E-commerce Complete Testing Project

Test Plan Document v1.0

1. Project Overview

- **Application Under Test:** Daraz.com.bd
- **Testing Duration:** Day 7 Capstone Project
- **Test Engineer:** Md Hasan Al Khaled
- **Date:** 09/09/2025
- **Project Type:** Manual Testing Comprehensive Suite

2. Application Background

Daraz.com.bd is Bangladesh's leading e-commerce marketplace offering:

- Multi-vendor product listings
- Consumer electronics, fashion, home appliances
- Payment gateway integration (bKash, Nagad, Cards)
- Cash on Delivery (COD) services
- Mobile app and web platform

3. Test Scope

In Scope:

- **User Registration & Authentication**
    - Email/Phone registration
    - Social media login (Facebook, Google)
    - Password reset functionality
    - Account verification process
- **Product Search & Discovery**
    - Keyword search functionality
    - Category browsing
    - Filter and sorting options

    - Product recommendations
    - Wishlist management
- **Shopping Cart Operations**
    - Add/remove items
    - Quantity modifications
    - Cart persistence across sessions
    - Guest cart functionality
- **Checkout Process**
    - Delivery address management
    - Payment method selection
    - Order summary validation
    - Order confirmation flow
- **User Account Management**
    - Profile information updates
    - Order history tracking
    - Address book management
    - Communication preferences

Out of Scope:

- **Payment Gateway Processing** (Due to security and transaction limitations)
- **Vendor Dashboard Testing** (Seller portal)
- **Mobile App testing out of scope, but mobile web responsiveness in scope** (Focus on web only)
- **Performance/Load Testing** (Beyond current scope)
- **Third-party Integrations** (Social sharing, analytics)

4. Test Strategy

Testing Types Distribution:

- **Functional Testing:** 70% - Covers registration, cart, checkout, order flow
    - Feature functionality validation
    - Business logic verification
    - Data flow testing
- **Usability Testing:** 15% - Focus on Bengali language, navigation, accessibility
    - User interface consistency
    - Navigation flow efficiency
    - Mobile responsiveness
- **Compatibility Testing:** 10% - Chrome, Firefox, Edge, resolutions
    - Cross-browser support
    - Different screen resolutions
- **Security Testing:** 5% - Basic login, input validation, session handling
    - Input validation
    - Authentication security
    - Data protection basics

Testing Approach:

- **Risk-Based Testing:** Prioritize critical business functions
- **Exploratory Testing:** Discover unexpected issues
- **Structured Testing:** Systematic coverage using test cases
- **Cross-Browser Validation:** Chrome, Firefox, Edge compatibility

4.5 AI-Enhanced Strategic Analysis

1) Critical Business Flow Priority (AI Analysis):

1.1) Registered user — Product discovery → Add to cart → Checkout → Payment (Logged-in purchase)

Priority: 1 (highest)
Why / business impact: Registered users usually have higher lifetime value (repeat purchases,

saved addresses, saved payments, loyalty). They convert at higher rates and are the primary source of recurring revenue. Any friction here directly reduces average order value (AOV) and conversion rate.
Key risks: session/login failures; incorrect pricing/promotions for logged-in users; saved-address/payment token issues; cart merging across devices; coupons not applied; inventory mismatch.
Test focus / scenarios: end-to-end happy path; login/session expiry mid-checkout; apply coupon / loyalty points; change shipping address or shipping method; multiple items in cart (inventory hold); retry after payment failure.
KPIs to monitor: Conversion rate (cart → purchase), AOV, checkout abandonment rate, successful payment rate.

1.2) Guest checkout / New user quick purchase (Search → Cart → One-page checkout → Payment)

Priority: 2
Why / business impact: Guest and first-time buyers are critical for acquisition. Reducing friction here converts new visitors into customers quickly; losing them reduces new-customer growth. Many marketplaces support guest checkout and mobile quick-buy — these are high volume.
Key risks: poor address validation causing failed deliveries; inability to upsell because no profile data; payment verification issues (fraud checks blocking legit buyers); required fields causing drop-off.
Test focus / scenarios: one-page checkout; address validation and correction; phone number OTP flow (if used); email opt-in/uncheck handling; immediate invoice generation; guest abandon → email/cookie remarketing.
KPIs to monitor: New customer conversion rate, dropoff during checkout, cart abandonment, acquisition cost per converted guest.

