Business Requirements Document (BRD)_Customer Order Management System Improvement for an E-commerce

1. Project Overview

The purpose of this project is to enhance the existing Customer Order Management System (COMS) of an e-commerce business to improve operational efficiency, customer satisfaction, and scalability. The system currently struggles with order processing delays, lack of real-time inventory updates, and limited integration capabilities with third-party logistics providers. This improvement initiative aims to streamline workflows, reduce manual errors, and enable seamless communication between internal teams, customers, and external partners.

2. Business Objectives

1. **Improve Order Processing Efficiency:** Reduce order processing time by 30% through automation and streamlined workflows.
2. **Enhance Customer Experience:** Provide real-time order tracking and accurate inventory updates to customers.
3. **Scalability:** Ensure the system can handle a 50% increase in order volume during peak seasons without performance degradation.
4. **Cost Optimization:** Decrease operational costs by minimizing manual interventions and reducing errors.
5. **Integration Capabilities:** enable seamless integration with third-party logistics (3PL) providers, payment gateways, and ERP systems.

3. Stakeholder Analysis

Stakeholder Group	Role/Interest	Key Concerns
Customers	End users who place orders and expect timely delivery and updates.	Real-time order tracking, accurate delivery estimates, and hassle-free returns.
Customer Support Team	Responsible for resolving customer queries related to orders.	Easy access to order details, faster issue resolution tools, and clear workflows.
Order Fulfillment Team	Manages order picking, packing, and shipping processes.	Streamlined workflows, reduced errors, and better coordination with logistics.
IT Department	Ensures system functionality, security, and maintenance.	Scalability, data security, and minimal downtime during implementation.
Senior Management	Oversees strategic goals and ROI of the project.	Cost-effectiveness, measurable improvements, and alignment with business goals.
Third-Party Logistics	Handles transportation and delivery of orders.	Seamless integration, accurate shipment details, and timely updates.

4. Business Requirements

4.1 Key Business Requirements

1. **Order Processing Automation:** Automate repetitive tasks such as order confirmation, inventory updates, and shipping notifications.

2. **Real-Time Inventory Management:** Provide real-time visibility into stock levels to prevent overselling and backorders.
3. **Multi-Channel Integration:** Enable integration with multiple sales channels (e.g., website, mobile app, marketplaces like Amazon).
4. **Customer Self-Service Portal:** Allow customers to track orders, initiate returns, and update delivery preferences independently.
5. **Analytics and Reporting:** Generate insights on order trends, fulfillment performance, and customer behavior for data-driven decision-making.

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5. Functional & Non-functional Requirements

5.1 Functional Requirements

1. **Order Management Features:**
   - Automated order confirmation emails.
   - Real-time order status updates (e.g., processing, shipped, delivered).
   - Ability to split or merge orders based on warehouse locations.
2. **Inventory Management Features:**
   - Real-time stock updates across all sales channels.
   - Alerts for low stock levels and automated reordering triggers.
3. **Integration Features:**
   - API-based integration with 3PL providers for shipment tracking.
   - Sync with ERP systems for financial reconciliation.
4. **Customer-Facing Features:**
   - Self-service portal for order tracking and return management.
   - Push notifications for order updates via SMS or email.

5.2 Non-functional Requirements

1. **Performance:**
   - System must process up to 10,000 orders per hour during peak times.
   - Page load time for customer-facing features should not exceed 2 seconds.
2. **Security:**
   - PCI-DSS compliance for handling payment information.
   - Role-based access control to ensure data privacy.
3. **Scalability:**
   - Ability to scale horizontally to accommodate future growth.
4. **Usability:**
   - Intuitive user interface for both internal users and customers.
   - Mobile responsiveness for customer-facing features.
5. **Reliability:**
   - System uptime of 99.9%.
   - Disaster recovery plan in place.

