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Problem Statement

The goal of this project is to analyze Olist's sales data to determine patterns in order volume and revenue generation



Dataset

Olist Brazilian E-Commerce Dataset

Overview: E-commerce transactions in Brazil (2016–2018). Includes: Customers, orders, payments, products, sellers, reviews, and logistics.

Number of Orders per Category

		150	J J			
esporte_lazer 8945 beleza_saude 9975	automotivo 4379 ferramentas_jardim 4574	perfumaria 3560		pet_shop 2028	moveis_escritorio 1778	ı
		cool_stuff 3987		papelaria fash 2617	nion_bolsas_e_acess 2151	sorio
		brinquedos 4273		bebes 3196	eletronicos 2845	
	utilidades_domesticas 7355		relogios_presentes 6201		telefonia 4721	
cama_mesa_banho 11823	moveis_decoracao 8744			informatica_acessorios 8082		

"Home and personal care products dominate, while specialized categories see lower engagement."



We see e-commerce orders steadily rise, hitting a peak during Black Friday, driven by massive sales. The overall trend showed strong growth, but that sharp drop at the end isn't a real decline—it's just missing data!



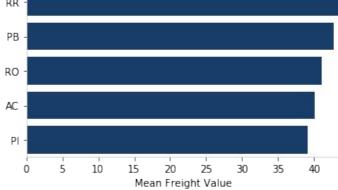


"Afternoons fuel the most orders, while weekends take a dip!"

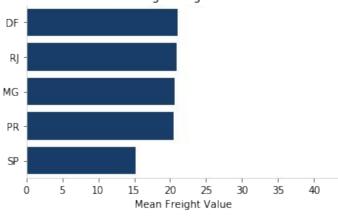
R\$19.99

is the mean value of freight paid for online shopping





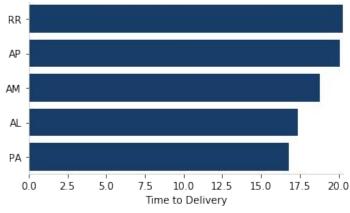
Top 5 States with Lowest Average Freight Value



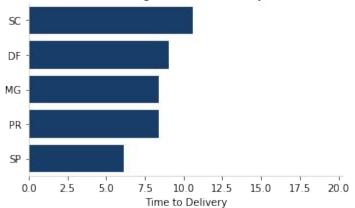
8 working days

is the average delay for delivery for online shopping

Top 5 States with Highest Average Time to Delivery



Top 5 States with Lowest Average Time do Delivery

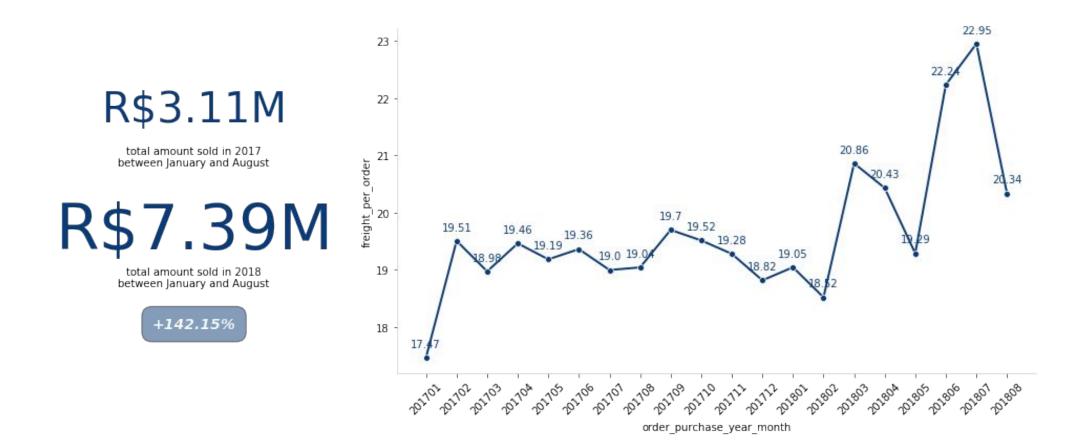


Freight Costs vs Delivery Time:

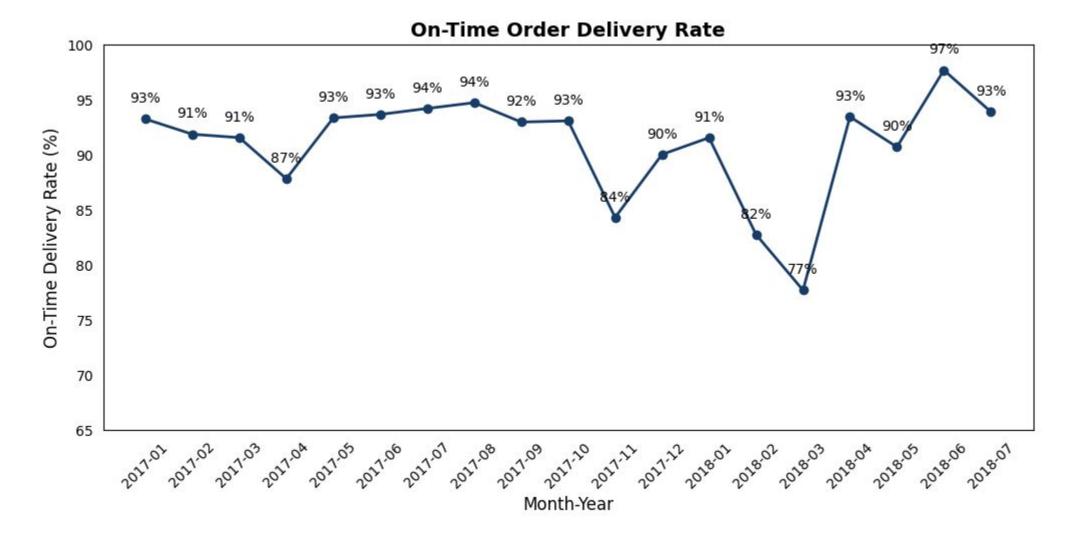
States with the highest average freight values (like RR and PB) also tend to have longer delivery times, while states with lower freight costs (like DF and RJ) generally have faster delivery times.

Opportunity for Improvement:

There is an opportunity to optimize delivery times in states with high freight costs, as they also have longer delivery delays. Improving logistics efficiency in these regions could enhance customer satisfaction while potentially reducing costs.



"Sales soared by 142%, while freight costs depended on the demand, revealing a pattern of peaks and opportunities for cost optimization!"



Seller takes 2.7 days to reach the carrier

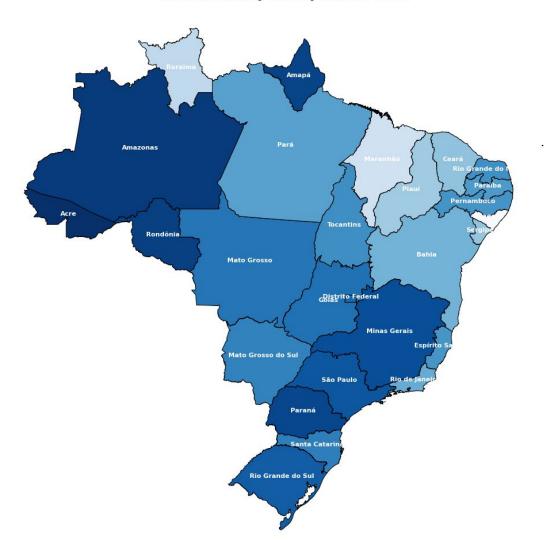
Carrier takes 8.9 days to deliver the product