1.3) Flash-sale / Promotional event flow (Search / Campaign → Add → High-traffic checkout → Payment)

Priority: 3
Why / business impact: Events like 11.11, seasonal sales, and limited-time deals typically generate spikes in orders and revenue. Even if individually lower margin, the sheer volume and customer acquisition value make this flow critical. Failures here can cause massive revenue loss and reputational damage.
Key risks: site/search slowdowns or timeouts; inventory oversell; promo code logic errors (wrong eligibility/stacking); queueing and concurrency issues; checkout timeouts under load.
Test focus / scenarios: load/stress testing for search, add-to-cart, and checkout endpoints; race conditions on inventory decrement; promo eligibility at scale; graceful degradation (queueing

page, retry).
KPIs to monitor: Peak concurrent users supported, failed transactions during sale, time to check out, orders lost to inventory oversell.

1.4) Payment method variants & alternative flows (COD → confirm → fulfill; Card/Wallet/BNPL → auth → capture; Mobile wallet/APIs)

Priority: 4
Why / business impact: Payment method mix strongly affects conversion and fraud exposure. In Bangladesh, Cash-on-Delivery (COD) is often high-volume; digital wallets/cards/EMI/BNPL may convert better but have different failure modes and fees. Payment failures, double captures, or long settlement times impact cash flow and refunds.
Key risks: gateway timeouts; mismatches between authorization and capture; wallet balance/limits; incorrect COD status updates; refund/chargeback flows failing.
Test focus / scenarios: authorizations, captures, declines, network failures, partial refunds, failed reversal, handling of pending/timeout payments, reconciliation flows. Test COD cancellations/returns too.
KPIs to monitor: Payment success rate by method, chargeback rate, time to settle/refund, % of COD orders delivered vs cancelled.

1.5) Mobile app purchase / Push notification → Deep link → Checkout (App channel)

Priority: 5
Why / business impact: A large share of Daraz traffic comes from mobile apps. App users often have higher engagement and shorter checkout funnels (push notifications, one-tap payments), so app failures or deep-link issues directly reduce mobile revenue.
Key risks: deep link not opening correct product/cart state; inconsistent cart sync between web and app; app crashes during checkout; OS-level permission issues for payments/notifications.
Test focus / scenarios: deep link flow from push/marketing → correct product + promo applied; cart sync across app & web; background / foreground transitions during payment; offline/poor-network behavior; different OS versions.
KPIs to monitor: App conversion rate, crash rate during purchase, successful deep-link redemptions, retention after purchase.

2) Bangladesh Market Considerations:

2.1. Local Payment Methods – bKash, Nagad, Rocket

Bangladesh's e-commerce ecosystem heavily relies on **mobile financial services (MFS)** like **bKash**, **Nagad**, and **Rocket**, alongside bank cards and Cash-on-Delivery (COD).
Each introduces **technical and regulatory complexities**:

Challenge	Why it Matters	Testing Focus
MFS API reliability	Mobile wallets have strict session & timeout rules; poor handling → duplicate charges or failed transactions.	Timeout handling, retry logic, double debit prevention, idempotency checks.
Payment flow diversity	Each wallet has unique UX (PIN entry, push confirmation).	End-to-end test for each gateway, including mobile deep links and redirects.
Low internet stability	Rural users often face unstable connections during payment.	Simulate slow network / mid-transaction drop-offs.
Fraud prevention	MFS systems must comply with Bangladesh Bank anti-fraud rules.	Verify OTP, device binding, KYC verification logic.
Refunds/Reversals	Wallet refunds must be instant; reconciliation errors frustrate users.	Negative test cases for failed reversals, audit trail validation.

