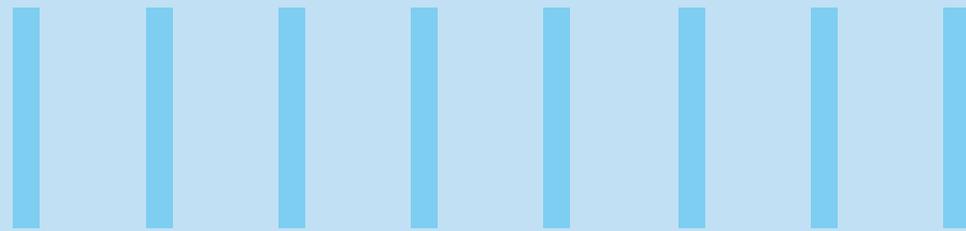




INFOSYS AI-AMPLIFIED QUALITY ENGINEERING TRANSFORMATION MODEL



Abstract

In today's business landscape, digitalization is driving the economy. Speed to market, customer experience, and security are critical factors for today's businesses. To stay relevant and ahead of the curve on their digital journey, organizations are embracing the cloud, DevOps, and AI transformation. This is the way forward to achieve greater agility in the way software is built, deployed, and consumed.

Infosys' AI-amplified Quality Engineering Transformation Model (AI-QETM) offers comprehensive capabilities to assess and mitigate the risks in quality engineering (QE) strategy, set-up, implementation, and transformation.

This paper highlights the features of AI-QETM and how it can help coach organizations to evolve their quality engineering ecosystem and effectively support change management.

Need for Quality Engineering

- Quality engineering (QE) is increasingly moving beyond a function or script-driven approach towards autonomous frameworks
- Focus is shifting from issue-based resolution to real-time monitoring and integration, using AI and hyper-automation

- Going forward, enterprises will create a pervasive AI layer across the organization to augment testing professionals and enable truly self-managing QE functions
- SDET roles will evolve and testing will move beyond the center of excellence. Interconnected virtual teams comprising a range of industry, business, and

technology experts will align around common business purposes and create radically different borderless enterprises.

- Exponential growth in data volumes and variety sourced from a huge number of new enterprise channels and devices will drive a shift from test data to test insights through applied analytics

AI-amplified Quality Engineering Transformation Model

Infosys, a pioneer in the software testing space, is enabling enterprises across the world to embrace QE practices using our AI-amplified Quality Engineering Transformation Model (AI-QETM). This model addresses key challenges in QE implementation such as coverage and quality of test design, leveraging AI capabilities in continuous testing, build quality and impact on testing, delays in deployments, and proactive testing measures.

The key dimensions covered by the model are:

- Code quality and test engineering capabilities
- AI and advanced automation adoption and key gaps
- Lean processes and methods adoption
- Governance and telemetry

