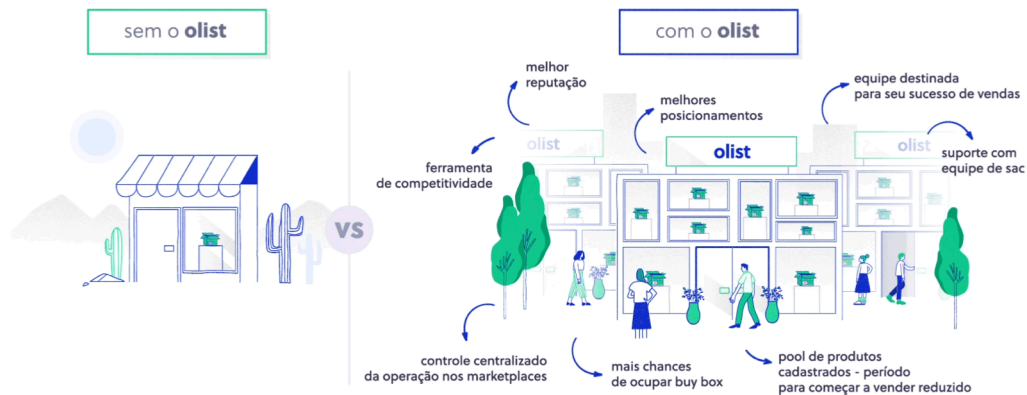# Capstone 3: olist ecommerce analysis

Insights for ecommerce in Brazil

olist

- Ecommerce/marketplaces
- Brazil
- Founded in 2015
- Mission: To connect merchants and products to main marketplaces via online e-commerce site
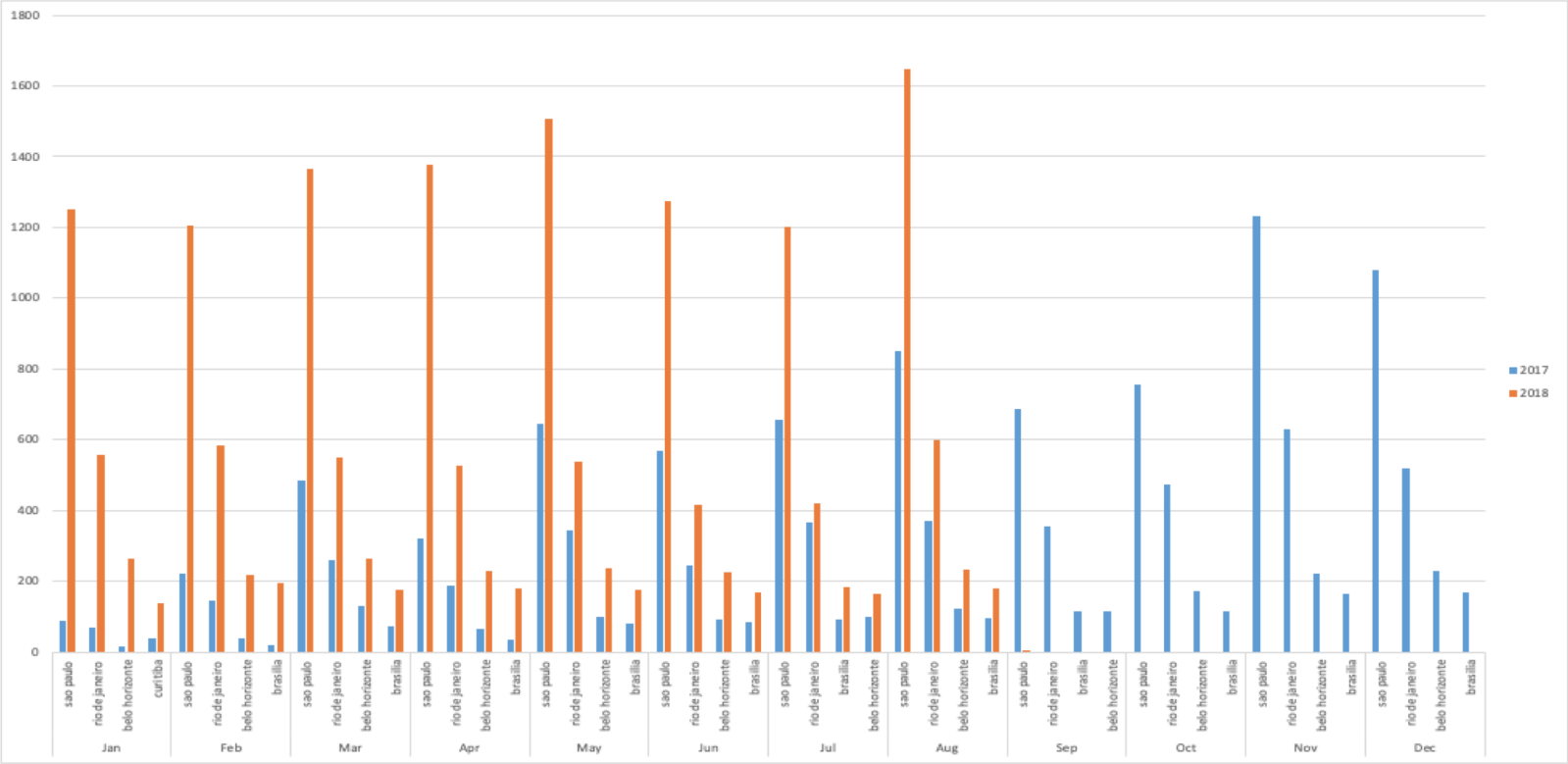
Task

