



WITH EVOLVED TESTING, HCL ENHANCES A US-BASED RETAILER'S SALES **EFFICIENCY AND ACCURACY**



RETAIL



CLIENT BACKGROUND

Headquartered in Goodlettsville (Tennessee), the client is a leading discount retailer in the United States. The client was looking for a strategic testing partner to replace its third-party packaged software. This replacement helped the client to reduce out of stocks, increase more accurate sales and carry out demand forecast for the client's stores and warehouses, thus an apt supply chain solution replacing their legacy system.

ENGAGEMENT AREA

The client engaged with HCL to Conduct:

- System Testing
- Integration Testing
- Regression Testing

for their new Supply Chain solution, for which a stage wise deployment was planned.

CHALLENGES

The client was facing the following issues in its business:

- Keeping its old system functional in parallel to migration with GOLD
- The SEYC's GOLD system had defects
- Heavy customizations and interfaces with multiple systems had made the software complex in terms of dissatisfaction in the business team and winning their confidence
- The internal IT team was stretched because it was responsible for both development and testing
- Insufficient time to do comprehensive system testing of the interfaces developed
- Inadequate time and resources to perform end-to-end testing on integration with other critical systems
- High number of defects in UAT and production resulting in multiple patches
- No test processes in the organization

ENTER HCL

After conducting a comprehensive analysis of the implemented GOLD modules and of the framework for integration with other systems, HCL was responsible for the following:

- Established a process for System Testing
- Standardizing the process for End-to-end Integration testing
- Carried out tool-based standardization through Test Link
- Built a solid regression test suite for all Stage 0 and 1 modules
- Consolidated tools through QTP Automation Framework
- Built a GOLD training suite

Engagement size—18 FTE

HCL SOLUTIONS

HCL performed system testing, integration testing and regression testing of the supply chain systems. It focused its strategies on four major areas:

- QA BA Model
- Reduce Time to Market
- Reduce Defect leakage
- Reduce Cost of Quality

QA BA MODEL SOLUTION

The client's business team did not have a direct connect with the IT department, which conducted system testing in silo, resulting in the following issues:

- Major defects were found during User Acceptance Testing (UAT)
- Issues leaked in production due to insufficient testing with upstream and downstream systems
- Difference in test data that business tested versus what the IT team used in its test environment

HCL planned to align a QA resource with the business person for all projects. A QA member was involved early in the project life cycle, starting from business requirement meetings, function and technical design walkthroughs. This involvement helped HCL to develop test scenarios, which captured the major business functionalities. These scenarios were reviewed and approved by the business team.

- Requirement traceability matrix reviewed and approved by the business team
- Test scenarios were segregated based on the business functionality, which assisted the business team during UAT
- Test data recommendations were received from the business team

REDUCE TIME-TO-MARKET SOLUTION

Implementation of every module was delayed due to the following reasons:

- Technical gaps were discovered during the testing phase, which led to change in code by either the IT team or the third-party vendors. This led to schedule slippage.
- Huge Schedule Variance for all projects

HCL tried to absorb the delay due to development changes to a large extent, by ramping up the testing team and increasing the daily test execution run rate. Further, HCL automated all the critical test scenarios and leveraged them during the regression testing of monthly releases. These automated test cases were also used to re-test defects.

REDUCE DEFECT LEAKAGE SOLUTION

HCL observed that the number of defects that leaked to UAT and production were high because—

- Complexity of the multiple systems was high
- No dedicated resources were available for testing

HCL's collaboration with the business team helped in developing strong test scenarios and test data, which controlled the defect leakage. HCL also improved the quality of end-to-end testing.

REDUCE COST OF QUALITY SOLUTION

HCL observed that the cost of poor quality was high because of:

- Several defects found in UAT, resulting in a considerable amount of effort going in analysis, bug fixing and crisis management
- A dissatisfied business team

HCL's focused approach on appraisal activities like system testing, end-to-end testing and regression testing reduced internal and external failure costs.

TECHNOLOGY USED

The following technologies were deployed while designing the solution:

- WebLogic
- Mainframes
- Java
- Oracle Exadata
- JDA
- GOLD
- Unix
- PL/SQL

KEY ENGAGEMENT HIGHLIGHTS

HCL is the only strategic testing partner for the client, providing system testing, integration testing, regression testing, test automation and test tool management.

BUSINESS BENEFITS

The business team was satisfied with the implementation of the following projects:

- Successful migration of all items and 70% of the vendors from the old system to GOLD
- Seasonal assortment, creation and execution in the GOLD system
- Predict promotional forecast and impact assessment at the store and DC levels
- Accurate inventory count after handling weigh outs in GOLD, IP, WMS and DCT systems
- Vendor-managed DC and Purchase Order creation

- Success criteria on QA-BA model—efficient testing before UAT handover gave 100% confidence to the business teams
- Success criteria on time-to-market:
 - Schedule variance reduced to less than 5% for all projects
 - 40% of the regression test cases were automated, which decreased the testing time of a release by 25%
- Success criteria on defect leakage—reduced to 5% from 40%
- Success criteria on cost of quality—reduced by 20%



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