Example Bug Risk:
User pays via bKash, transaction succeeds but due to timeout, Daraz marks the order as **unpaid**, leading to **order cancellation** and **customer dissatisfaction**.

2.2. Bengali Language Support (Unicode)

Daraz operates in **Bangladesh's native language (Bengali)**, which introduces **localization and rendering challenges**:

Challenge	Why it Matters	Testing Focus
UTF-8 handling	Bengali characters require proper encoding in DB, API, and frontend.	Validate product titles, addresses, and coupon codes in Bengali.
Text wrapping	Bengali words are long; may break layouts on small screens.	Responsive UI testing for truncation, overlap, and wrapping.
Mixed language content	Users often mix English + Bengali in search terms.	Search algorithm handling of mixed-language queries.

Challenge	Why it Matters	Testing Focus
Translation accuracy	Poor translations lead to user confusion and mistrust.	Linguistic QA with native testers.
Sorting & search indexing	Bengali collation differs from English alphabetical sorting.	Verify product sorting by name in Bengali.

Example Bug Risk:
Product name in Bengali appears as ???? due to DB collation issue, causing broken product search.

2.3. Mobile-First Users (Low-End Devices + Slow Internet)

Most Bangladeshi users access Daraz via **budget Android devices** with **slow or unstable 3G connections**.

Challenge	Why it Matters	Testing Focus
App performance	Laggy or heavy app causes abandonment.	Performance profiling for <2GB RAM devices.
Offline handling	Frequent network drops mid-checkout.	Graceful recovery & retry states.
App size limits	Limited storage on low-end phones.	APK bundle optimization testing.
Push notifications	Critical for marketing & flash sales.	Deep link testing across OS versions.
Battery & data usage	Heavy apps drain battery/data, hurting retention.	Measure data consumption during browsing & checkout.

Example Bug Risk:
During a flash sale, app crashes on older devices with 1GB RAM when thousands of products are loaded in search results.

2.4. Cash-on-Delivery (COD) Complications

COD remains the **dominant payment method** in Bangladesh, but introduces **operational and testing challenges**.

Challenge	Why it Matters	Testing Focus
High return/cancellation	Many customers cancel at the	Cancellation flow testing before

Challenge	Why it Matters	Testing Focus
rate	doorstep.	shipping and at delivery.
Fraudulent orders	Fake COD orders waste logistics capacity.	Address/phone validation rules, fraud detection testing.
Order confirmation timing	Orders should not auto-confirm before verification.	Verify manual/IVR confirmation processes.
Logistics integration	COD status must sync with courier systems.	API testing between Daraz & logistics partners.
Refund complexity	COD refunds require cash or wallet reversal.	Refund scenarios testing with financial reconciliation.

Example Bug Risk:
Customer cancels a COD order but system incorrectly marks it as **"shipped"**, resulting in logistics confusion and extra costs.

2.5. Typical Bangladeshi User Behaviors

User behavior in Bangladesh creates **special edge cases** that must be tested.

Behavior	Impact	Testing Consideration
Bargain-seeking & coupon stacking	Users exploit promo loopholes to get extreme discounts.	Negative testing for multiple coupon applications.
Flash sale rush	Tens of thousands join 11.11 or 12.12 sales at once.	Load testing for concurrency on search & checkout.
Shared family devices	Multiple logins on the same device cause cart/profile mix-ups.	Session and cart isolation testing.
Mixed English/Bengali search terms	Users may type “shoes জুতা”.	Search relevance testing with multilingual inputs.
Incomplete addresses	Many rural users don’t know postal codes or exact addresses.	Address field validation with fuzzy matching.
Prepaid distrust	Users hesitate to prepay; prefer COD but will pay digitally for high-trust	Test COD default vs prepaid flow toggles.

Behavior	Impact	Testing Consideration
	brands.	

