

Business Case

Project Name	Created By
Olist Late Delivery Analysis	Sakshi Kharkwal

Overview

This project analyses Olist's delivery performance, focusing on the impact of late deliveries on customer satisfaction. The analysis of the dataset provided by Olist demonstrates how late deliveries are concentrated and how they drive negative reviews, informing targeted improvement strategies.

Problem Statement

How can Olist reduce late deliveries which disproportionately drive negative customer reviews?

Objectives

- Identify where delays cluster (customer state, seller state, product category)
- Link delays to the customer sentiments (positive or negative reviews)
- Recommend business actions to remedy the late delivery problems

Project Scope

- Analysis of delivery performance metrics
- Evaluation of customer experience
- Assessment of regional delivery bottlenecks
- Assessment of product categories with high delay
- Predictive-modelling using ML
- Operational logistics changes

Data Sources Kaggle

The subsets used from the original Olist dataset in the project are:

Table	Description
orders	Delivery and approval times, delay flags
customers	Region-level demographics of customer
reviews	Scores and comments post-purchase
sellers	Seller location related info
products	Categories and physical features
payments	Transaction types and values
order_items	Order price and other info

Methodology

- Import and Transform Orders, create flags for missing datetime fields:
 - flag_order_approved
 - flag_order_delivered_carrier
 - flag_order_delivered_customer
- Import and Transform Reviews
 - Null titles → "no title"
 - Null messages → "no message"
- Import Customers, Order_Items, Products, Payments (no modifications).
- Create necessary DAX measures:
 - Total Customers
 - Average Delivery Delay
 - % Late Deliveries
 - Avg. Review Score

- Avg. Review Score for Late Deliveries
- Review Score Distribution (1–5 stars)
- Build dashboard:
 - KPIs: Total Orders, % Late Deliveries, Avg. Review Score (overall and late delivers only).
 - Time trends: % Late Deliveries over time, Avg. Review Score over time.
 - Breakdowns: % Late Deliveries by Customer State (>10%), by Seller State, by Product Category.
 - Sentiment: Review Distribution split by Delivery Status

Insights

- ~7.9% of orders were late, strongly linked to low reviews.
- SP sellers had most late deliveries; AL customers most affected.
- *cama_mesa_banho* category showed highest late rate.
- Late orders pulled average reviews down to ~2.5 vs. 4.1 on-average.
- Most orders arrived early (~11 days), but late ones drove dissatisfaction.

Strategic Alignment Assessment

- *Corporate Strategy*: Drives efficiency & customer focus.
- *Market Position*: Enhances reputation & competitiveness in the market.
- *Customer-centric growth*: Enhances satisfaction by addressing delivery pain points.

Benefit Analysis

1. Reduced % of late deliveries.
2. Increased average review scores.
3. Higher customer retention and repeat purchases.
4. Lower cancellations/refund
 1. Improved brand trust and reputation.
 2. Better seller accountability and partnership management.
 3. Stronger customer loyalty and advocacy.

Success Criteria

Reduction in % late deliveries by 10% within 6 months of applying improvement measures.

Stakeholder Requirements

- Weekly progress reports shared actively.
- No disruption to ongoing deliveries.

Implementation Plan

Phase Description	Duration	Budget
<ul style="list-style-type: none">• Assess SP sellers for late delivery causes	2 weeks	\$15,000
<ul style="list-style-type: none">• Research AL delivery issues in parallel	3 weeks	\$20,000
<ul style="list-style-type: none">• Set follow-up plan based on SP findings	1 month	\$10,000
<ul style="list-style-type: none">• Add delivery agents in AL if shortage found• Petition local govt. if poor infrastructure in AL	1 month 2-3 months	\$25,000 \$5,000
<ul style="list-style-type: none">• Execute tailored AL follow-up if other causes	1 month	\$10,000
<ul style="list-style-type: none">• Weekly team sessions for progress review	ongoing	\$2,000/ month