



How A Powerful E-Commerce Testing Strategy Can Drive Your ROI And Business!



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E-retail revenues are projected to grow to **6.54 trillion** US dollars in 2022.

1. The Explosive Growth of E-Commerce

The E-commerce industry has seen phenomenal growth over the last few years because of the expansion of online shoppers. The humongous development of the online retail market is the most significant reason behind why the brick and mortar stores have lost an immense part of retail income to the new dynamic competitor. The life and maintainability of the distinctive e-commerce business endeavors rely solely on their capacity to deliver the best user experience that can change online shopping worldwide.

However, with the immense development of the retail business, it is significant that quality assurance frameworks are set up to avoid hindering its development or which may allow the competitors to stay ahead in the industry. Besides, with the developing innovation that is easily accessible for the retail business to upgrade, quality testing is required to give the best user experience.



2. E-Commerce Testing: The Need for a Renewed Model

E-Commerce web page and application testing are done to protect the user's experience and to allow for an engaging and secure transaction between the merchant and the customer. However, there have been cases in the past, where young retailers had to pull their shutters down as their home page and other web pages had defects and an unattractive user experience that killed the site performance and produced zero leads for continuous sales growth.

The entire retail industry has been taken aback by the startling rise of online retail. Companies like Amazon and Flipkart have made a dent in the revenue of brick and mortar enterprises. However, due to the competitive nature of the market, not every company can flourish. One winning technique to keep up with the customer expectations which keep increasing is by having a renewed and vigorous testing cycle that provides error-free functionalities and better usability on their web application.

Global Cross-Border B2C
E-Commerce Industry 2020-
2023 - **More Sales Growth
Expected**, Driven by Lower
Prices and Better Product
Availability

Source: Statista



3. Vital Points of E-Commerce Testing

3.1 The Starting Point

Retail enterprise owners need to analyze how to capture a customer's sentiment through an engaging retail platform. Conversion rates are the most important factor in online retail and it has to be continuous. For continuous conversion rates, retail enterprises have to consider retail shopping from a user's perspective.

User Experience testing is the most important form of testing for online retail. The question is how to do it uniquely and differently, such that it stands out from the plethora of online retailers present today.

3.2 The Focal Point

As the home page is the first site that a customer would go through, it is highly important that it is not just defect-free but also powered by performance. Testers and QAs need to ask themselves several questions during the testing cycle based on each of the functionalities on each of the pages.

Since loading speed is an important factor and a golden key to high sales growth, the performance of the home page and its loading speed should be generated and analyzed deeply. Also, questions as to whether the load speed is the same on the other pages or not should be checked. This sort of knee-deep testing should take place for each of the website's functionalities such as the search option, the product display pages, the filter options, the shopping cart, the account, and address details page, scrolling options, orders options and return policies.

Each page would have several backlinks which lead to pages giving details of FAQs that customers would generally have or order details and refund policies. The most important principle is that these pages should be loaded without any issue regarding localization and translation issues within a very quick period of time. Speed is also another factor as a difference of even half a second can make a loyal customer attrite.



4. Challenges that Retailers Face

4.1 Time to Market

The biggest challenge that retailers have to face is caused by the competitive retail ecosystem that has been created by them. Retailers are dependent on a shorter time to market statistics to get ahead of their competition. The urgent requirement is that they have testing cycles that provide defect-free functionalities before the production environment. This would ensure quick deployment and delivery of functionalities and new features to customers before their competitors who might be providing the same features.

4.2 Omni-Channel Experience

Just like how a cymbal when struck is awakening and resounding, the omni-channel experience is a feature that retailers cannot afford to miss during the testing cycle. Due to the numerous browsers that are available to customers and the different number of devices that are being rolled out by major product based tech companies like Apple and Microsoft, retailers have a bigger job to make sure that compatibility with each device is not an issue when considering specifications, resolution and various other factors.

Testing across cross platforms and channels is not too simple as well. Integration and usability testing with the Android and iOS platforms have to take place at the rudimentary stages of the process. Due to the lack of omni-channel experience many retail companies which had sprouted faded away quickly citing lack of coverage and availability through different product-browser combinations.

According to the **Aberdeen Group**, Retention of customers is as high as **89%** for retailers with strong omni-channel strategies while it languishes at **33%** for ones with weak omni-channel strategies.

According to VendHQ.com, the opportunity cost of not being omni-channel is **10%** in lost revenue.