2.6. Infrastructure & Connectivity Challenges

Bangladesh has **uneven network and infrastructure**, which affects testing:

Challenge	Impact	Testing Solution
Power outages / unstable connectivity	Interrupted sessions during checkout.	Chaos testing with mid-transaction disconnects.
Regional traffic spikes	Rural areas joining campaigns at once.	Load balancing and CDN stress testing.
Payment server downtime	Wallet API downtime = failed checkouts.	Fallback and retry logic testing.

Priority Testing Recommendations

To handle these challenges, prioritize:

1. **Critical flows with local payment methods** – full integration tests for bKash, Nagad, Rocket.
2. **Bengali localization QA** – search, sorting, and rendering.
3. **Mobile-first stress tests** – low-end device compatibility, offline handling.
4. **COD fraud & return handling** – edge cases for cancellations and verification.
5. **Flash sale resilience testing** – concurrency, inventory race conditions, and promo logic.

Summary Table

Area	Priority	Main Risk
Local Payments	**P1**	Double debits, failed reversals, wallet API downtime
Bengali Language	**P2**	Text corruption, search mismatch, poor translation

Area	Priority	Main Risk
Mobile Users	**P1**	App crashes, slow checkout, deep link failures
COD Flow	**P1**	Fake orders, refund delays, courier mismatch
User Behavior	**P2**	Coupon abuse, multi-login conflicts, invalid addresses

3) Competitive Testing Focus:

3.1. Product Search Speed & Accuracy

Why it matters:
Search is the **entry point for purchase decisions**. Amazon and Flipkart excel with ultra-fast search and personalized results.
If Daraz's search is slow or inaccurate, users abandon before adding to cart.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
Search Speed	Often slower during flash sales or high traffic.	Consistently fast with distributed search architecture.	Fast, optimized for regional languages.	**Load testing** search APIs under 11.11 or Eid sale peak loads. Ensure response < **300ms**.
Relevance & AI	Basic keyword matching; limited personalization.	AI-driven personalization & recommendations.	Personalized search with filters.	Test **mixed English-Bengali queries**, typo handling, and relevance ranking.
Filters & Sorting	Limited real-time updates.	Dynamic, highly responsive.	Fast and detailed.	Validate **filter + sort combo** works correctly without delays.
Voice Search	Minimal or missing.	Available in multiple languages.	Available for Hindi & regional languages.	Usability test for **voice search roadmap** features.

Competitive focus:

- Daraz should **match or exceed Flipkart's regional search experience**, especially for **Bengali users**.
- Focus on **performance testing** and **multilingual search accuracy**.

3.2. Mobile Experience (Bangladesh = Mobile-First Market)

In Bangladesh, **>85% of traffic** comes from **mobile devices**, mostly low-end Android phones. Amazon and Flipkart have **lighter apps with offline resilience**.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
App Performance	Heavy on low-end devices; crashes reported during flash sales.	Optimized, smooth even on 2GB RAM phones.	Lightweight, adaptive for budget devices.	Performance & stress testing on **1GB–2GB RAM phones** with slow network simulation.
App Size	Larger, may be hard to download for rural users.	Moderate size with modular updates.	Very lightweight APK bundles.	Test update flow and **App Bundle optimization**.
Offline Handling	Poor offline support.	Can cache pages and cart offline.	Basic offline cart support.	Simulate **network drop mid-checkout**, ensure graceful recovery.
Push Notifications & Deep Links	Sometimes buggy, leading to wrong product pages.	Highly accurate deep-linking.	Strong marketing push notification integration.	Test **deep link journeys** from promo notifications to correct product detail page.

Competitive focus:

- Prioritize **mobile performance testing** for slow devices and unstable 3G networks.
- Ensure **seamless deep-link navigation** during marketing campaigns.
- Optimize app size and offline behavior to match Amazon/Flipkart standards.

3.3. Payment Options & Checkout

Bangladesh has **unique payment behavior**:

- **Cash-on-Delivery (COD)** dominates.