6. User Stories and Acceptance Criteria

ID	Role	User Story	Given	When	Then
US-01	Customer	Track my order status in real-time	I have placed an order	I log into the self-service portal	I should see the current status of my order (e.g., Processing,

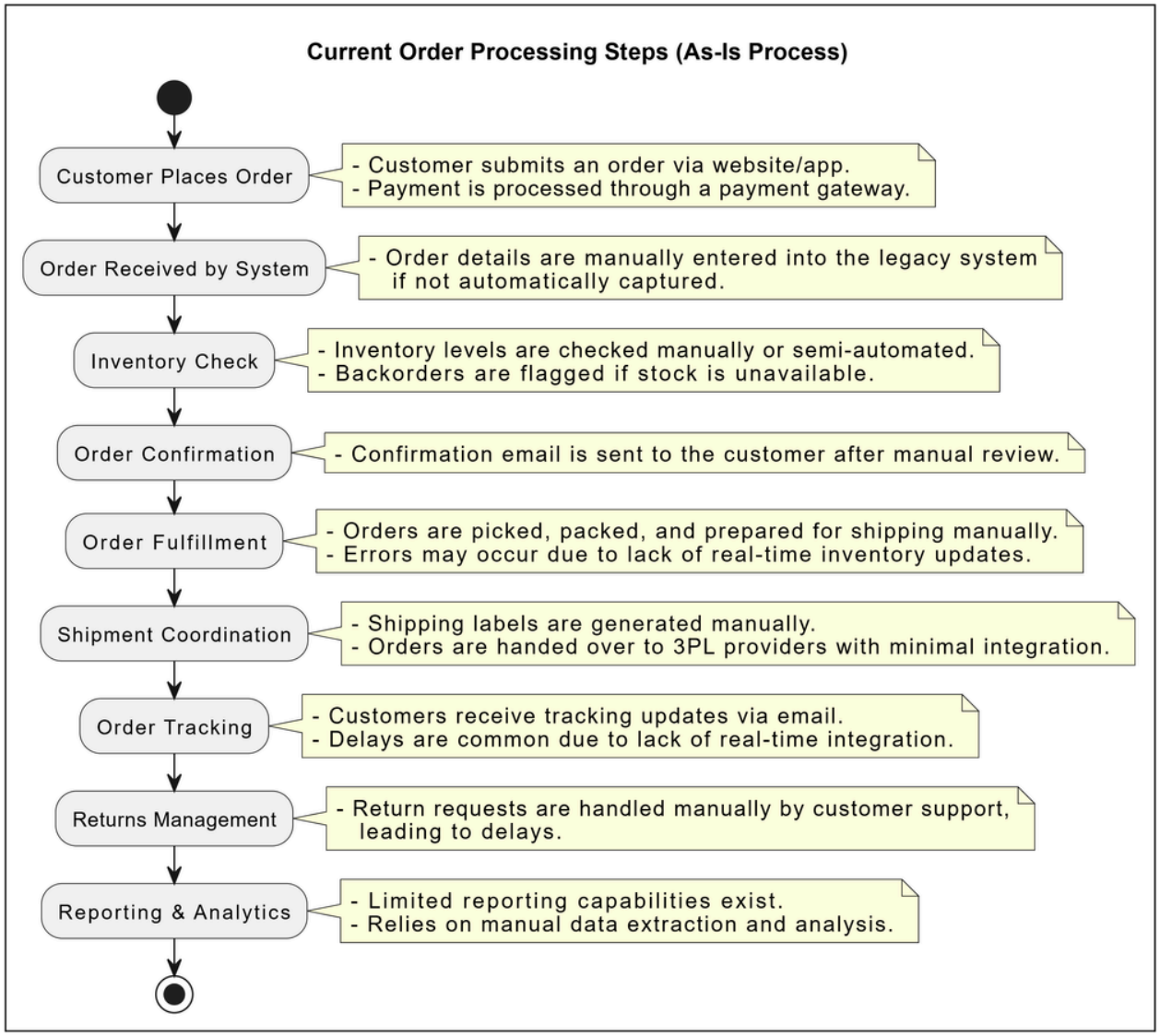
					Shipped, Delivered)
US-01	Customer	Track my order status in real-time	My order has shipped	I check the portal	I should see the tracking number and carrier details
US-02	Customer	Initiate a return request online	I have received my order	I log into the self-service portal	I should see an option to initiate a return
US-02	Customer	Initiate a return request online	I select items for return	I submit the request	I should receive a confirmation email with a return label
US-03	Order Fulfillment Team Member	Receive automated picking lists	A new order is placed	The system validates inventory	It should generate a picking list for the nearest warehouse
US-03	Warehouse Staff Member	Access picking list in system	I am a warehouse staff member	I access the system	I should see the picking list sorted by location for efficiency
US-04	IT Administrator	Monitor system performance metrics	The system is live	I access the admin dashboard	I should see real-time metrics such as uptime, order processing time, and error rates
US-04	IT Administrator	Receive alerts for system issues	There is a system issue	The error rate exceeds 5%	I should receive an alert via email/SMS
US-05	Customer Support Agent	View all customer order details in one place	A customer contacts support	I search for their order	I should see all relevant details (e.g., order status, payment status, shipping info)
US-05	Customer Support Agent	Notify customers of order updates	There is an issue with an order	I update the status	The customer should receive a notification about the change