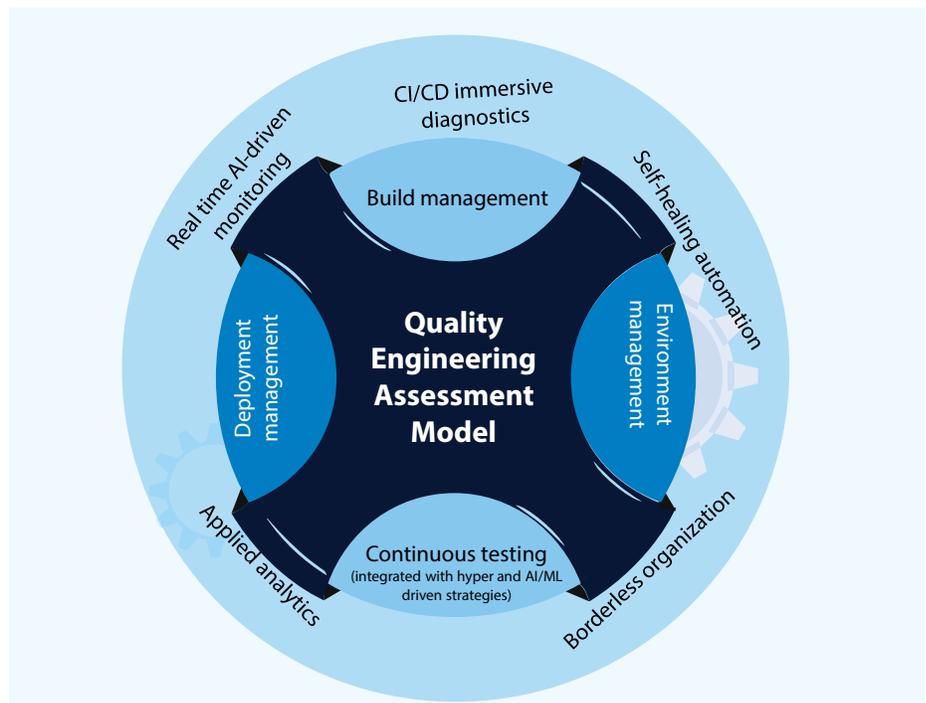
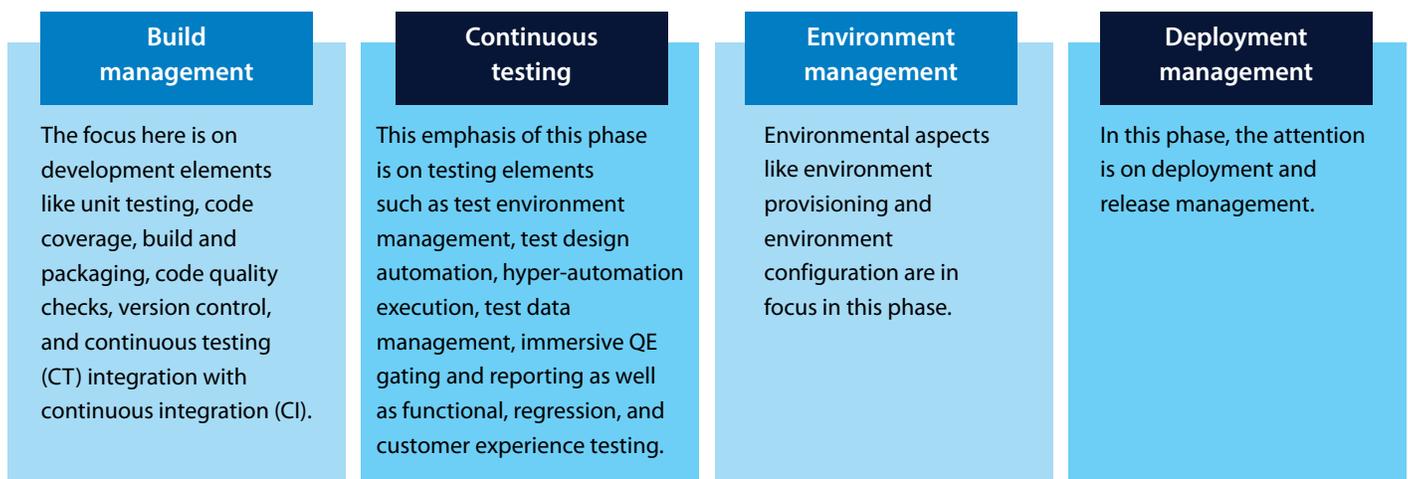


Figure 1 - Assessment areas

Assessment areas encompass four critical phases of a DevOps implementation as follows:



