

# Brazilian E-Commerce Dataset

Ricardo Zacarias

# About the data

> The dataset has information of 100k orders from 2016 to 2018 made at multiple marketplaces in Brazil. Its features allows viewing an order from multiple dimensions: from order status, price, payment and freight performance to customer location, product attributes and finally reviews written by customers.

## **Olist.com**

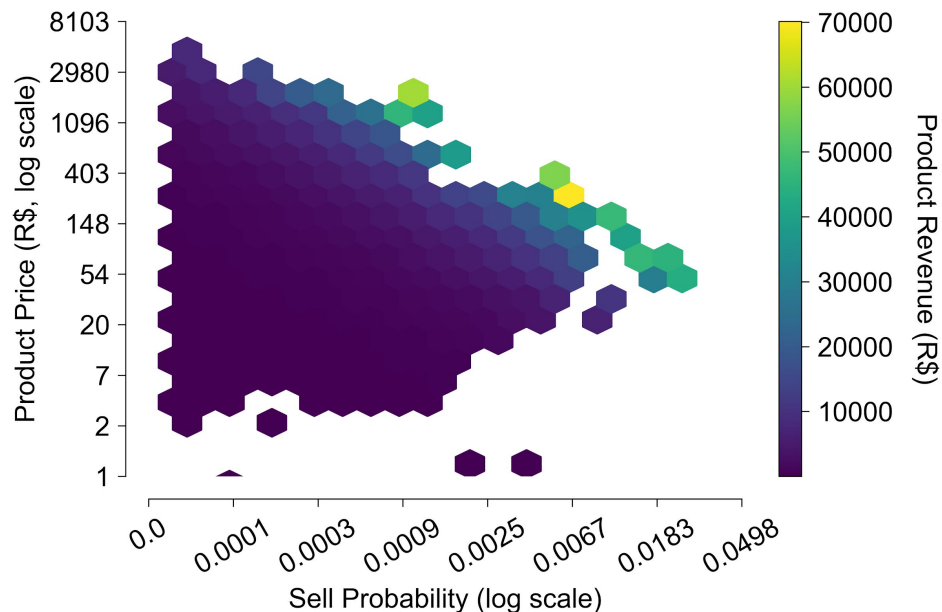
> This dataset was generously provided by Olist, the largest department store in Brazilian marketplaces. Olist connects small businesses from all over Brazil to channels without hassle and with a single contract. Those merchants are able to sell their products through the Olist Store and ship them directly to the customers using Olist logistics partners.

# Questions

- Which product sells the most? Do they profit more from cheap or from expensive products?
- Do orders vary throughout the year?
- How much does the average customer spend? Does it vary with geographical location?
- How much does the average shop sell? Does it vary with geographical location?

# Which products sell the best?

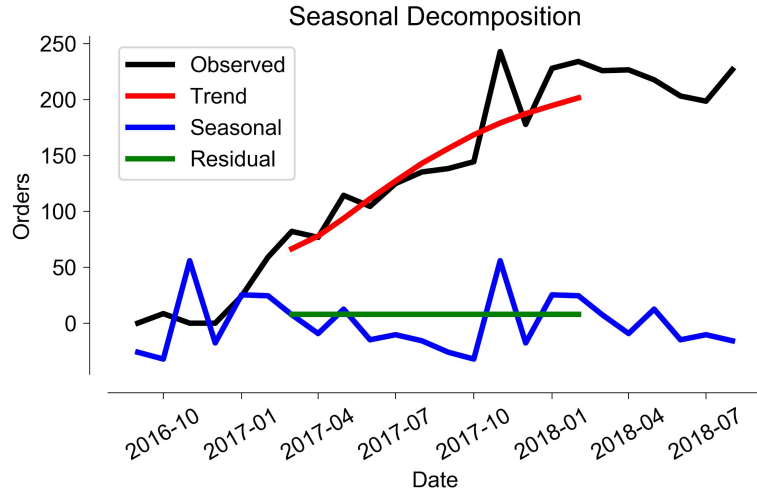
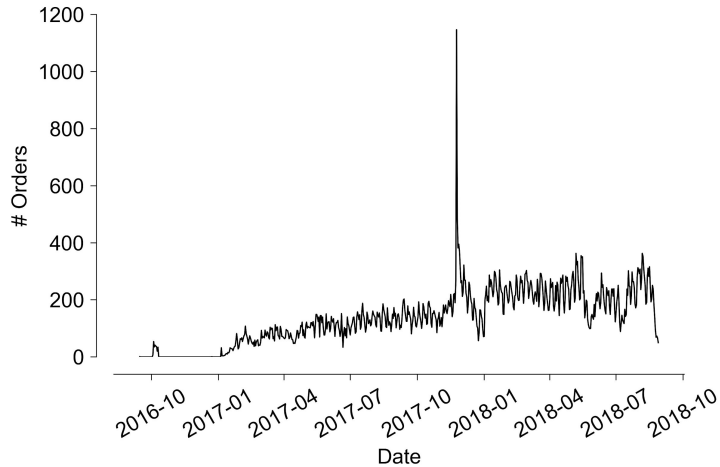
2d distribution of product price and sell probability



Olist makes more money by selling midrange products frequently.