US-06	Senior Manager	Generate sales reports	I am logged into the system	I navigate to the reporting section	I should see options to generate sales reports by date range, product category, or region
US-06	Senior Manager	Download sales reports	I select a date range	I generate the report	It should display accurate data in a downloadable format (e.g., PDF, Excel)
US-07	Third-Party Logistics Provider	Receive shipment details automatically	An order is ready for shipping	The system processes the order	It should send shipment details (e.g., order ID, address) to my API endpoint
US-07	Third-Party Logistics Provider	Confirm shipment details	I receive shipment details	I confirm receipt	The system should mark the order as 'Shipped'
US-08	Customer	Receive push notifications for order updates	My order status changes	The system updates the order	I should receive a push notification with the latest status

7. Process Flow Diagrams

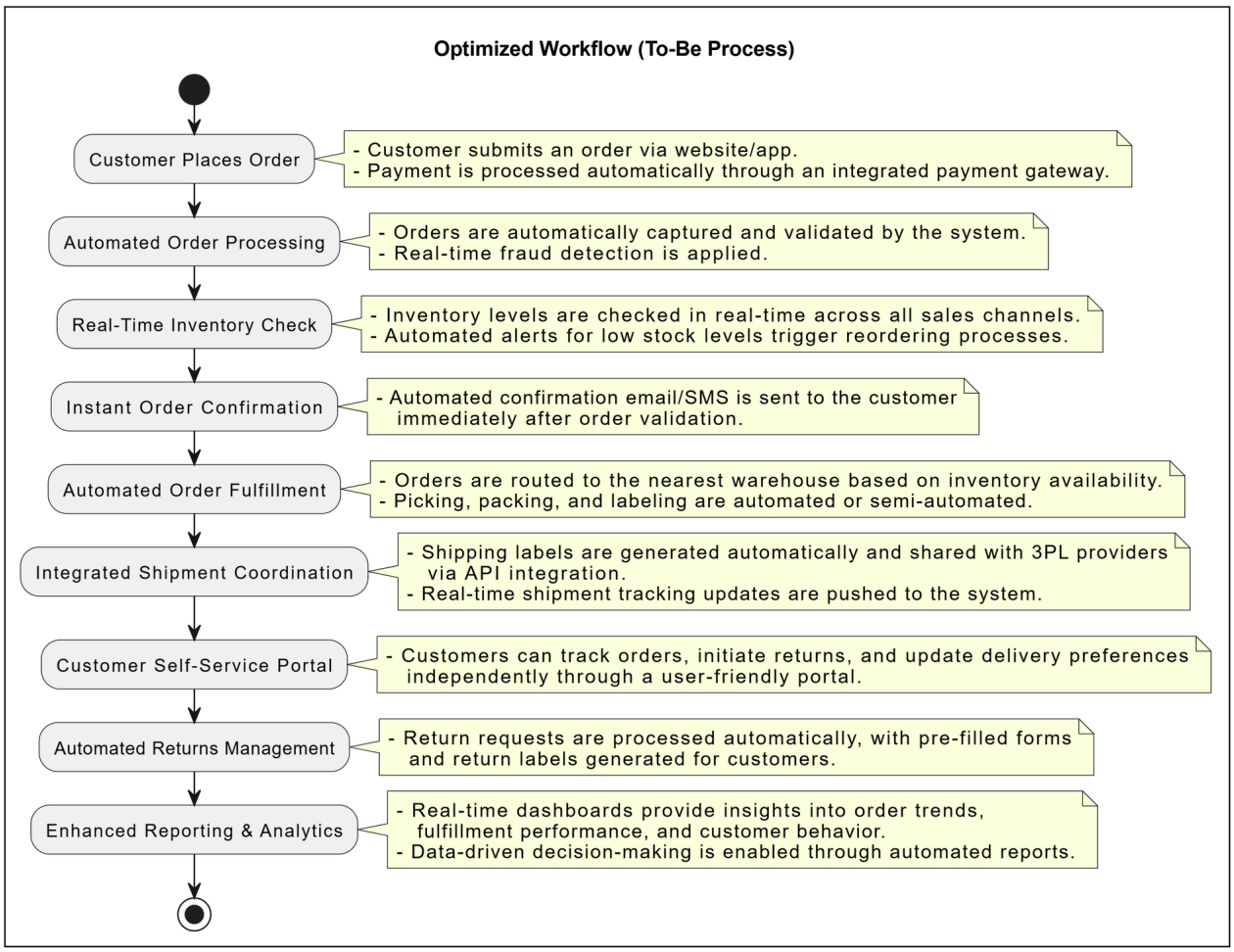
1. Current Order Processing Steps (As-Is Process)

The As-Is process outlines the existing workflow, highlighting inefficiencies, bottlenecks, and pain points. This serves as the baseline for identifying areas of improvement.



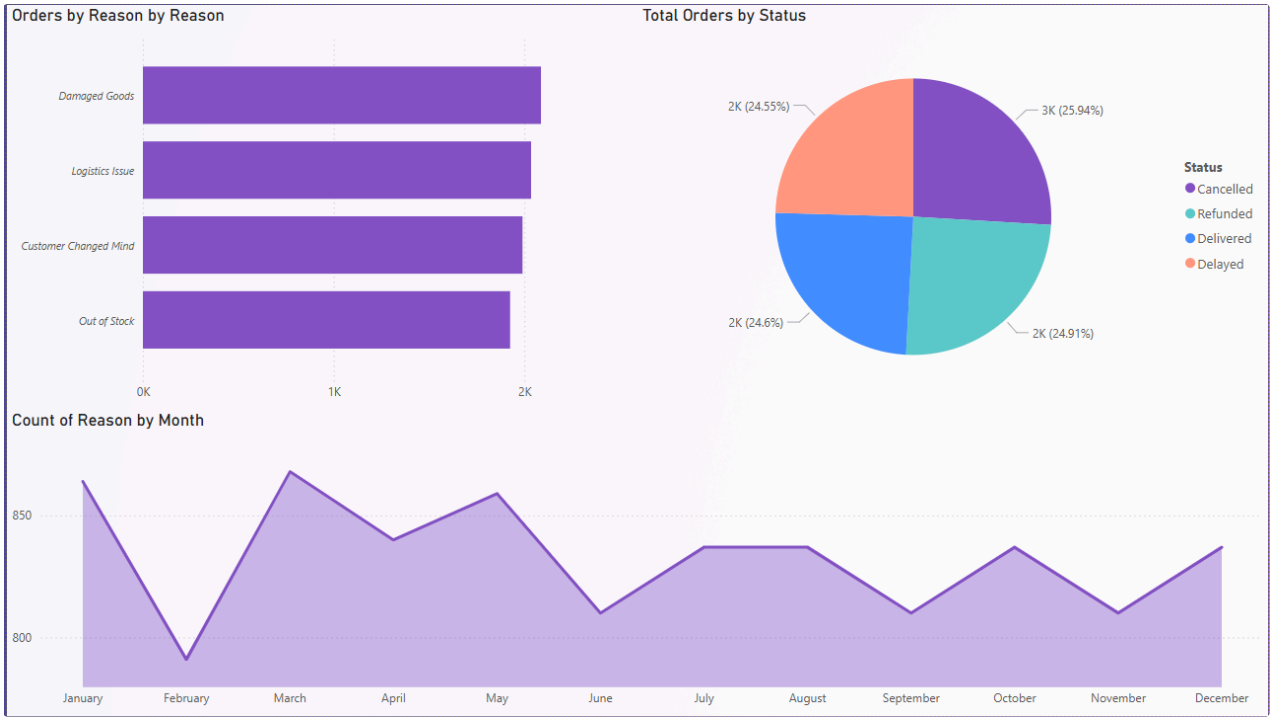
2. Optimized Workflow (To-Be Process)

