E-commerce Revenue Dashboard

Executive Report

EXECUTIVE SUMMARY

This report summarizes the main findings and metrics visualized in the E-commerce Revenue Dashboard, built using data from the Olist Brazilian E-commerce Public Dataset (Kaggle).
The goal of this analysis was to understand revenue distribution, order conversion, payment methods, and customer satisfaction trends across Brazil's e-commerce ecosystem.
Key Highlights:

- Total Revenue: R$ 1.6 billion
- Delivered Rate: 97.02%
- Average Order Value (AOV): R$ 16,100
- Delivered Orders: ~96,000
- Cancellation Rate: 0.63%

The results reveal a highly efficient delivery process, strong dominance of credit card payments, and slight variations in customer satisfaction linked to delivery performance.

METHODOLOGY

Data Source:
Brazilian E-commerce Public Dataset by Olist (2016–2018), containing 100K+ orders from multiple sellers across Brazil.

Data Preparation:

- Imported CSVs (customers, orders, payments, reviews, products, etc.).
- Cleaned and merged using Python (Pandas).
- Aggregated KPIs using SQL queries for revenue, funnel metrics, payment mix, and geographic distribution.
- Exported final summarized datasets for visualization in Power BI

Tools & Technologies:

- Power BI (DAX, visuals, and interactive design)
- SQL (PostgreSQL / SQLite for metric computation)
- Python (data cleaning & export automation)
- GitHub (version control and documentation)

Modeling:

- Built a **star schema** around orders as the fact table.
- Created relationships with order_items, order_payments, order_reviews, customers, and products.

RESULTS & INSIGHTS

Revenue Performance

- **Total Revenue:** R$ 1.6B
- **Top Categories:** Beauty & Health, Watches, Furniture, Sports, and Electronics.
- **AOV:** R$ 16.1K per delivered order.

Payment Mix

- **Credit card:** 78% of total revenue.
- **Boleto:** 18%.
- **Debit card:** minimal share (<2%).
  Credit cards clearly dominate online transactions, indicating high digital payment adoption.

Funnel & Operational Efficiency

- **Delivered Orders:** 97% of total — a sign of robust logistics.
- **Cancellation Rate:** 0.63%, showing low failure in the purchase process.
- Funnel analysis (Created → Approved → Delivered) indicates minimal drop-off.

Geographic Distribution

- **Top states:** São Paulo (SP), Rio de Janeiro (RJ), and Minas Gerais (MG) generate the highest revenue.
- These three states alone represent over 60% of all sales, confirming regional economic concentration.

Customer Satisfaction

- **Average Review Score:** 4.1/5 overall.
- Slight decrease in satisfaction when delivery times exceed the expected date.
- Correlation analysis shows delayed deliveries slightly lower review scores by ~0.3 points.

VISUALIZATIONS OVERVIEW

The Power BI dashboard consists of:

- **KPI Cards** – Highlighting Total Revenue, Delivered Rate, AOV, and Cancellations.
- **Bar Chart:** Revenue by Product Category.
- **Funnel Chart:** Order progression by status.
- **Map Visualization:** Revenue by Brazilian state.
- **Donut Chart:** Revenue share by payment type.
- **Line Chart:** Evolution of review scores over time.
- **Combined Chart:** Total Revenue vs. Delivered Orders by year.

Each visual supports a clear narrative from business overview → operational efficiency → customer satisfaction.

CONCLUSIONS & RECOMMENDATIONS

Conclusions:

- The e-commerce operation demonstrates high reliability with over 97% delivery success.
- Credit card usage dominates, offering opportunities for loyalty programs and installment-based promotions.
- Revenue is geographically concentrated — suggesting potential for regional expansion in underperforming states.
- Customer satisfaction remains stable, but delays negatively affect review scores.

Recommendations:

1. **Optimize logistics** in regions with higher delivery delays to sustain review quality.
2. **Diversify payment incentives** to increase the share of alternative methods (e.g., debit or digital wallets).
3. **Focus marketing** on top categories and replicate their strategies across mid-performing ones.
4. **Implement forecasting** models (Power BI or Python) to anticipate monthly revenue and order trends.
5. **Enhance dashboard storytelling** with interactive drill-throughs by state and category.

CREDITS

Dataset: Olist Brazilian E-commerce Public Dataset (Kaggle)
Dashboard: Power BI Desktop
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