Olist E-Commerce: End-to-End Business Performance Review

A comprehensive analysis of sales performance, delivery efficiency, and operational excellence across 2017-2018

SALES PERFORMANCE   DELIVERY PERFORMANCE   OPERATIONAL EFFICIENCY

Project Overview

This project delivers a complete analysis of Olist's e-commerce business using Python and Power BI. Performance was measured in three critical dimensions: sales patterns, delivery reliability, and operational efficiency.

The analysis reveals concentrated revenue in specific time periods and product categories, significant customer retention challenges, and regional delivery performance gaps that directly impact satisfaction and profitability.

Three Strategic Pillars

Increase Sales Performance

Identify demand patterns, revenue behaviors, and customer value to drive commercial opportunities

Enhance Delivery Performance

Improve SLA compliance, delivery cost efficiency, and fulfillment speed to boost customer satisfaction

Optimize Operations

Identify bottlenecks in fulfillment and city-level performance to improve reliability and cost-effectiveness

Revenue Growth & Order Trends

143.95

Average Revenue per Order

BRL per transaction

95K

Unique Customers

Total customer base

Daily order volume peaked dramatically in December 2017 at nearly 1,400 orders, with revenue reaching 150,000 BRL. Post-spike, operations stabilized between 100-400 orders daily, demonstrating scalability and growing market traction.

Customer Behavior Patterns

Peak Purchase Periods

73% of revenue occurs during afternoon (39%) and evening (34%) hours, revealing clear optimal windows for marketing campaigns and inventory prioritization.
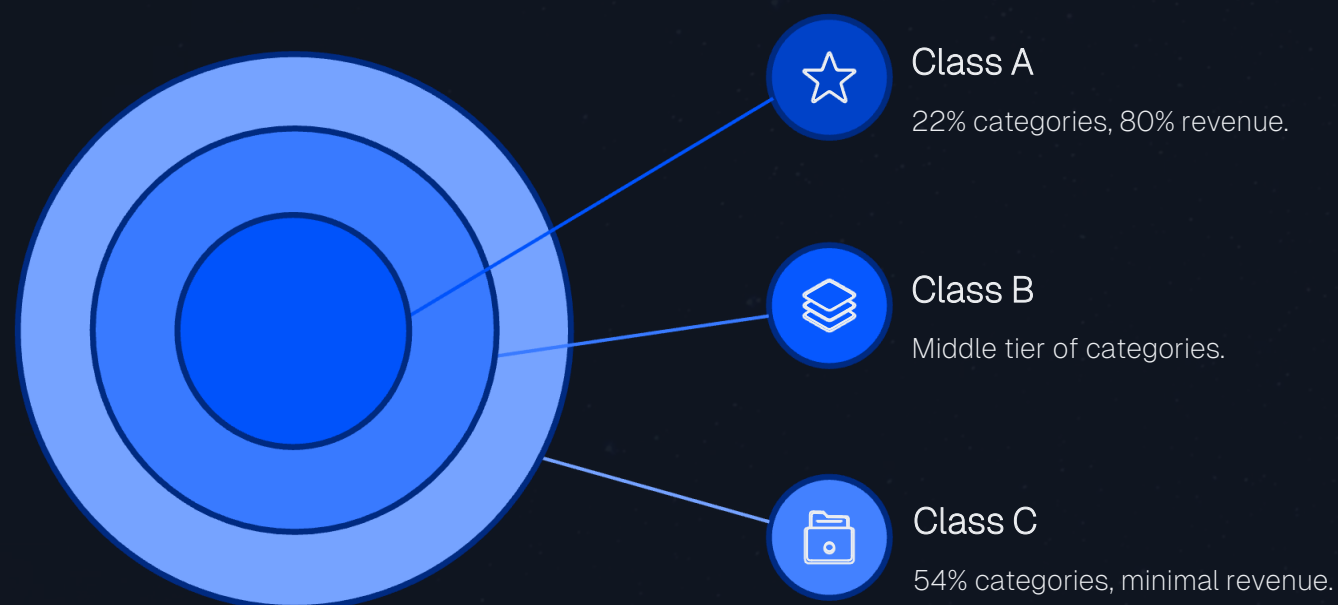

Weekday Dominance

Weekdays drive 88% of total revenue, with Monday leading at 16.4%. Weekend sales lag despite strong per-day averages, indicating lower traffic patterns.

Price Sensitivity

50% of orders come from low-priced items, demonstrating strong demand elasticity. Medium and high segments share the remaining volume equally.

The Pareto Principle in Action

Class A
22% categories, 80% revenue.

Class B
Middle tier of categories.