The To-Be process outlines the future state of the system after improvements have been implemented. This streamlined workflow eliminates inefficiencies and enhances operational efficiency.



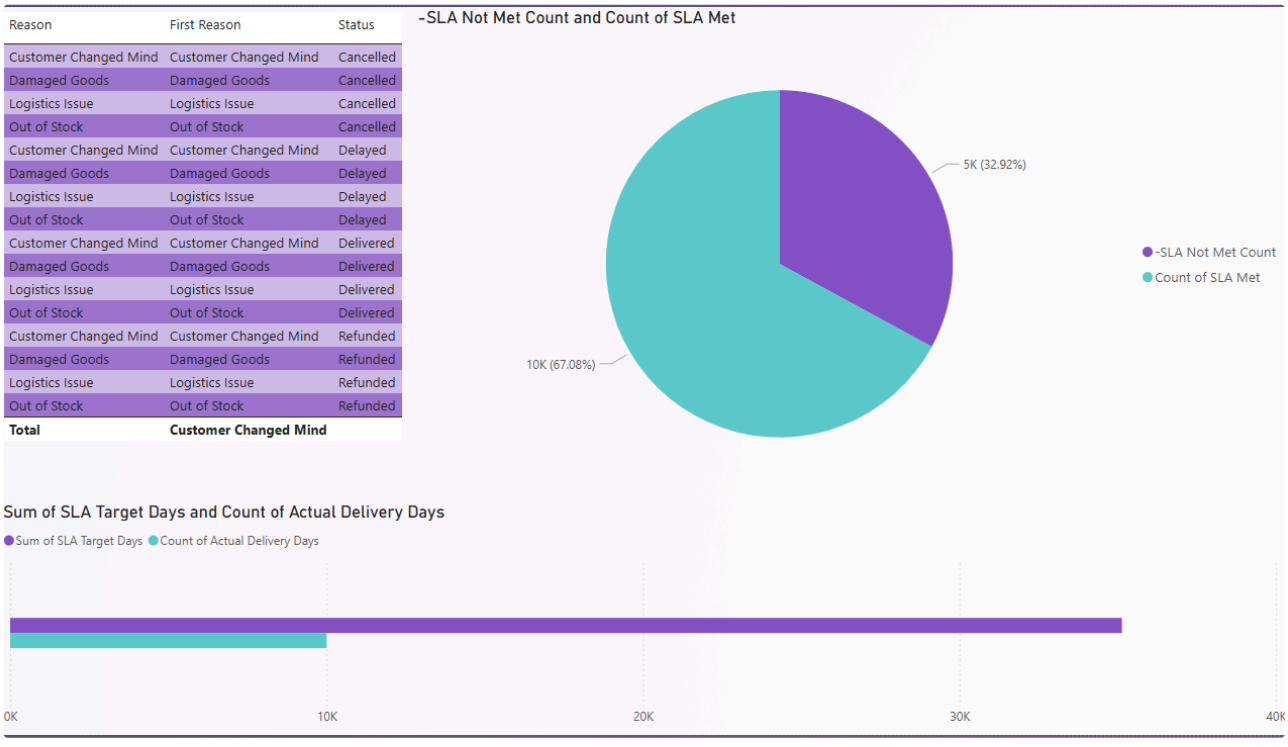
What to Include:

- **Order Trends:**
  - Analysis of order delays, cancellations, and refunds over time.
  - Identification of patterns and root causes.
  - Visualization of trends using charts and graphs.



SLA Performance Metrics:

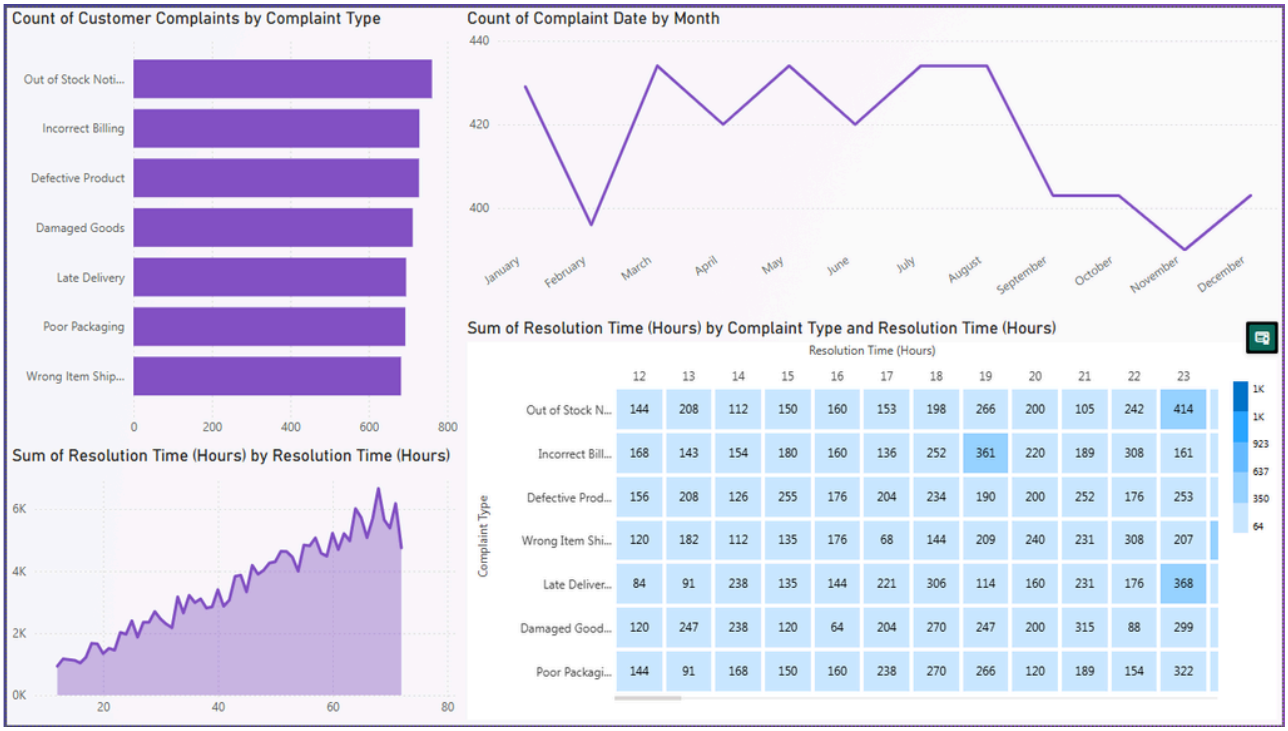
- Measurement of service level agreement (SLA) compliance.
- Identification of areas where SLA targets are not being met.
- Analysis of factors affecting SLA performance.