Avg delivery time ~ 12 days

Unique Customers per State in Brazil



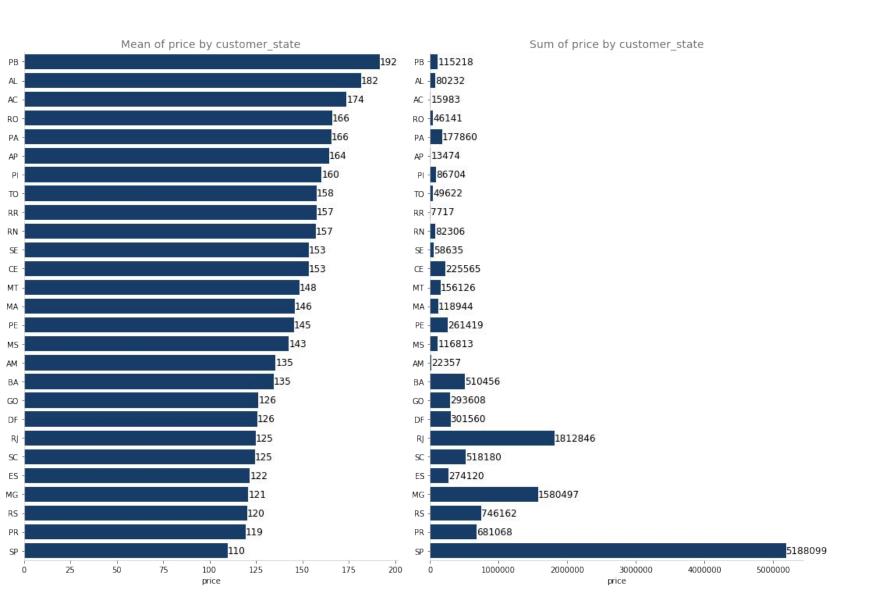
On-Time Delivery Rate by State in Brazil



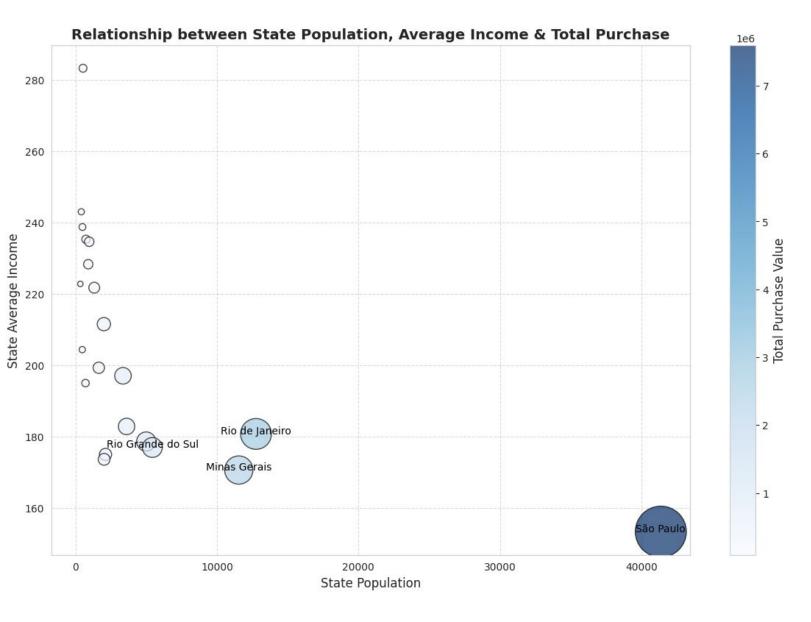
0

- 85

- 75



It's very interesting to see how some states have a high total amount sold and a low price per order. If we look at São Paulo for example, it's possible to see that it is the state with most valuable state for e-commerce (5,188,099 sold) but it is also where customers pay less per order (110.00 per order).



"Higher total purchase value is often driven by larger populations, not necessarily higher average income."

Approaches

Compare and Contrast

Contrasts weekday vs. weekend orders, year-over-year revenue changes, and customer behaviors.

Drill-Down Analysis

Moves from high-level trends (total sales) to specifics (regional breakdown, product category analysis)

Change Over Time

Show how order volumes and revenue patterns evolve, highlighting seasonal trends like Black Friday

Thank You!