Class C
54% categories, minimal revenue.
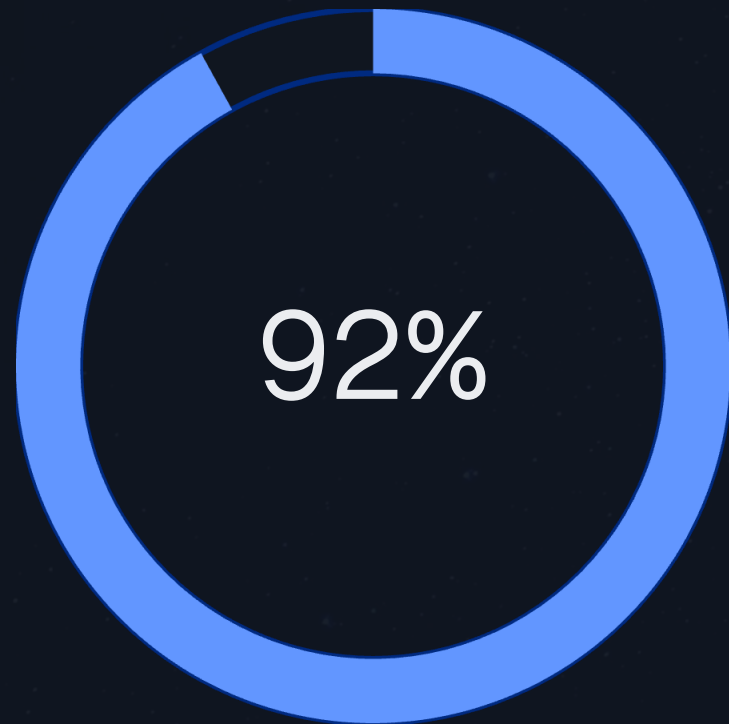
Class A Products

27% of SKUs drive 80% of revenue - the "Hero Products"

Strategic Focus

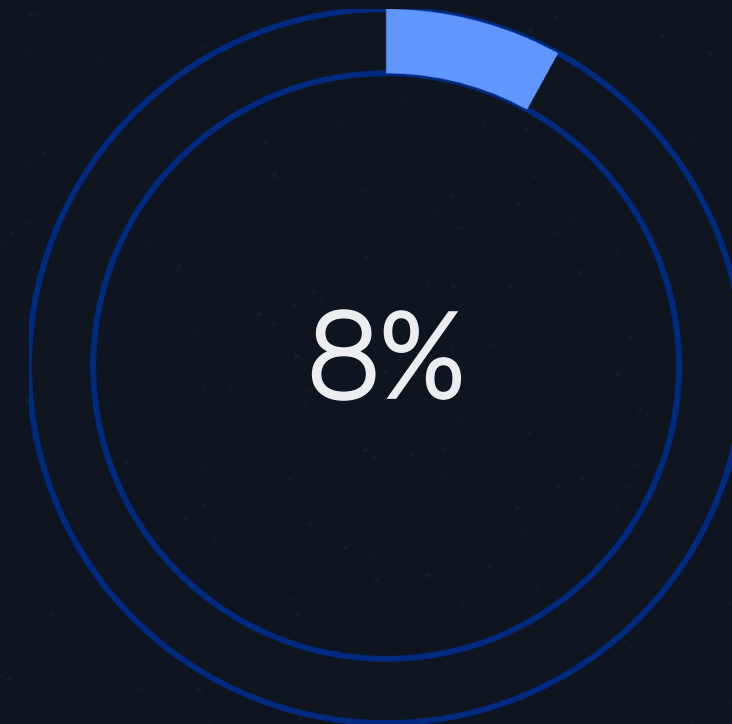Prioritize Class A for marketing, stock allocation, and content optimization

A classic Pareto distribution reveals that just 22% of product categories generate 80% of total revenue, with Health & Beauty emerging as the single largest contributor.

Customer Retention Challenge

92%

On-Time Delivery Rate

Strong baseline performance

8%

Late Deliveries

Directly impact retention

RFM analysis reveals that repeat purchases drop sharply after the first month, while a small group of Champions and Loyal customers drive most revenue. Potential Loyalists represent the largest segment at 23,000 customers, indicating significant opportunity for conversion strategies.
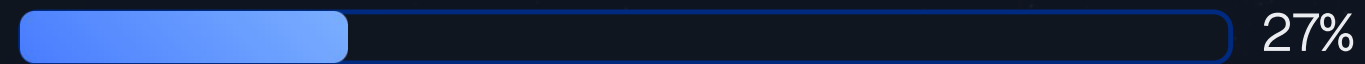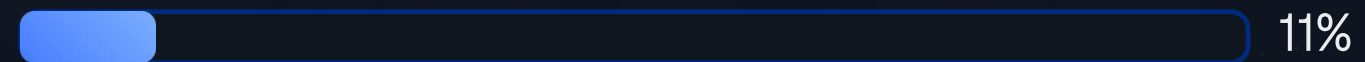
Regional Performance Gaps

