**Business Requirements Document**

**Project Name:** Order Delay Analysis & Process Improvement

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**Introduction**

This project aims to identify the primary causes of delayed customer orders for an e-commerce company and recommend process improvements to reduce delays, improve delivery speed, and enhance customer satisfaction.

**Problem Statement**

The company has been facing frequent delivery delays, which has led to:

* Increased customer complaints.
* Higher return and cancellation rates.
* Negative impact on brand reputation.

Preliminary analysis suggests that courier delays, stock shortages, and incorrect delivery addresses are the main contributors to late deliveries.

**Project Scope**

In Scope:

* Analysis of last 3 months of order data (June–August 2025).
* Identification of top delay reasons.
* Region-wise, category-wise, and time-based delay patterns.
* Recommendations to reduce delays and improve operational efficiency.

Out of Scope:

* International orders.
* Order data older than 3 months.
* Marketing or customer acquisition strategies.

**Objectives**

1. Identify and quantify the top causes of order delays.

2. Provide actionable recommendations to address these issues.

3. Reduce **average delay days** by 20% in 3 months.

4. Improve **on-time delivery rate** and customer satisfaction score.

**Stakeholders**

| **Role** | **Name/Department** | **Responsibility** |
| --- | --- | --- |
| Project Sponsor | Operations Manager | Approve project scope and changes |
| Business Analyst | *[Your Name]* | Data analysis, documentation, reporting |
| Data Team | BI/Analytics Team | Provide raw data, Power BI support |
| Operations | Supply Chain Manager | Implement operational changes |
| Customer Service | Customer Service Head | Handle customer complaints & feedback |

**Data Sources**

Order\_Delay\_Dataset.csv – Historical order records with:

* Order ID
* Order Date
* Delivery Date
* Delay Days
* Region
* Reason For Delay
* Product Category

**Analysis Approach**

1. **Data Cleaning & Preparation** in Excel.

2. **Initial Analysis** – Pivot tables for delay counts, averages, and top reasons.

3. **Dashboard Creation** in Power BI:

* Bar Chart → Delay Reason vs Count
* Map → Delays by Region
* KPI → Average Delay Days
* Line Chart → Delay Days Over Time
* Pie Chart → Product Category Share in Delays

4. **Root Cause Analysis** – Pareto Chart (80/20) and Fishbone Diagram.

**Assumptions**

1. Dataset is accurate and complete.

2. Delivery date reflects actual delivery completion date.

3. Delay Days > 0 means a delay occurred.

**Constraints**

1. Limited to available 3-month dataset.

2. External factors like weather are not fully captured in the dataset.

3. No real-time tracking data available.

**Expected Deliverables**

1. **Business Requirements Document (BRD)** – This document.
2. **Power BI Dashboard (.pbix)** – Interactive insights visualization.
3. **Presentation (.pptx)** – Summary of findings and recommendations.
4. **Excel File (.xlsx)** – Pareto analysis and other calculations.

**Success Metrics**

* Reduce average delay days from **2.4 to 1.5 days** in 3 months.
* Reduce courier delays from **42% to 25%** of all orders.
* Improve customer satisfaction score by **15%**.

**Recommendations Summary**

* Partner with an additional courier service in high-delay regions.
* Maintain buffer stock for high-demand products like electronics.
* Implement address auto-validation during checkout.
* Plan for seasonal disruptions with extra staffing and resources.