Technology Assurance: Stay Ahead of the Curve

Technologies have redefined the ways of delivering businesses, in turn, giving birth to new-age business models, prolific customer experience products and innovative IT consumption models. To ensure a maximized successful output in this digital transformation journey, it is imperative to have an assurance framework that is adaptable and aligned to the changing business needs.

An Executive Summary

In the era of Digital where information and data forms an integral part of everyone's lives, the way we work and live has reshaped. The digital value chain when viewed from an end-user's perspective, presents an intricate picture. With the volume of customer data points coupled with the increasing presence of connected devices and different form factors, the challenge has never been greater for businesses to provide unparalleled experience for their customers. This is where Technology Assurance takes the wheel.

Technology Assurance: A New Mandate

Technology Assurance, an integral part of the Quality Assurance (QA) encompasses the solutions and infrastructure required for testing the digital range of products and services, including but not restricted to, mobility, big data, analytics and diverse interconnected devices. Such end-to-end testing, however, is accompanied by challenges of its own, such as the multiplicity of operating systems, the scale of end-users and other connectivity and network-specific challenges.

In order to overcome these, Cognizant offers a comprehensive set of solutions spanning across the value chain - from test design automation to mobile labs, and from pay-as-you-go models to cloud based solutions. These solutions not only cover contemporary environments but also offer seamless integration with leading testing software providers in the market.
The Pillars

Proliferation of structured and unstructured data accessible through the ubiquitous mobile phones and handheld devices is enabling consumers to ride the digital wave and make informed buying decisions. The ability to analyze this data to foster innovations and build solutions economically can emerge as undeniable competitive advantage for enterprises. The changes heralded by the confluence of these disruptive forces – social media, mobility, analytics and cloud computing and IoT is bringing about a paradigm shift in how the business-technology ecosystem will operate.

Social:
To connect with the larger audience, enterprises are leveraging social media extensively in an attempt to increase their customer base. If one were to articulate this in the QA language, our social testing encompasses usability testing, browser compatibility testing, security, analytics and integration testing.

Mobility:
Mobility today is a need as against a want. The increasing demand for mobility with each passing year has only reciprocated the onerous need for mobile testing. With the aid of an in-house on-demand lab dedicated to mobility testing, Cognizant has developed a diverse range of mobile testing services enabling end-users reduce costs and speed up time to market.

Analytics:
Companies today are generating billions of gigabytes of data which, if utilized properly, may emerge as an indomitable competitive advantage. Cognizant, with its specialized offerings in Business Intelligence Analytics testing, assists the performance and synchronization of analytics-based applications that rely heavily on backend systems over multiple networks.

Cloud:
The undeniable power of cloud computing to improve productivity is accepted today by most organizations. Cognizant's world-class tailored cloud testing capabilities with over 2000 automated cloud test scenarios includes compliance testing, data security and integrity, confidentiality test analysis on cloud, interface testing and integration testing.

Internet of Things:
IoT testing, a particularly vital part of the Technology Assurance ecosystem, involves the testing of things and smart devices and their interactions with each other. A unique approach based on lifecycle virtualization, this technique is leveraged by Cognizant across the IoT value chain. IoT testing enables virtualizing devices and/or things, environment and data, interactions, network and backend applications, in accordance with the real-time testing environment.
Technology Assurance in a Rapidly Changing Environment

Technologies have redefined the ways of delivering businesses, in turn, giving birth to new-age business models, prolific customer experience products and innovative IT consumption models. Understandably, the core of Technology Assurance revolves around the emergence of these new technologies, such as Internet of Things (IoT), SMAC™ and big data. Traditional QA techniques merely may not be enough to meet the demands of today’s digital businesses. To ensure a maximized successful output in this digital transformation journey, it is imperative to have an assurance framework that is adaptable and aligned to the changing business needs.

Technology Assurance Framework

![Technology Assurance Framework Diagram]

The rate at which the IT landscape is evolving, individual infra components (hardware, software and network) must be tested thoroughly to weed out deficiencies across all layers of the IT architecture.

- Multi-channel testing and IoT testing are responsible for testing the interactions between numerous form factors
- With additional emphasis on digital artifacts, digital asset management and cloud-based testing occupies the forefront
- Business process validation testing is also an important aspect as today’s competitive environment offers zero tolerance for disruptions in business

Each of these testing methodologies along with customer sentiment analysis forms the core of the Technology Assurance platform.
A case in point

A leading Life Sciences company based in the US turned to Cognizant to ensure functional testing of its medical device for FDA guidelines on iOS-based devices. Cognizant QE&A teams created automated Proof of Concepts and tested the hardware in their state-of-the-art QA systems. The onsite-offshore model was leveraged to provide a comprehensive support from the pilot phase until delivery.

With an extended QA support from pilot until production stages, that included testing on a range of devices as the iPhone, iPod and iPad, validated against FDA Title 21 CFR Part 3, 4 and 11.

The Benefits: Enhancing Customer Experience

| Testing using real-time devices and software stubs | Diverse range of devices including iPhone, iPad and iPod | Validation against FDA Title 21 and CFR Parts 3, 4, 11 |

For more information, mail us at DigitalAssurance@cognizant.com

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work.

With over 100 global development and delivery centers worldwide and approximately 233,000 employees as of March 31, 2016, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

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