

Hypothesis – Metric – Analysis Mapping

E-commerce Operations & Customer Experience Analytics – Olist

Purpose

This document maps each business hypothesis to measurable metrics and analytical approaches. It ensures analysis is hypothesis-driven, focused, and aligned with business decision-making.

Hypothesis 1: Delivery delays negatively impact customer ratings

Business Question: Do late deliveries reduce customer satisfaction?

Metrics: Average Rating, Delivery Delay (days), % Ratings below 3

Analysis: Compare ratings for on-time vs delayed orders; delay bucket analysis

Expected Outcome: Ratings decrease as delivery delay increases

Business Interpretation: Delivery speed is a key driver of customer experience

Hypothesis 2: A small subset of sellers causes most delivery delays

Business Question: Are delivery delays concentrated among specific sellers?

Metrics: Seller SLA Breach %, Average Delay per Seller, Order Volume

Analysis: Seller ranking and Pareto (80/20) analysis

Expected Outcome: ~20% of sellers account for majority of delays

Business Interpretation: Targeted seller intervention can significantly improve performance

Hypothesis 3: Delivery delays are concentrated in specific regions

Business Question: Are logistics issues region-specific?

Metrics: Average Delivery Delay by City/State, On-Time Delivery Rate

Analysis: Geographic aggregation and regional performance comparison

Expected Outcome: Certain regions consistently underperform

Business Interpretation: Regional logistics optimization is required

Hypothesis 4: Delayed orders represent significant revenue risk

Business Question: How much revenue is associated with delayed deliveries?

Metrics: Revenue from delayed orders, % Revenue at Risk

Analysis: Revenue aggregation by delivery status and seller

Expected Outcome: High-revenue orders overlap with delivery delays

Business Interpretation: Operational inefficiencies directly threaten revenue

Outcome of This Step

This mapping acts as a contract between business and analytics teams, ensuring every analysis directly answers a defined business question and supports actionable decision-making.