Top Cities by Volume

62%

São Paulo

14,832 customers

27%

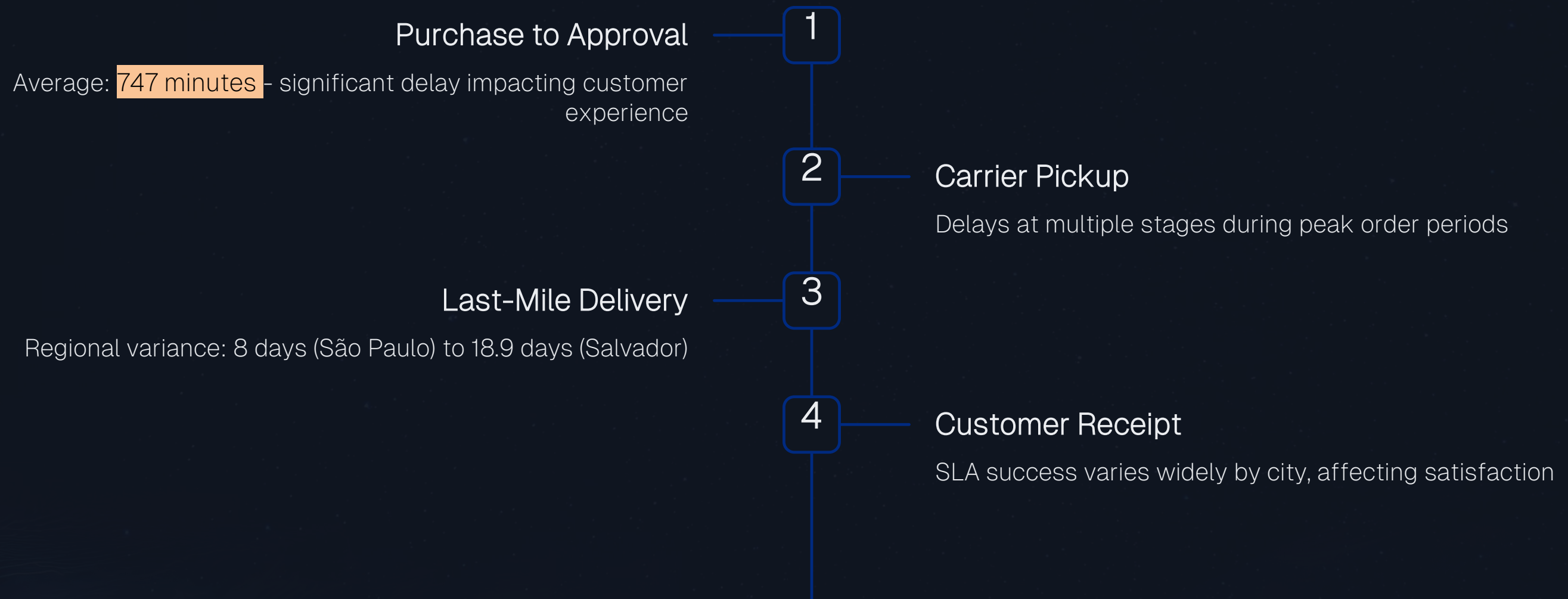### Rio de Janeiro

6,545 customers

11%

Other Cities

Combined volume

Delivery Cost Variance

Average delivery cost per order: 23.89 BRL

São Paulo shows the lowest cost at 14.38 BRL, while Salvador reaches 25.46 BRL - an 77% difference indicating routing inefficiencies and carrier performance issues in certain regions.

Delivery Performance: The Critical Gap

1 Purchase to Approval

Average: `747 minutes` – significant delay impacting customer experience

2 Carrier Pickup

Delays at multiple stages during peak order periods

3 Last-Mile Delivery

Regional variance: 8 days (São Paulo) to 18.9 days (Salvador)

4 Customer Receipt

SLA success varies widely by city, affecting satisfaction

Critical Finding: Late deliveries are directly linked to lower customer satisfaction and higher churn risk. Cities with high order volume often show higher delivery costs, suggesting poor routing or carrier performance.

Strategic Recommendations

Focus on Hero Products

Prioritize Class A products (27% of SKUs, 80% of revenue) for marketing, stock allocation, and content optimization

Time-Based Campaigns

Run targeted promotions during afternoon/evening hours when 73% of revenue occurs

Improve Delivery SLAs

Address regional gaps, reduce approval delays, and partner with local logistics providers

Strengthen Retention

Create personalized campaigns for Champions and Loyal segments, win-back strategies for At-Risk customers

These data-driven insights align commercial strategy with operational improvements, supporting a more reliable, profitable, and customer-focused e-commerce operation.