Reason	First Reason	Status
Customer Changed Mind	Customer Changed Mind	Cancelled
Damaged Goods	Damaged Goods	Cancelled
Logistics Issue	Logistics Issue	Cancelled
Out of Stock	Out of Stock	Cancelled
Customer Changed Mind	Customer Changed Mind	Delayed
Damaged Goods	Damaged Goods	Delayed
Logistics Issue	Logistics Issue	Delayed
Out of Stock	Out of Stock	Delayed
Customer Changed Mind	Customer Changed Mind	Delivered
Damaged Goods	Damaged Goods	Delivered
Logistics Issue	Logistics Issue	Delivered
Out of Stock	Out of Stock	Delivered
Customer Changed Mind	Customer Changed Mind	Refunded
Damaged Goods	Damaged Goods	Refunded
Logistics Issue	Logistics Issue	Refunded
Out of Stock	Out of Stock	Refunded
Total	**Customer Changed Mind**	

Customer Complaints Analysis:

- Categorization and analysis of customer complaints.
- Identification of common issues and pain points.
- Quantification of the impact of customer complaints.

- 

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8. Assumptions & Constraints

8.1 Assumptions

1. Existing infrastructure (servers, databases) is sufficient to support the new system.
2. Third-party logistics providers will provide necessary APIs for integration.
3. Adequate training will be provided to employees for smooth adoption of the new system.

8.2 Constraints

1. Budget limitations may restrict the scope of certain features.
2. Legacy systems may require additional effort for integration.
3. Regulatory compliance (e.g., GDPR, PCI-DSS) must be adhered to, which may impact timelines.

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9. Success Criteria

1. **Operational Metrics:**
   - Reduction in order processing time by at least 30%.
   - Decrease in order-related errors by 25%.
2. **Customer Satisfaction Metrics:**
   - Increase in Net Promoter Score (NPS) by 10 points.
   - Reduction in customer complaints related to order issues by 40%.
3. **Financial Metrics:**
   - Achieve a 20% reduction in operational costs within the first year post-implementation.
4. **Technical Metrics:**
   - System uptime maintained at 99.9%.
   - Successful integration with at least three major third-party logistics providers.
5. **Adoption Metrics:**
   - 90% of internal users report ease of use and satisfaction with the new system.

- 80% of customers actively use the self-service portal for order tracking and returns.

10. Appendix

Stakeholder Analysis RACI Matrix

The **RACI matrix** (Responsible, Accountable, Consulted, Informed) is a tool used to clarify roles and responsibilities for tasks and deliverables in a project. It ensures that every task has clear ownership and that stakeholders are appropriately involved. Below is the RACI matrix for the "Customer Order Management System Improvement" project:

Task/Deliverable	Project Manager	IT Department	Order Fulfillment Team	Customer Support Team	Senior Management	Third-Party Logistics	Customers
1. **Define Project Scope**	A	C	C	C	A	I	
2. **Gather Business Requirements**	R	C	C	C	I	C	I
3. **Design System Architecture**	R	A	C		I	C	
4. **Develop Order Processing Automation**	R	A	C	C	I		
5. **Integrate with 3PL Providers**	R	R			I	A	
6. **Implement Real-Time Inventory Updates**	R	A	R		I	C	
7. **Build Customer Self-Service Portal**	R	A		R	I		A
8. **Conduct User Training**	R		R	A	I		
9. **Perform System Testing**	R	A	R	R	I	C	
10. Deploy System	R	A	R	R	A	R	I

11. Monitor Post-Launch Performance	R	R	R	R	A	R	I