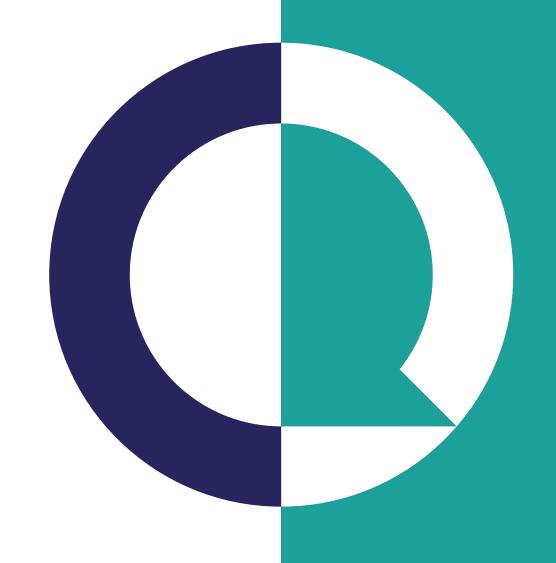# QUALITEST

Titan Company Ltd

Company overview

Titan Company Ltd., a consumer goods company established in 1984, is the fifth largest integrated own brand watch manufacturer in the world. The company is a joint venture between Tata Group and the Tamil Nadu Industrial Development Corporation. As Tata Group's largest consumer company, Titan Company has diversified into other consumer products, including jewellery with Tanishq, eyewear with Titan Eyeplus, fragrances with Skinn, and helmets with Fastrack.

The Challenge

Titan Company was lacking a centralized system for storing the division's sales data and employee data, and was dependent on third party vendors for sales, stocks and marketing data.

The company was also facing challenges in getting the right data on time, which delayed business decisions.

To overcome this dependency, the company migrated its various consumer product websites into a new eCommerce platform (IBM Netezza, IBM MDM), where all the division's management would have direct access to the right data before making any business decision.

In the eCommerce platform, Titan Company had challenges with processing orders through the order management system and fulfilling orders through the warehouse management system in the backend, when customers initiate the order via various marketplaces and websites.

Titan company faced a challenge in testing the E2E functional flows and approached Qualitest to provide the testing strategy and to implement the test approach and methodologies for their new digital platform.

Scope of the engagement

The platform has 3 major tracks i.e. eCommerce, Mobile & Analytics. The systems under each track are:

- eCommerce track (Web & Mobile)
    - WCS, WCM, DA, DM, Order Management, DMS
- Analytics Track
    - Big Insights, ETL, DWH, Cleansing, Visualizing tool (Tableau)
- Mobile track (Responsive website)
    - Mobile 1st, MDM, UI/UX (Hybrid and Native)
- Other Software
    - Accelerators, Open Source Software

The testing for the website, mobile RWD and mobile app (iOS and Android) of all six brands included:

1. Testing user experience across all sites
2. Mobile testing for ecommerce sites/apps (Responsive sites)
3. Browser compatibility testing
4. Accessibility testing
5. Omni channel testing
6. Test reporting with customized dashboards
7. Leveraging open source tools for a cost effective automated solution
8. Automation testing with implementation of best in class framework

Proposed solution

Titan Company was provided with a single point of contact (SPoC) to ensure that appropriate level of support is provided and that services are delivered as defined.

Qualitest defined a high-class approach to identify the most important and critical components/modules of the application and prioritized them according to their business needs. The prioritization enabled us to decide how much

testing needs to be conducted on each of the components/ modules, based on the functional impact analysis in an agile way, delivered through multiple sprints and Scrum processes. Qualitest leveraged the in-house AI-based TestPredictor tool for risk-based testing.

All functional test scenarios and scripts executed to uncover defects were based on the release timelines and cover regression suite, integration and end to end testing, compatibility testing in multiple browsers and devices for the Titan Company web and mobile applications.

Test scripts were developed to be in line with the current version and industry best practices. They included end to end scenarios and were aligned with the business guidelines

- Manual testing of new functionalities implemented on the new digital platform, carried out on different OS/browsers

- Testing and monitoring of the mobile apps across devices (tablet, mobile) to verify and validate the End-to-End business cases.

