UrbanZen Delivery Performance Analytics - Project Brief

1. Project Overview

This project analyzes UrbanZen's delivery operations using 200,000+ e-commerce transaction records, including delivery timestamps, customer satisfaction scores, seller performance data, and geographic information.

The goal is to identify root causes of delivery delays, quantify their impact on customer satisfaction, and provide actionable insights to improve operational efficiency.

2. Business Objectives

- **Primary:** Identify and quantify the relationship between delivery performance and customer satisfaction
- **Secondary:** Pinpoint seller-specific performance issues and geographic patterns
- **Strategic:** Develop data-driven recommendations to reduce delays and improve customer experience

Key Business Questions:

1. How often does UrbanZen deliver late?
2. What is the correlation between delays and customer satisfaction?
3. Which sellers/regions contribute most to delivery issues?
4. How severe are the delays when they occur?
5. What is the financial/reputational impact of current performance?

3. Scope & Boundaries

Included:

- Delivery timeliness analysis (on-time vs. delayed)

- Customer satisfaction correlation studies

- Seller performance segmentation and tiering

- Geographic delay pattern analysis

- Operational KPI development and tracking

Out of Scope:

- Forecasting future delivery performance

- Customer demographic profiling

- Competitor benchmarking analysis

- Cost impact and ROI calculations

- Real-time monitoring system implementation

4. Data Sources & Architecture

Data Domain	Record Count	Key Fields
Full Delivery Table	200,000+	order_date, estimated_date, delivered_date, seller_id, order_id, rating, seller_location, region

Data Quality Notes:

- Timestamp consistency required validation across systems

- 2.1% of records excluded due to incomplete delivery information

5. Stakeholders & Responsibilities

Role	Primary Responsibility	Engagement Level
Head of Operations	Strategic decision-making, budget approval	High
Customer Experience Manager	Insight application, process improvements	High

Role	Primary Responsibility	Engagement Level
Vendor Relationship Manager	Seller performance management	Medium
Data Analyst (Project Lead)	End-to-end analysis, dashboard development	High
IT/Data Engineering	Data extraction and pipeline support	Low

6. Analytical Approach

Phase 1: Data Foundation

- **Data Extraction:** SQL queries to extract and merge transactional data
- **Data Cleaning:** Handle missing timestamps, standardize ratings, validate seller IDs
- **Feature Engineering:** Calculate delay flags and delay duration

Phase 2: Exploratory Analysis

- **Correlation Analysis:** Delivery timeliness vs. customer satisfaction
- **Segmentation Analysis:** Seller performance clustering
- **Trend Analysis:** Monthly/quarterly performance patterns
- **Geographic Analysis:** Regional delay concentration for both customer and seller

Phase 3: Insight Development

- **Root Cause Identification:** Pareto analysis of delay drivers
- **Impact Quantification:** CSAT score differentials by delay severity
- **Opportunity Sizing:** Potential improvement from addressing worst performers

Phase 4: Dashboard & Reporting

- **Tableau Development:** Interactive operational dashboard

- **Executive Summary:** Key findings and recommendations

- **Action Plan:** Prioritized improvement initiatives

7. Key Performance Indicators (KPIs)

KPI	Definition	Target
On-Time Delivery Rate	% of orders delivered by promised date	>95%
Average Delay Duration	Mean days late for delayed orders	<3 days
CSAT Impact Score	Rating difference: on-time vs. delayed	<0.5 point drop
Seller Performance Tier Distribution	% of sellers in each performance category	80% in Tier 1
Regional Delay Concentration	Gini coefficient of delays by region	<0.3

8. Deliverables

Core Deliverables:

- Interactive Tableau Dashboard (Operational View + Executive Summary)

- SQL Data Transformation Scripts

- Comprehensive Analysis Report (PDF)

Supporting Materials:

- Project Methodology Documentation

- Stakeholder Presentation Deck

9. Success Metrics

- **Analytical Success:** Clear identification of 3+ root causes with data-backed evidence

- **Business Success:** Stakeholder approval of recommended action plan

- **Operational Success:** Dashboard adoption by operations team for weekly reviews

- **Impact Success:** 15% reduction in delay rates within 3 months of implementation

10. Tools & Technology Stack

Category	Tools
Data Processing	SQL, Microsoft Power Query
Analysis & Visualization	Tableau, Excel
Documentation	Notion
Project Management	Notion
Version Control	GitHub (for SQL scripts and documentation)

11. Risks & Mitigations

Risk	Impact	Mitigation Strategy
Data quality issues	High	Early data profiling, exclude unreliable segments
Stakeholder availability	Medium	Bi-weekly checkpoints, clear documentation
Scope creep	Medium	Strict adherence to defined boundaries, change log
Technical limitations	Low	Prototype early, validate tool capabilities

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