- **Mobile Wallets** like **bKash**, **Nagad**, and **Rocket** are growing fast.
  Amazon and Flipkart have **mature digital payment ecosystems** with credit cards, wallets, and UPI.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
Cash-on-Delivery	Very high usage; key growth driver.	Limited in some regions.	Available but less dominant than digital payments.	Test **COD fraud detection**, order confirmation, doorstep cancellation.
Local Wallets (bKash, Nagad, Rocket)	Strong focus but APIs prone to timeouts/errors.	UPI + global wallets like PayPal.	UPI + Paytm, PhonePe.	Test **timeout handling**, duplicate charge prevention, instant refunds.
EMI / Installments	Limited or manual process.	Fully integrated EMI options.	Full EMI partnerships with banks.	Validate **installment calculations** and settlement logic.
Checkout Speed	Slower due to phone OTP and extra address steps.	1-click checkout for logged-in users.	Optimized single-page checkout.	Usability testing for **reducing steps in checkout flow**.

Competitive focus:

- Build **frictionless wallet and COD flow** with **reliable refund systems**.
- Match Amazon's **fast checkout UX** by removing redundant steps for repeat users.

3.4. Delivery Tracking & Logistics Transparency

Logistics are **crucial for customer trust**.
Amazon has **industry-leading tracking**, while Flipkart uses **real-time map tracking** for many deliveries.
In Bangladesh, rural delivery challenges make this even more critical.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
Tracking	Sometimes delayed	Near real-time	Map-based tracking for last-	Test **real-time sync between courier APIs**

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
Updates	or inaccurate.	status changes.	mile delivery.	**& Daraz DB**.
Rural Delivery	Many areas lack precise addresses.	Supported with advanced mapping.	Moderate support with location tagging.	Test **address validation and geo-fencing logic**.
Delivery Notifications	SMS + App notifications; occasional delay.	Push + Email + Alexa integration.	Push + SMS, highly reliable.	End-to-end test for **notification triggers and timing**.
Return Pickup Tracking	Less transparent for users.	Clear tracking of returns.	Strong return pickup visibility.	Test return status **across couriers** for consistency.

Competitive focus:

- Improve **accuracy and frequency of tracking updates**.
- Invest in **geo-based validation** for rural addresses.
- Match Flipkart's **map-based last-mile visibility** for high-value shipments.

3.5. Customer Support Integration

After-sales service can make or break customer loyalty.
Amazon is known for **world-class support**, Flipkart for **quick returns/refunds**.
Daraz needs to **close this gap** for Bangladesh's COD-heavy market.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
Live Chat Integration	Available but sometimes slow.	24/7 responsive live chat.	Quick live chat with refund initiation.	Stress test live chat during flash sales; latency < **5s**.
Self-service Returns	Partially automated.	Fully automated refund & return workflows.	Strong self-service return system.	Validate **return eligibility, fraud prevention, refund speed**.
Multi-channel Support	Mostly app-based + hotline.	Phone, chat, email, Alexa,	Multi-channel via app & call	Omni-channel integration testing.

Factor	Daraz.com.bd	Amazon.in	Flipkart	Testing Priorities
		WhatsApp.	centers.	
Complaint Resolution Speed	Slower, especially for COD disputes.	Very fast, high trust factor.	Moderate but improving.	SLA validation for complaint closure within X days.

Competitive focus:

- Improve **refund speed testing**, especially for COD & wallet refunds.
- Test **chatbot + live agent handoff** to ensure seamless escalation.
- Build an **automated dispute resolution flow** for bKash/Nagad transactions.

Summary: Competitive Testing Priorities

Area	Amazon / Flipkart Strength	Daraz Weakness	Testing Focus for Competitive Advantage
Search Speed	Ultra-fast, personalized, voice search	Slower under load, basic personalization	Stress test search APIs, improve mixed-language search accuracy.
Mobile UX	Lightweight, offline-ready	Heavy, slow on budget devices	Performance tests on 1GB RAM, offline handling, deep-link navigation.
Payment Options	UPI, cards, wallets, EMI	COD-heavy, fragile wallet APIs	Wallet API robustness, COD fraud detection, faster checkout.
Delivery Tracking	Map-based, real-time	Delayed, inaccurate updates	Courier integration testing, geo-fencing for rural addresses.
Customer Support	Fast, automated returns	Slow, manual dispute handling	SLA-based support testing, refund flow automation.