4.3 Obtaining Strong Non-Functional Testing Parameters

Retailers also need to focus on end-user testing and compatibility testing along with other non-functional testing methods. Performance testing, security testing, and multi-load testing are some vital parameters that need to be checked.

For example, during the festival or a sale day announced by a retail giant, there will be an uncontrolled rush in the number of people on the site. The retail web application won't be able to handle the large volume and hence the web application crashes. Multi load testing from various physical locations has got to be checked and analyzed and improved upon by load testing.

4.4 ROI Generation

Securing a quality assured e-commerce website requires rigorous, continuous and early testing cycles. Spending on good quality prevents the cost of poor quality from hampering the smooth functioning in the production environment and delivery time. Testing early and continuously remains a big challenge for major corporations since even a small defect rate causes a huge reduction in the ROI.





4.5 Third-Party Relationships – An Enhancement to User Experience?

In order to enhance the online shopping experience, most retailers provide multiple payment options. All retailers would have third parties that they rely on for particular functionalities. Since the payment gateway page is involved in the transaction and transferring of confidential data, it is highly important to perform the right kind of testing on these pages to avoid leakage of account and card details.

Retailers have to make sure that the third-party connections that are gained result in a positive enhancement to user experience and that it does not backfire as a reduction in the clientele of the company. This can work through continuous testing using different payment options through different browsers on a variety of devices.

4.6 From being a Customer to a Purchaser

The retailer's mission is to always convert web views to sales and this is all the more important if the major component of your retail business is through the online shopping platform. Web page views are encouraging when the web view to sales ratio is closer to 100%. Major security issues or lagging performance complaints faced by the user can hand your customer right into your competitor's hands.

Your loss is your
competitor's gain!



5. A Working Methodological Solution

5.1 The Right Formula

The initial step to having a retail-based friendly testing cycle is by having a thorough prescriptive analysis of the process. The application and its functionalities need to be completely understood by the testing and development teams. The feasibility of the entire testing cycle and automation of certain components can only be determined by strong analysis of the same.

In order to have a foolproof mechanism for e-commerce web application and mobile application testing, it is highly important to have a **360°** view of the entire testing cycle.

At the same time, automation cannot be completely integrated through the entire testing cycle. Manual testing will need to take place where there are test case scenarios that cannot be performed using emulators or simulators. At the same time, it would not be advisable to overuse emulators for the purposes of automation. Automation should only be done for those scenarios where the basic functionalities are repetitive across browsers and platforms.

ROI is a very important factor here as the automation process for components requires a high up-front investment and there is no assurance on the ROI that it garners. Automating smartly is important and a complete understanding of that particular tool is important. This would also help in a cleaner and more organized test suite as the test suite would be arranged based on its functionality.

5.2 Formula Incorporated into the Industry Environment

The testing cycle in the retail industry is bound to have alterations due to updates from the management as well as changes and integration of new applications or features on the web application and it's not just about logos and the feel of the web page. Understanding which tools integrate well with which product-browser combination is important and the earlier it's done, the better.

When fast-changing elements mix with interfaces and the overall build, it often tends to cause leakage of defects into the latest build, causing a loss in customer satisfaction and a tough job for retaining customers. Enterprises should learn how to manage different components of an online retail store as different verticals and let each one is tested independently. In case, functionality overlaps on two or more domains, both the domains should be checked entirely.



5.3 Predictive Solution

Hyper-Testing is a sort of testing which is agile and follows a unified approach in constructing a test strategy where the end-to-end testing of all application layers fits into the umbrella. Both functional requirements and non-functional requirements are obtained and tested by leveraging the different tools that are available.

There is an urgency for the retail industry to have a more structured and disciplined quality assurance framework like the one which the Hyper-Testing solution provides. Each retailer's web application consists of different verticals that require intensive automation testing strategies. Many companies close shutters due to their inefficient testing process. To avoid such short shutdowns, there are few fundamentals that need to be followed.

Past Background Analysis: Understanding the store's past is vital. Glitches in the future can be prevented by understanding the previous impacts due to poor site performance, transaction delays, failures and web page crashes.

Prescriptive Analysis: A sort of Hyper-Testing process of the web and mobile applications through cross browsers over the cloud and other platforms is needed to ensure that the integration different tools and the technological services can take place seamlessly. Customization during the test cycle according to the tool stack and technological specifications would also be guaranteed.

Being Customer-Centric: Enterprises need to analyze the demands of the customers and they need to specify the requirements needed for fulfillment of a defect-free application from the end user's perspective.