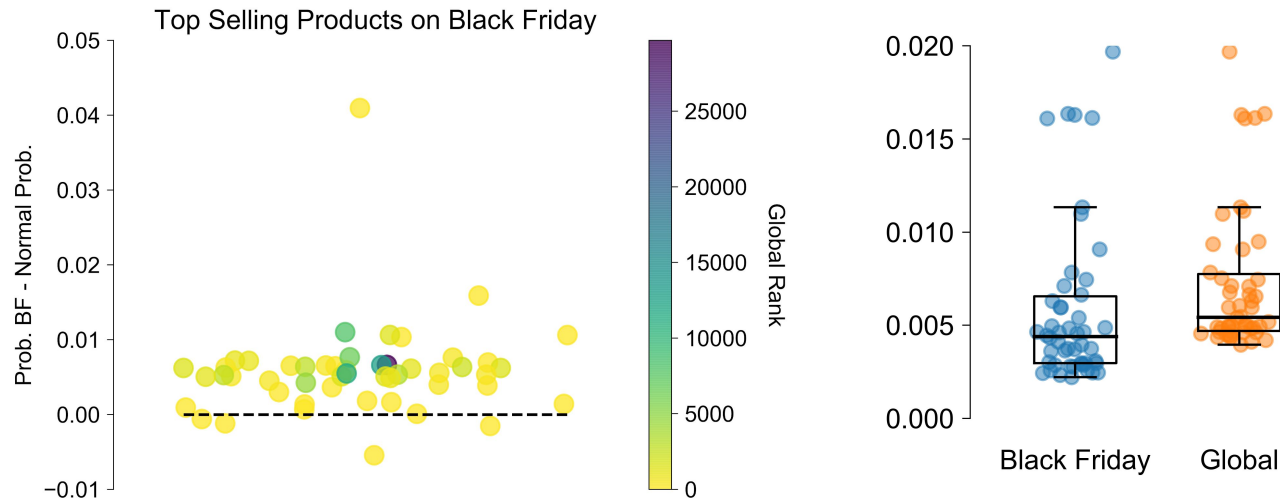
# Do orders vary throughout the year?

Time series of orders over time



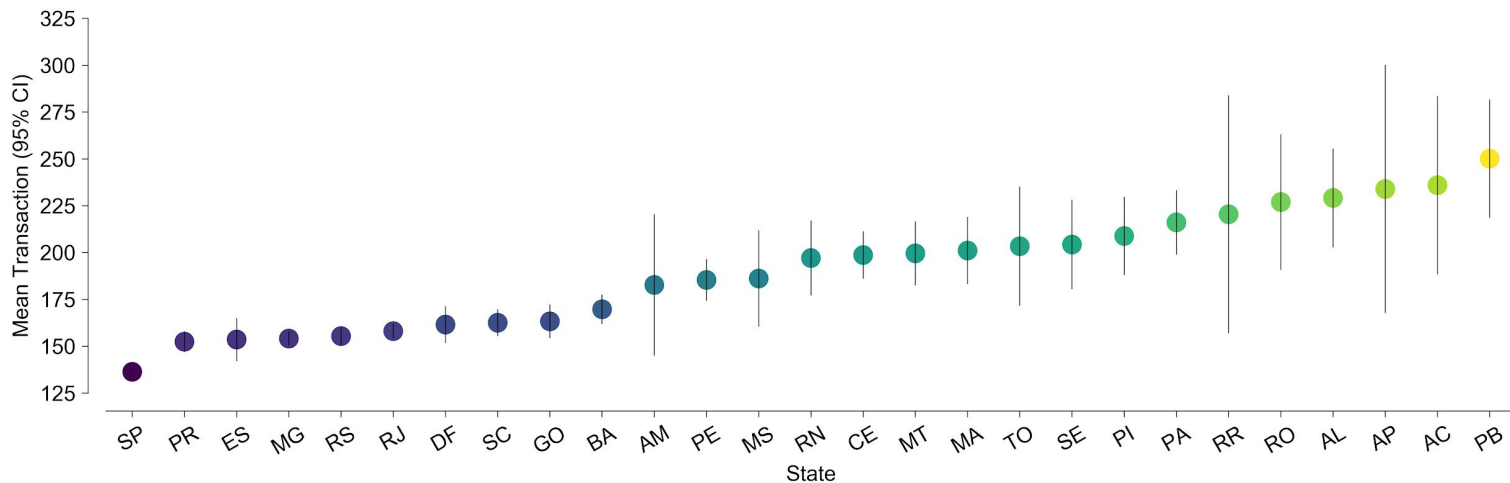
There's a spike in orders that coincides with Black Friday. **This leads to artifacts in the seasonal component.** But there's a significant positive trend in the overall number of orders.

