Customer Focused Testing Model - Bridging the Gap

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The paper is intended to provide an overview of practices which can be adopted when we align our testing strategy to focus on our end customer.

There is a highlight of the typical gap which we normally see when our tested products are subjected to field conditions. It is observed that Customers tend to invest in testing the product in their premises, despite the quality investments made in R&D prior to release of any product. The gap is primarily due to the way our test strategies are designed focused around the functionality of the application, as opposed to the way the application would be used in the field. This forms the theme of the paper.

**Customer Focused Testing Model**

The model which has been described here is a collaboration of best practices and tools which can be used to build a robust testing framework around the way our products and applications are used. The key objectives which this model aims to cover:

- Aimed at bridging the gap between testing and using
- Is a collaboration of Practices and Tools
- Empowers Testers to understand customer better
- Shift in mindset from testing features to overall solution testing
- Automation focuses on Simulation more than validations
- A robust execution system running 24x7

**Key Dimensions of the Model:**

The key dimensions on the model can be broadly categorized into the following:

1. Know your Customer
2. Build a business blueprint
3. Test in Production Like setup
4. Simulate Business Operations
5. Build a continuous execution system to operate 24x7
A summary is provided below for each of the dimensions in the model, highlighting the critical areas of focus:

1. **Know Your Customer:** This is the most primary aspect of the model. It targets at understanding the business of the customer in-depth. For demonstration of the thought process, a Retail Customer has been used for providing the details which are important aspects for understanding Customer’s business.

   - **Geographical spread** of customer deployment
   - **Location** details of its DCs and Stores
   - **Types** of Items/Prices/Inventory
   - **3rd Party systems** which is used by Customer to interface with the product
   - Assess the **volume of transactions** subjected daily/weekly
   - Business transactions
   - Understand the **personas** of users accessing the application

2. **Build a business blueprint:** As we get an understanding of the customer business, it becomes necessary to replicate the same in a simulated model. The first step towards designing the simulated model is to build a blueprint of the business which must be simulated. The key aspects which need to be handled at this point would be:

   - Design the Organization structure of company
   - Plan the authentication/access control /auditing capabilities
• Integration of all 3rd Party products and components
• Layout of Business operations
• Aligning the volume of transactions
• Design the monitors that would be used to track operations

Depending on the complexity of operations and volume of business the blueprint can be made for different Levels of the organization.

3. Test in Production like setup: With the advent of Cloud Platform services like AWS, Azure, Google Cloud etc., replicating a customer deployment and bringing up the entire setup when needed is no longer a cause of concern or cost. The main message in this dimension of the model would be to encourage the testing team explore beyond defined boundaries and attempt building such deployments in their test strategies. Some of the key points to note here would be:

• Designing Production like Customer deployments using Cloud Services
• Building the deployment configurations and machine images
• Automated setup scripts to setup the Organization /Master data/Configurations
• Performing large Customer DB Migrations
• Automated Suite of functional scripts execution for E-2-E business scenarios

4. Simulate Business Operations:
This is a key dimension of the model where the tooling capabilities of the strategy is explored. The system study which was done in understanding business operations as a part of the initial discussions in the model are now use to Simulate the business operations.
A very important point to note in this dimension is that, it’s not just the automated simulations which matter, there is a huge scope for Role play based manual simulations. The two simulations discussed here are about simulating a Customer Service Setup and Setting up a Mock Store to simulate in-store operations.

Some of the key aspects to be noted here includes:

• Simulation through automation of business processes and interfaces
• Replicating actual Customer Relationship Management scenarios
• Role-play based approach
  • Customer service representatives
  • Store associates
• Designing physical layouts of Customer operations (e.g. Mock Store)
• Designing for High Volume transaction days (Sales)

5. **Continuous Execution – 24x7:**
The final dimension discussed in this paper. This focused on building a robust execution system with proper monitoring capabilities to oversee the continuous implementation of business process. Some of the key aspects of this dimension includes:

- Simulated Setup of Model Company
- Operates on business hours
- Business transactions spread out across the day
- Day begin operation
- Day operations
- Day end operations
- Role based accountability
- Monitoring & Reporting

The practices defined above would enable testing teams to take a structured approach to building a framework designed to focus on the usage patterns of customer. This is a proven model to add high value to the Quality management strategies in any product.
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Joy has been in the industry for last 19 years, catering to Quality Engineering projects across multiple domains for Services and Product Engineering organizations. At Manhattan Associates he has built the Quality function for OMNI Channel suite of Products. He is currently focused in the design and development of ‘Production Assurance’ unit for Manhattan’s OMNI Channel solutions. The unit is designed to be the first customer of R&D deliverables and build the right level of assurance for our customers in the field of Performance, Monitoring, Usability and Dev Ops.  
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THANK YOU!