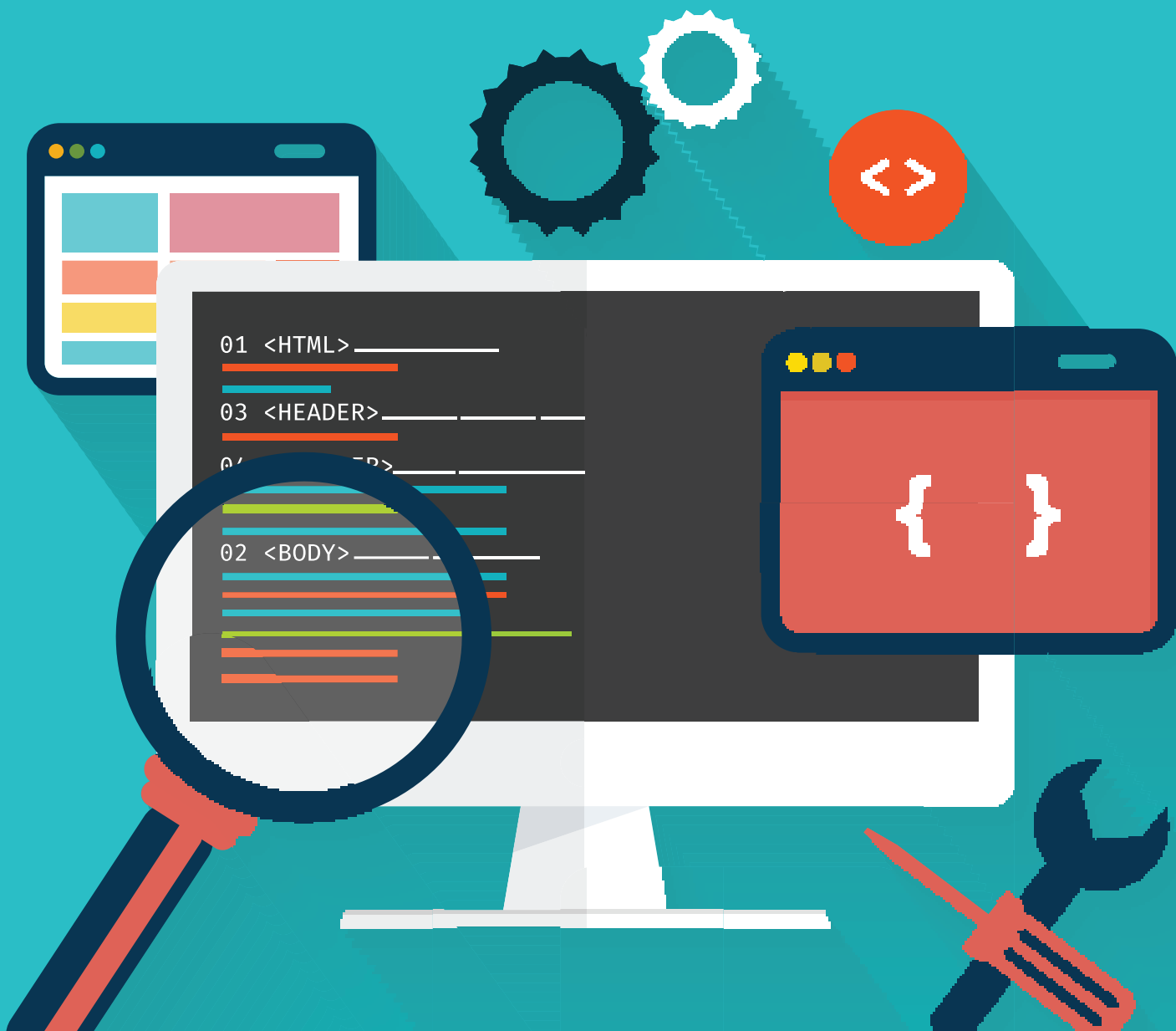


Fig 3: Architecture of an automated application landscape

Apart from the above benefits, automation also helps organizations leverage robotic process automation (RPA) for higher ROI in areas like vendor invoice management, claim management (administration and processing), customer enrollment management, billing management, tax calculation system, etc.





4. Agility

In a fast-paced customer-centric world, organizations want to be more agile, particularly in their product development lifecycles in order to increase efficiency. However, traditional practices of maintaining independent teams across the product lifecycle with high manual intervention in each step cannot support agility. The shift towards agile product development necessitates having a collaborative environment for

development, operations and quality assurance for lean end-to-end processes. Armed with this purpose, organizations that have already embarked on digitization journeys with the first layer of efficient and agile testing are now looking to leverage effective test automation and are embracing the practices of DevTestOps

DevTestOps not only brings in a collaborative culture but also accelerates solution delivery, innovation and rapid

cyclic feedback. It calls for specialized roles like quality engineers who work closely with quality analysts, developers and the operations teams. Using DevTestOps with the right purpose will help organizations realize tangible business value through improved time-to-market, greater productivity gains, predictive fixing of software bugs, lower release cost, and shorter turnaround time for solution delivery to name a few.

Conclusion

Today, customers are increasingly dependent on technology to make their lives easier. Thus, the role of software testing is becoming more prominent with the demand for high quality products. While the future of software testing may appear challenging, the transformation over the past few years provides immense opportunities for organizations to boost their efficiency. To derive maximum benefit, it is important for organizations to re-look at their purpose of transformation and, more importantly, the purpose of software testing. The winning formula is to define the right purpose for testing across four critical dimensions – test maturity, strategy, accelerators, and agility – based on their current position in the transformation roadmap. These parameters will provide deep visibility into the transformation journey so businesses can achieve the expected outcomes.



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