📘 BUSINESS ANALYST PROJECT DOCUMENT

E-Commerce Return & Refund Workflow Optimization

1. Project Overview

1.1 Project Title

E-Commerce Return & Refund Management System

1.2 Project Summary

This project documents and redesigns the return & refund workflow of a Fashion E-Commerce platform. The goal is to analyze the current AS-IS process, identify gaps, and propose a streamlined future-state TO-BE workflow that reduces refund delays, improves transparency, and optimizes operational efficiency.

1.3 Business Context

Fashion e-commerce return rates are high (15%–40%).
Common challenges include:

- Poor customer visibility
- Delayed refunds
- Manual QC inconsistencies
- Reverse logistics delays
- High overall operational costs

A standardized Return & Refund Management System is needed.

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2. Problem Statement

Customers experience frustration due to slow pickups, delayed QC, and inconsistent refund timelines.
Operation and logistics teams face inefficiencies due to manual processes, poor SLA tracking, and lack of automation.

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3. Project Objectives

- Reduce refund processing time from 7–10 days to 3–5 days
- Improve pickup success rate and QC accuracy
- Enhance customer visibility through automated communication

- Decrease operational cost per return
- Improve end-to-end return handling efficiency’

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4. Scope of Work

In-Scope

- Return initiation
- Eligibility checks
- Reverse logistics
- Quality check process
- Refund processing
- Customer notifications

Out-of-Scope

- Payment gateway internal workflows
- Customer damage claims for non-returnable items
- Lost-in-transit cases

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5. Stakeholders

Stakeholder	Responsibility
Customer	Initiates return, receives refund
Customer Support	Manages exceptions
Logistics Partner	Reverse pickups
Warehouse & QC Team	Quality checks
Finance Team	Refund approvals
Tech Team	Refund approvals
Product Team	Requirements validation

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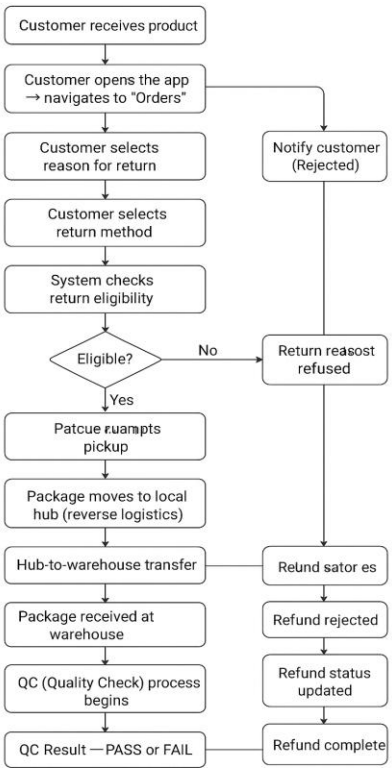
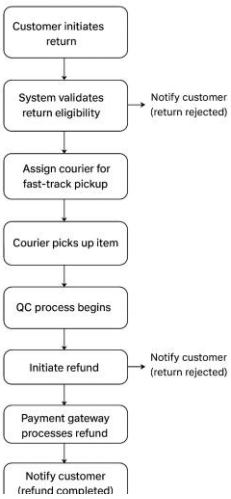
6. Workflow Diagrams

6.1 AS-IS Workflow Diagram (Current Process)



Caption:
Figure 1: AS-IS Return & Refund Workflow (Current State)

6.2 TO-BE Workflow Diagram (Improved Process)



Caption:
Figure 2: TO-BE Return & Refund Workflow (Future State)

7. AS-IS Process Description (Detailed)

1. Customer receives product.
2. Customer initiates return on app/website.
3. Selects reason for return (size, defect, wrong item, etc.).
4. System checks return eligibility (return window, product type, customer history).
5. Return request created.
6. Courier assigned for reverse pickup.
7. Pickup attempt made (may fail multiple times).
8. Product taken to local hub.
9. Product transported to warehouse.
10. QC team inspects item manually.
11. QC result updated (pass/fail).
12. Refund triggered only after QC pass.
13. Payment gateway processes refund.
14. Customer notified after completion.

Problems occur due to manual QC, pickup failures, delays in reverse transit, and lack of visibility.

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8. AS-IS Pain Points

- Pickup failures due to courier delays
- Customer confusion over return windows
- No real-time pickup tracking
- QC inconsistencies due to manual checks
- High reverse logistics time in remote pincodes
- Refund delays (especially for card/UPI)
- No early fraud detection mechanism
- Operational bottlenecks in warehouse

9. TO-BE Workflow (Future Improved State)

The improved process introduces automation, faster routing, real-time tracking, and quicker refunds.

Optimized Flow:

1. Customer initiates return request.
2. System runs automated eligibility + fraud check instantly.
3. Auto-approve low-risk returns → eligible for "Instant Pickup."
4. Courier auto-assigned through smart routing.
5. Customer receives precise pickup time slot.
6. Courier verifies return item using app-based barcode scan.
7. Product moves through fast-lane reverse logistics.
8. Digitally assisted QC at warehouse.
9. QC pass automatically triggers refund (no manual approval).
10. UPI customers receive refund within minutes.
11. AI flags suspicious return patterns.
12. Customer gets proactive notifications for every stage.

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10. Functional Requirements (FR)

- FR1: Allow customers to raise return requests.
- FR2: System must validate eligibility rules automatically.
- FR3: Enable automated courier assignment.
- FR4: Provide live reverse shipment tracking.
- FR5: Capture and store QC outcomes.
- FR6: Trigger refund instantly on QC pass.
- FR7: Send automated SMS/app/email notifications.
- FR8: Maintain audit logs for compliance.

11. Non-Functional Requirements (NFR)

- NFR1: System uptime 99.5%
- NFR2: Refund API response < 10 seconds
- NFR3: Ability to handle 1 lakh+ requests per day
- NFR4: Secure encryption of financial data
- NFR5: Compliance with RBI refund policies

12. KPIs

KPI	Target
Avg. Refund Time	3–5 days
Pickup Success Rate	98%
QC Accuracy	>95%
Customer Satisfaction (CSAT)	Improve by 25%
Cost per Return	Reduce by 10–15%

13. Risks & Mitigation

Risks:

- API failures with courier partners
- QC inconsistencies
- Fraudulent returns
- Refund stuck at payment gateway

Mitigation:

- API retry logic
- QC SOP + barcode verification

- Fraud scoring engine
- Payment gateway redundancy

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14. Future Enhancements

- AI-driven return prediction
- One-click instant refunds for premium users
- IoT-based scanning during pickup
- Automated conveyor-based QC

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15. Conclusion

The redesigned TO-BE return & refund process provides:

- Faster refunds
- Higher customer satisfaction
- Better operational efficiency
- Reduced manual intervention
- Improved fraud control

This end-to-end workflow makes the return management lifecycle seamless and scalable.