What follows this? A complete end to end testing of all the application layers concerning the UI, APIs and the mobile platform has to take place to detect hidden glitches and anomalies which could harm the security and the functionality of the retail enterprise. Non Functional requirements such as multi-load usage, performance, security, speed, and other parameters need to be tested intensively to avoid server shutdowns during sales and discount periods.

So what are the desired results that online retail enterprises should be aiming at? During a transition period from a particular legacy solution to a completely new framework, there will be a lot of integration between applications. During that time period, there should be an assurance of zero leakage of bugs. Hence e-retailers require a perfect quality assurance framework. This will also ensure retailers don't have to spend on poor quality where fixing even minor issues related to poor quality usually takes a portion equivalent to 15% of the sales generated by the retailer. There should also be proper operational efficiency. Any solution should result in a faster, more responsive testing cycle. Rapid automation should be in the company's yearlong pipeline and robust functional and UI testing should be taking place more often to increase the number of releases that take place throughout the year.

Would you like to know more about Hyper-Testing? [Click here](#)



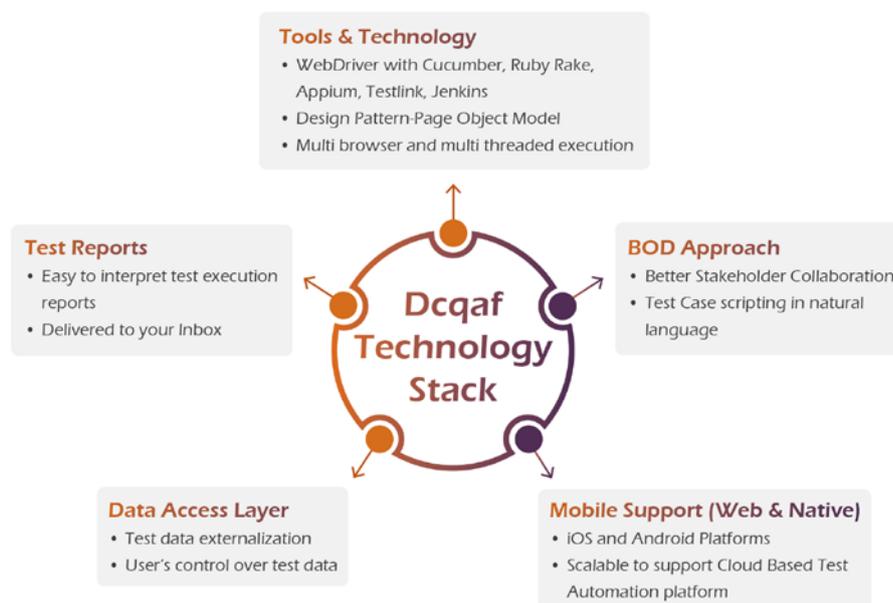
5.4 A Descriptive Analysis of a Perfect Test Automation Framework

- A perfect test automation framework should have the robustness to automate backend data validation test cases on E-Commerce platforms, taxation portal, fraud management, loyalty, and few other feeds
- The framework should allow for quick modifications in the script as and when modifications and updates are provided for the product. It should also have the capability to run multiple test data sets
- Multiple technological options like TDD and BDD as well as various programming languages like Java and Ruby that allows the option to adjust as per the specifications and connect a bridge between the specifications and the tools should be present.
- The framework would be integrated with test case management and allows for continuous integration so as to bring about better efficiency.

One such framework offered by us is the Aspire’s DCqaf (Digital Commerce quality automation framework) that has successfully driven test automation for many Fortune 500 retailers. It is a robust and extensive framework that has the ability to accelerate the digital commerce industry by automating testing of E-Commerce, M-Commerce, POS, and API-enabled applications. DCqaf enables seamless testing across various environments and supports frequent functionality changes by allowing faster and easier script modifications.

Would you like to schedule a demo on DCqaf? [Click here](#)

DCqaf Framework





Conclusion

For E-Commerce to be working efficiently there needs to be a complete assurance on all business aspects of the retail enterprise such as payment gateways, offer codes, customer service groups, and supply chain management. For each of these and for the many more aspects, there needs to be intensive testing so as to compete and succeed in a customer-driven and customer-centric industry. Quality testing frameworks such as *Aspire's DCqaf* enable retailers to do so, as was seen in the case of a major retailer. *Hyper-Testing* is one of the best practices that can be followed and with a proven and winning ROI and shorter time to market cycles; there is not much of an argument that can be made against it.

Know more about our Automated Retail Testing Services [here](#)

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