High-Level Competitive Testing Roadmap

1. **Performance & Load Tests**
    - Search → Cart → Checkout → Payment under **peak flash sale traffic**.

    - KPI: < **300ms API response** at 5,000+ concurrent users.
2. **Mobile Testing**
    - Run on **low-end Android devices**, with slow 3G network simulation.
    - Validate push notification → deep-link → checkout journey.
3. **Payment Integration Testing**
    - bKash, Nagad, Rocket edge cases: timeout, double debit, refund reversals.
    - COD cancellation & fraud detection workflow validation.
4. **Logistics & Tracking**
    - Courier API sync testing for **real-time delivery updates**.
    - Address validation in rural regions.
5. **Customer Support & Return Flow**
    - Live chat stress testing during campaigns.
    - Self-service return workflow automation and refund speed testing.

5. Test Environment

Technical Specifications:

- **Primary Browser:** Chrome 119+
- **Secondary Browsers:** Firefox 118+, Edge 117+
- **Operating System:** Windows 10/11
- **Screen Resolution:** 1366x768, 1920x1080
- **Network Connection:** Broadband (minimum 5 Mbps)
- **Test Data:** Self-generated realistic data

Test Account Requirements:

- **New User Registration:** Fresh email accounts for registration testing
- **Existing User Account:** Pre-created account for login testing
- **Guest User Testing:** No account required scenarios

6. Risk Analysis

High Risk Areas:

Risk Area	Risk Level	Impact	Probability	Mitigation Strategy
Payment Gateway	Critical	High	Medium	Test until payment page only
User Authentication	High	High	Medium	Comprehensive security testing
Cart Data Loss	High	Medium	High	Cross-browser session testing
Search Accuracy	Medium	High	Medium	Multiple keyword scenarios
Mobile Responsiveness	Medium	Medium	High	Responsive design validation

Risk Mitigation Strategies:

- **Authentication Risks:** Test various login scenarios, special characters, SQL injection attempts
- **Data Loss Risks:** Verify cart persistence, session management, browser refresh behavior
- **Performance Risks:** Monitor page load times, identify slow-loading sections
- **Usability Risks:** Test with different user personas, accessibility considerations

AI-Identified Additional Risks:

E-Commerce Testing Risk Matrix for Daraz.com.bd

Risk Area	Example Issues	Impact (1–5)	Probability (1–5)	Risk Level	Reasoning	Recommended Test Focus
1. Security Vulnerabilities	**- SQL Injection in login or checkout APIs - XSS in search bar or**	**5 (Critical)**	**3 (Medium)**	**High (15)**	**Daraz handles millions of user records, including phone numbers, addresses, and**	**- Penetration testing on checkout, wallets, and login. - Secure API validation.**

Risk Area	Example Issues	Impact (1–5)	Probability (1–5)	Risk Level	Reasoning	Recommended Test Focus
	product reviews - OTP bypass in account creation - Data leakage of user addresses or wallet info				payment tokens. A breach would cause massive reputation damage and legal penalties.	- Encryption testing for sensitive data (GDPR, Bangladesh Bank compliance).
2. Payment Failures	- Double debit during bKash/Nagad transaction - COD order incorrectly marked as prepaid - Gateway timeouts leading to missing orders - Refund delays or failures	5 (Critical)	4 (High)	Very High (20)	Payment failures directly impact revenue and user trust. Bangladesh users are highly sensitive to wallet errors and COD mismatches.	- Integration testing with all payment gateways (bKash, Nagad, Rocket, cards). - Timeout simulation and retry validation. - Refund and reversal flow testing.
3. Cart Abandonment Causes	- Slow checkout loading - Confusing address validation - Promo codes failing	4 (High)	4 (High)	High (16)	Cart abandonment is a top revenue leak. In Bangladesh, many users are first-time buyers and will	- A/B usability testing for checkout flow. - Performance testing for peak traffic. - Test address field edge