# What products sell during Black Friday?



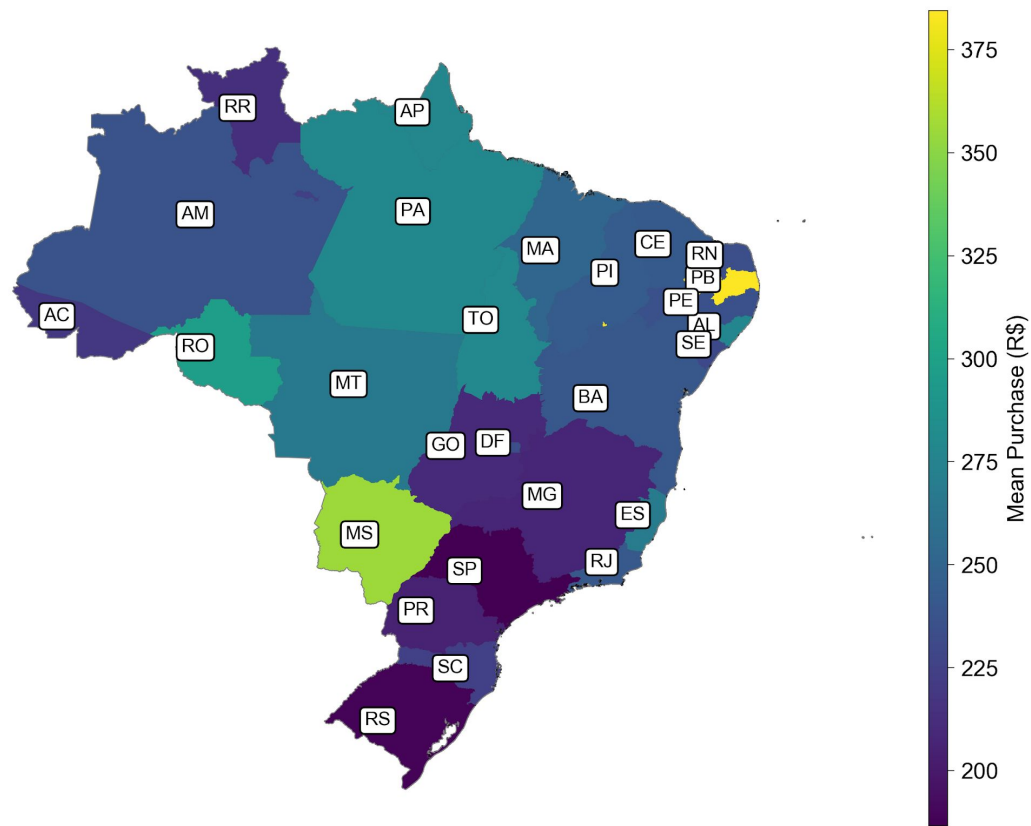
The probability of selling increases during Black Friday. This increase seems to happen for products that already sell well. When comparing the average probability of the top 50 products sold during BF we cannot reject the hypothesis that they are similar to the global top 50 products ( $p = 0.16$ )