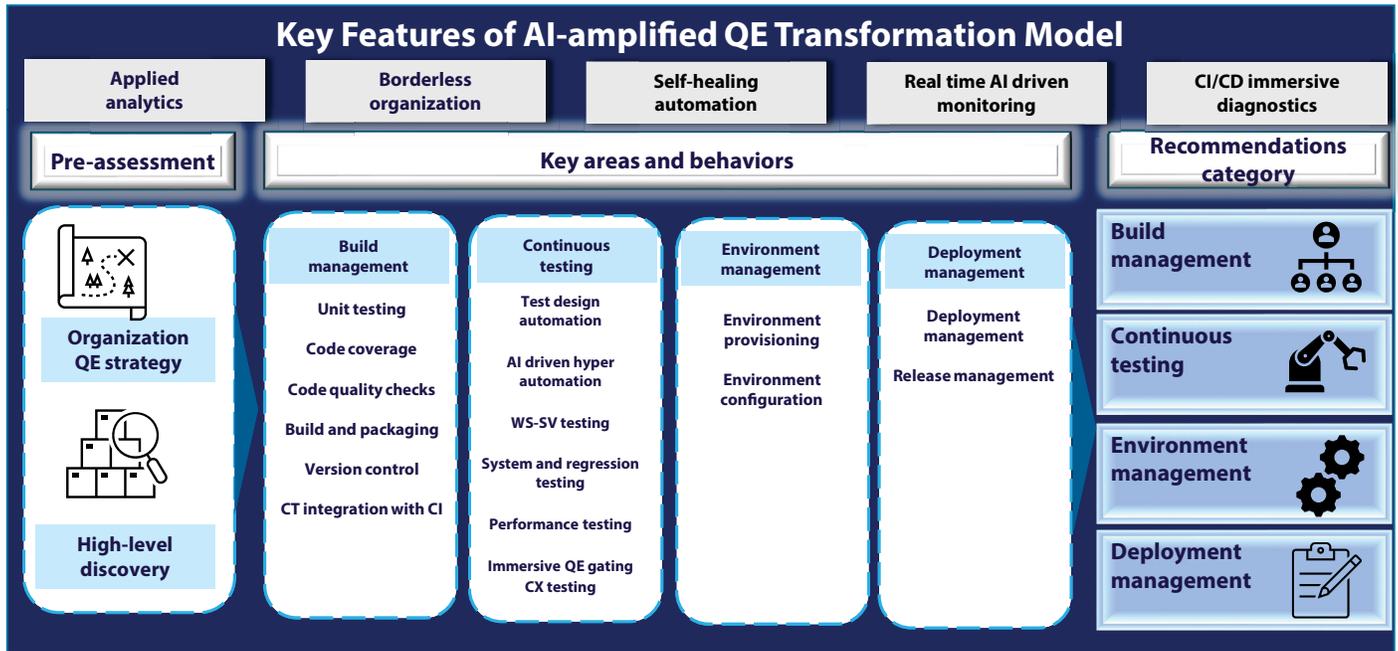


Figure 2 - Key features of AI-QETM

QE Maturity Benchmarking

The Infosys AI-QETM model has the ability to assess the maturity of different projects and teams across QE capabilities, coach the organization to evolve the QE ecosystem, and enable effective change management.

The model helps benchmark the QE maturity on a 5-point maturity scale.

1 - Basic

Ad hoc QE practices in projects are driven by an individual team member's passion or need.

2 - Defined

QE is identified as a priority by the project or department, but the primary focus is on tooling and QE methodology definition for specific project needs and reporting.

3 - Progressive

Teams and organizations are implementing the QE methodology in multiple projects and evolving in their journeys through tool integration, AI testing, automation, and re-skilling.

4 - Mature

Automation is advanced and tightly integrated into DevOps, and continuous test automation is used by all project teams. AI-based impact analysis and telemetry are in practice.

5 - Industry leader

At this level, there are highly mature project teams, self-managed QE, focus on optimization of QE practice, borderless organization, advanced automation techniques, integrated AI, and monitoring and analytics.