- ETL Testing was performed for verifying and validating the source and target data sources by creating business logic to test the data flow.

- As part of our managed testing services, the QTDashboard (Software Quality & Test Analytics System) was implemented to effectively keep track of critical metrics and SLAs. It also helped Titan Company to visualize quality and test data for software releases and builds, by creating web-based dashboards on various reports.

- Our test analysts, in collaboration with Titan Company business representatives, designed and reviewed the UAT tests with business stakeholders to ensure the requirements are in line with Titan Company's business needs.

- Leveraged Serenity BDD framework to automate the web/mobile application for testing of functional and regression test cases for the new ecommerce sites and their maintenance.

- Tools such as A-Checker, Access Color, Functional Accessibility Evaluator and WAVE were leveraged for Accessibility testing.

Summary of the approach for each engagement

Qualitest carried out manual testing for six new sites in different browsers, platforms and across multiple channels for capturing end user experience. This included identification of test scenarios and create/update test cases along with associated test data and getting sign off from Titan Company.

Qualitest created a smoke test suite and baseline to execute them on a sprint basis. We leveraged the AI TestPredictor to analyse and execute the relevant/impacted test cases, as per the new functionality implemented.

We recommended the defect management tool to track the defects that are logged across all the brands, to replace defect management in Excel. Daily defect triage helped the customer to know the status of each bug. A daily report was sent to Titan Company, which helped them to track the progress of testing.

Regular interaction with Titan Company helped in meeting their expectations and the feedback we provided periodically helped them to gain more confidence in our involvement.

Qualitest effectively executed A/B testing across all six sites by doing a comparison of screens and web pages with more than two environments in order to validate the behaviour of the application in terms of relevancy, clarity, cross browser, cross devices, speed analysis, user visits tracking etc. This also involved providing user experience feedback and advice on the look and feel of the web page, button positions, text font etc.,

Qualitest's familiarity with WCAG Level AA guidelines and accessibility laws helped Titan Company bring its website up to date with the latest international accessibility standards, offering accessibility to all users. This included testing accessibility issues around:

- Keyboard-only navigation, including the ability to move between sections of a web page, access all menus, and access links and form fields

- Compatibility with screen readers and other assistive tech

- Customizable Color adjustments

- Useful page titles

- Proper coding

Automation focused on using Open Source tools. Qualitest started automation of the applications using Selenium and Serenity BDD Framework for automation of web based applications. Appium was leveraged for automation of hybrid/ native apps of Titan Comapyn, being a cost effective solution.

Qualitest helped Titan Company to create customized a QTDashboard, which gathered pre-defined data from any test/ defect/build/etc. management system. This allowed Titan Company and Qualitest to create dashboards with charts consolidating all the data in one place and allowed the client to set KPIs and SLAs to keep track of them.

Timeline

The timeline of the project was a 18 – 24 months engagement.

Outcome

Qualitest enabled Titan Company to successfully go live with all the six brand sites without any major issues in production. With the new platform that boasts an elegant look and feel and being customer friendly, Titan Company increased their sales compared to old platform. The new platform's backend (order management and warehosue management) is helping the warehouse people to process the orders hassle free.

Around 1,100 regression test cases were automated. When running regression for all six different brand sites, 50% of the manual effort is reduced due to the automated regression suite execution being fast and efficient.

Qualitest leveraged open source tools Selenium (Web) and Appium (Mobile) to help provide Titan Company with a cost effective automated solution.

In the Titan Analytics programme, different divisions like Jewelry, Eyewear and watches are using dashboards to help inform their business decisions.

Brand sites

https://www.fastrack.in/

https://www.titan.co.in/

https://www.tanishq.co.in/

https://www.miabytanishq.com/

https://www.sonatawatches.in/

https://www.skinn.in/

QUALITEST

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Qualitest is the world's #1 pure play quality engineering company. Quality is the core of our business and everything we do.

We deliver quality engineering and testing solutions to meet industry-precise technology needs for the world's biggest brands.

Qualitest delivers results by combining customer-centric business models, critical thinking and the ability to gain a profound comprehension of customers' goals and challenges.

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