# Customer profiles by state



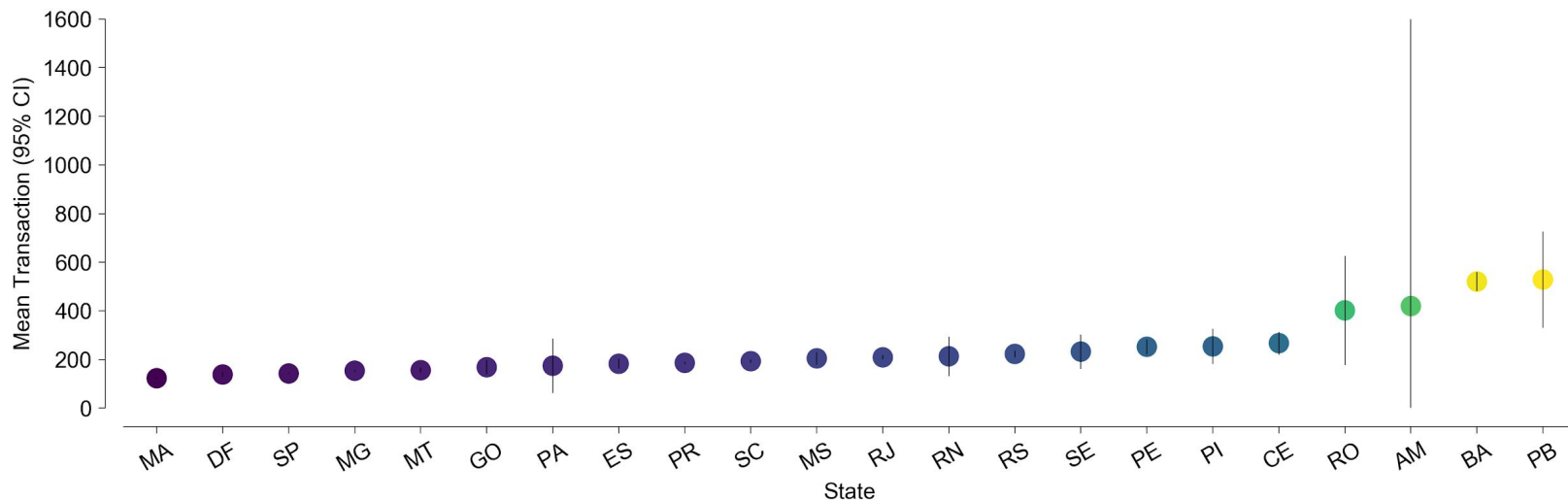
The average customer that spends the most (per order) comes from Paraíba, while the one that spend the least is in São Paulo.

# Customers



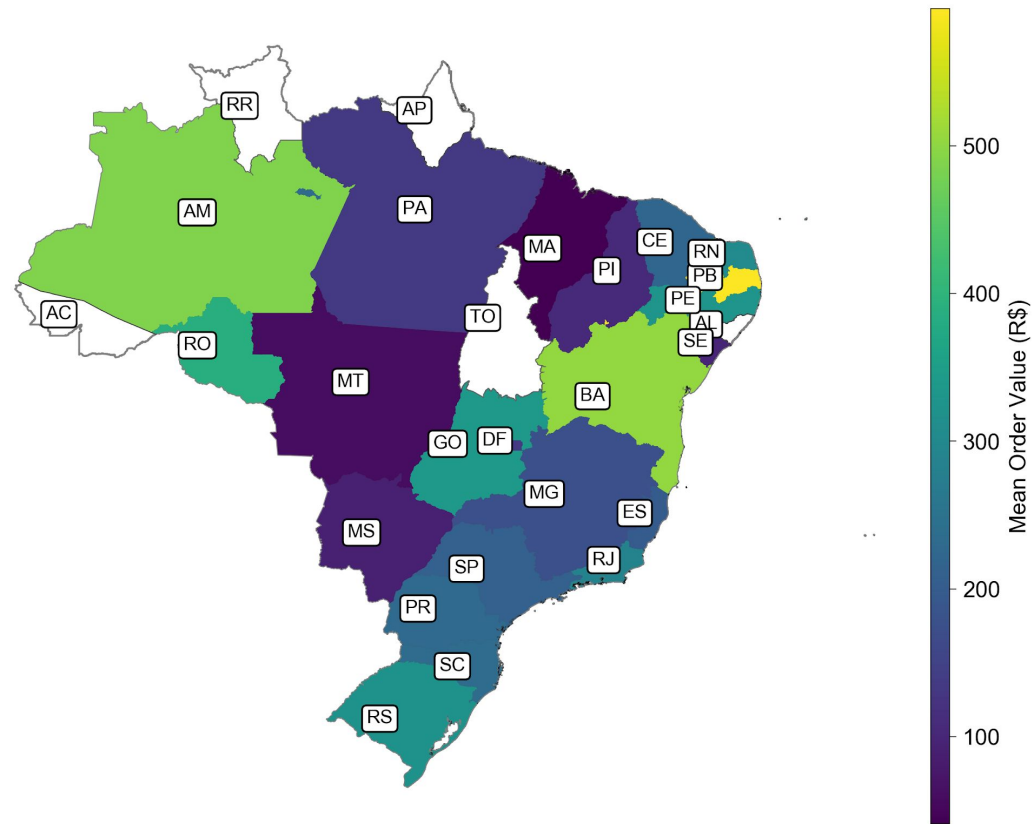


# Seller profiles by state



The average shop that sells the most (per order) comes from Paraiba, while the one that sells the least is in Maranhão.

# Sellers



# Conclusions

- Olist makes more money by selling **midrange products** frequently.
- There's a spike in orders that coincides with Black Friday. **This leads to artifacts in the seasonal component.** But there's a significant positive trend in the overall number of orders.
- The **probability of selling increases during Black Friday.** This increase seems to happen for **products that already sell well.**
- The highest market is in Paraíba