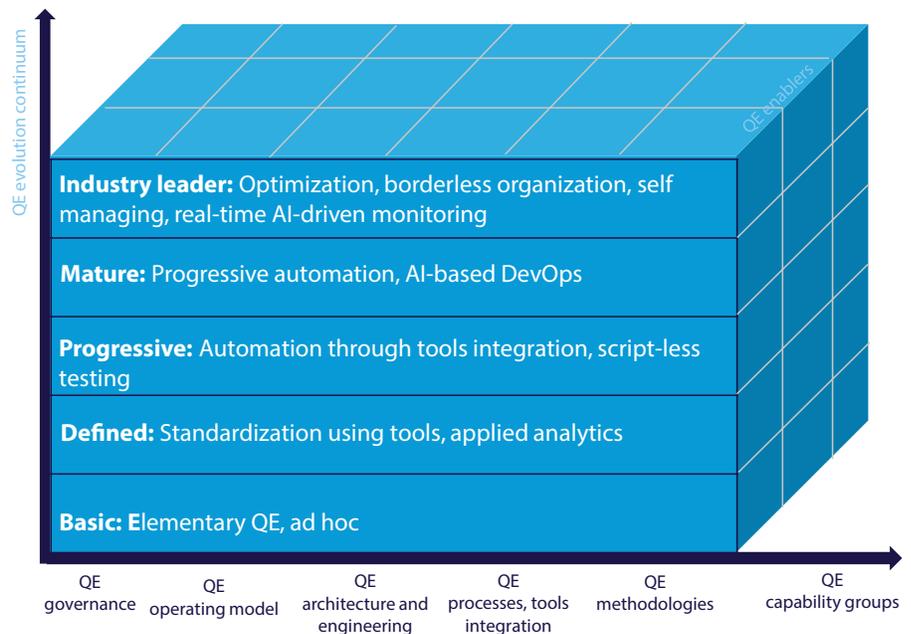


Figure 3 - QE Maturity Model

Benefits of Infosys AI-QETM

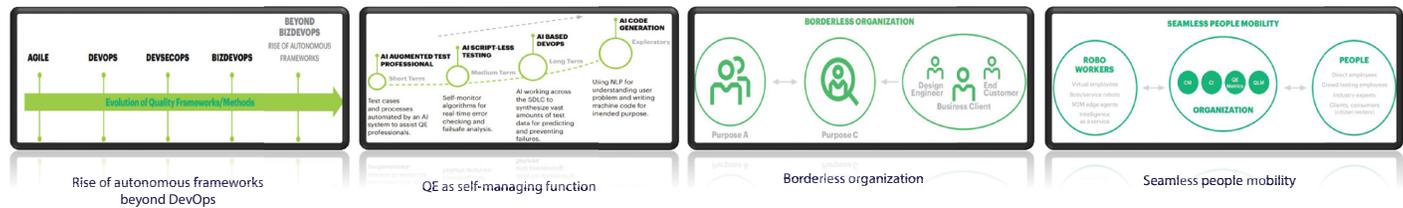


Fig 4 Benefits of Infosys AI-QETM

Success Story

A large European bank wanted to build a futuristic QA model to address complexities in test engineering capabilities, build an integrated QE model, develop continuous testing capabilities, and achieve productivity gains.

Infosys established a global quality engineering group providing testing services for wealth management, retail banking, and compliance testing portfolios. Testing services included continuous test automation, domain

testing, mobility testing, AI and data analytics testing, and performance engineering. The advanced automation strategies helped deliver 80% automation leading to €15 million in cost savings.

Conclusion

QE implementation comes with many challenges such as the right culture, tooling, automation strategy, and mix of mindset and QE processes across the organization. A thorough and comprehensive QE strategy

helps in early engagement and addresses the testing needs and techniques for an organization.

Infosys has designed AI-QETM with a sharp focus on achieving a comprehensive test

approach to ensure coverage and quality for digital transformation. This model has helped clients improve the maturity of QE, achieve 80% automation coverage, and improve end-user satisfaction on product quality.

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