Risk Area	Example Issues	Impact (1–5)	Probability (1–5)	Risk Level	Reasoning	Recommended Test Focus
	to apply - Unexpected delivery charges at final step				quit instantly if checkout is confusing or slow.	cases for rural users.
4. Mobile Responsiveness Issues	- Broken layouts on low-end devices - App crashes during flash sales - Deep links not opening correct product page - Slow load times on 3G	4 (High)	5 (Very High)	Very High (20)	>85% of Daraz users are mobile-first, mostly on budget Android devices with weak connectivity. Poor mobile performance → massive revenue loss.	- Responsive UI testing across screen sizes. - App performance testing on 1GB–2GB RAM devices. - Network throttling to simulate poor connectivity.
5. Search Accuracy Problems	- Mixed Bengali + English search returning irrelevant results - Search timeout during flash sales - Poor ranking of relevant products	3 (Medium)	4 (High)	Medium-High (12)	Search is key for product discovery. If results are irrelevant or slow, users will leave. But issue severity is slightly lower than payments.	- Load testing for search API during campaigns. - Fuzzy search for mixed-language terms. - Validate filter + sort combinations.

Risk Area	Example Issues	Impact (1–5)	Probability (1–5)	Risk Level	Reasoning	Recommended Test Focus
	- Broken filters or sorting					

Risk Matrix Visualization

Impact ↓ / Probability →	1 (Very Low)	2 (Low)	3 (Medium)	4 (High)	5 (Very High)
5 (Critical Impact)	–	–	Security Vulnerabilities	Payment Failures	–
4 (High Impact)	–	–	–	Cart Abandonment Causes Mobile Responsiveness Issues	Mobile Responsiveness Issues (Flash Sales)
3 (Medium Impact)	–	–	Search Accuracy Problems	Search Accuracy Problems (Flash Sales)	–
2 (Low Impact)	–	–	–	–	–
1 (Very Low Impact)	–	–	–	–	–

Priority Ranking (Highest to Lowest Risk)

1. **Payment Failures – Very High (Critical revenue + trust impact, high probability)**
2. **Mobile Responsiveness Issues – Very High (High traffic on low-end phones, flash sales spikes)**

3. **Cart Abandonment Causes – High (Directly affects conversion rates)**
4. **Security Vulnerabilities – High (Critical but less frequent if controls exist)**
5. **Search Accuracy Problems – Medium-High (Impacts product discovery and engagement)**

Recommended Testing Approach

Testing Type	Focus Area	Tools / Strategy
Automated Regression	**Payment gateways, cart flows, search APIs**	**Selenium, Cypress, Appium**
Performance & Load Testing	**Search, checkout, mobile app under flash sale conditions**	**JMeter, Locust**
Security Testing	**Login, wallet APIs, checkout**	**OWASP ZAP, Burp Suite**
Usability Testing	**Checkout flow, address validation, Bengali/English UX**	**User sessions, A/B testing**
Mobile Device Lab	**Responsive UI and app performance on budget devices**	**BrowserStack, real device farm**

Summary

- **Critical areas for Daraz to focus on:**
    1. **Payment reliability (bKash/Nagad, COD, refunds)**
    2. **Mobile-first experience (low-end devices, deep-link stability)**
    3. **Checkout optimization to reduce abandonment**
    4. **Search performance during high-traffic events like 11.11**
    5. **Security hardening for sensitive user and financial data**

7. Test Data Strategy

User Registration Data:

Valid Scenarios:

- Email: testuser.daraz2024@gmail.com

- Phone: +8801712345678

- Password: Test@123456

- Negative Email: abc@.com, user@@test

- Long Name: 100+ chars

- Bengali Input: “হাসান আল খালেদ”

Boundary Testing:

- Email length: Maximum 50 characters

- Phone formats: Various Bangladesh formats

- Password complexity: Special characters, length limits

Invalid Scenarios:

- Invalid email formats

- Existing email/phone numbers

- Weak passwords

- International phone numbers

Product Search Data:

Popular Categories:

- Electronics: "iPhone 15", "Samsung Galaxy"

- Fashion: "Men's T-shirt", "Women's Kurti"

- Home: "Bed sheet", "Kitchen accessories"

Edge Cases:

- Special characters: "@#$%"

- Bengali keywords: "পুরুষদের শার্ট"

- Long search terms: 100+ characters

- Empty search queries

8. Entry and Exit Criteria

Entry Criteria:

- [ ] Daraz.com.bd website accessible
- [ ] Test environment setup complete
- [ ] Test data prepared
- [ ] JIRA and TestRail accounts configured
- [ ] Browser tools and extensions ready

Exit Criteria:

- [ ] 80+ test cases executed (minimum 90% pass rate)
- [ ] All critical and high-priority bugs documented
- [ ] Test execution report completed
- [ ] Bug severity classification completed
- [ ] Recommendations document prepared

9. Test Deliverables

Documents to be Produced:

1. **Test Case Repository**
    - TestRail organized test suite
    - Detailed test steps and expected results
    - Priority and complexity classification
2. **Bug Reports**
    - JIRA bug tracking system
    - Severity and priority matrix
    - Screenshots and reproduction steps
3. **Test Execution Report**

- Summary dashboard with metrics
- Module-wise test results
- Defect analysis and trends

4. **Traceability Matrix**
    - Requirement to test case mapping
    - Coverage analysis report

This project will be included in my QA portfolio as evidence of practical E-commerce testing experience.

10. Resource Requirements

Tools and Software:

- **Test Management:** TestRail (Free Trial) / Excel
- **Bug Tracking:** JIRA Software (Free Plan) / GitHub Issues
- **Documentation:** Microsoft Office / Google Docs/Sheets (Free)
- **Screen Capture:** Built-in tools / Lightshot
- **Browser Tools:** Chrome DevTools, Firefox Developer Tools

Time Allocation:

Phase 1: Planning & Setup (1,5 hours)

Phase 2: Test Case Creation (3 hours)

Phase 3: Test Execution (3.5 hours)

Phase 4: Reporting & Documentation (2 hours)

Total: 10 hours intensive work

11. Communication Plan

Stakeholder Updates:

- **Progress Tracking:** Hourly self-assessment
- **Issue Escalation:** Document critical findings immediately

- **Status Reporting:** End-of-day summary creation

Documentation Standards:

- **Bug Reports:** JIRA standard template with screenshots
- **Test Cases:** TestRail structured format
- **Executive Summary:** Business-focused metrics and recommendations

12. Success Metrics

Quantitative Goals:

- **Test Cases:** Minimum 80, Target 100+
- **Bug Discovery:** Target 10-15 valid issues
- **Execution Coverage:** 95%+ of planned test cases
- **Documentation:** 100% of bugs properly documented

Qualitative Goals:

- **Professional Documentation:** Industry-standard quality
- **Critical Issue Identification:** Focus on business-impacting bugs
- **Actionable Recommendations:** Improvement suggestions for development team
- **Portfolio Quality:** Suitable for job application showcase

13. Assumptions and Constraints

Assumptions:

- Website remains accessible during testing period
- No major deployments during test execution
- Test data creation will not impact live systems
- Payment testing limited to UI validation only

Constraints:

- Single-day execution timeline
- Limited to manual testing only
- No access to backend systems or databases

- Cannot perform actual financial transactions

14. Approval and Sign-off

Document Review:

- **Prepared by:** Md Hasan Al Khaled
- **Review Date:** 09/09/2025
- **Approved for Execution:** Self-approved for learning project

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Note: This test plan serves as a comprehensive guide for the Day 7 capstone project. All testing will be conducted ethically and responsibly, focusing on publicly available features without attempting to compromise system security or data integrity.