- Prepare
  - Clean data set for analysis
- Explore
  - Perform exploratory analysis to identify high-level trends
- Predict
  - Estimate cumulative 6 month revenue from a new customer
- Interpret
  - Share insights
  - Identify next steps

- Tools
  - Python
  - Excel
  - Numpy
  - Pandas
  - matplotlib.pyplot
  - statsmodels.formula.api

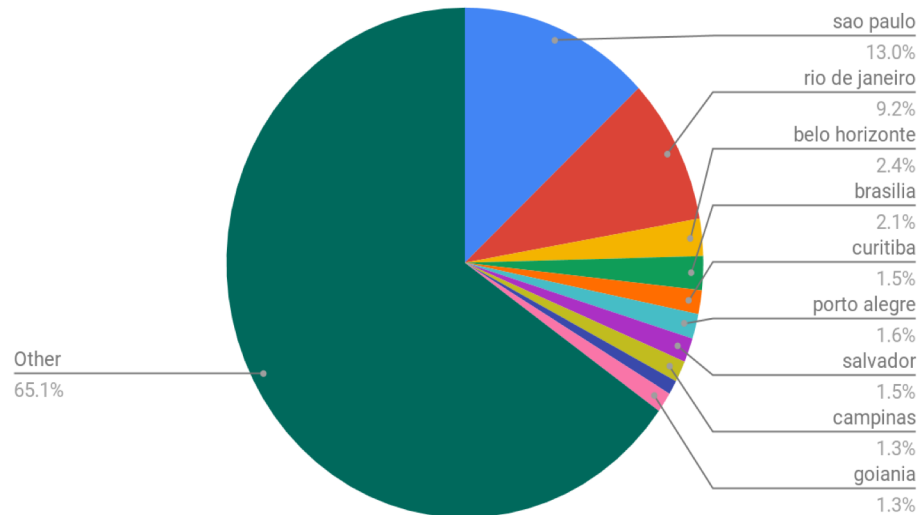# Total orders per month by city (1/2017 – 8/2018)

Total revenue and growth by city (1/2017-8/2018)

City	2017	2018	Total	Growth
Sao Paulo	1,124,962.42	1,672,148.11	2,797,110.53	33%
Rio de Janeiro	798,202.97	751,826.23	1,550,029.20	-6%
Belo Horizonte	204,419.09	289,157.61	493,576.70	29%
Brasilia	185,638.65	240,165.95	425,804.60	23%
Curitiba	130,592.68	191,572.67	322,165.35	32%
Porto Alegre	135,976.66	163,737.53	299,714.19	17%
Salvador	132,737.65	155,317.04	288,054.69	15%
Campinas	116,714.81	147,215.19	263,930.00	21%
Guarulhos	77,504.01	123,781.92	201,285.93	37%
Goiania	111,029.86	87,187.45	198,217.31	-27%
Other	5,636,384.75	6,777,127.76	12,413,512.51	17%

Revenue by city

São Paulo   13%
Rio de Janeiro   9%

2018

City	Percentage
sao paulo	13.0%
rio de janeiro	9.2%
belo horizonte	2.4%
brasilia	2.1%
curitiba	1.5%
porto alegre	1.6%
salvador	1.5%
campinas	1.3%
goiania	1.3%
Other	65.1%

Revenue by city

City	2017	2018	Growth
São Paolo	1,124,962.42	1,672,148.11	33%
Rio de Janeiro	798,202.97	751,826.23	(0.06%)

Order count by city

City	2017	2018	Growth
São Paulo	7,583.00	10,831.00	30%
Rio de Janeiro	3,964.00	4,188.00	5%

Monthly recurring revenue (MRR)

- MRR is the monthly recurring revenue generated from new customers
- Method: Average revenue per account method (ARPA)
  - Calculate the total revenue generated by all customers during the month
  - Determine the average monthly amount paid by all customers
  - Multiply the average by the total number of customers

*MRR = ARPA * Total # of Customers*

Monthly recurring revenue (MRR)

MRR = the sum of the payments for all customers during a 6 month period

How it works?

If you sold X amount from January - June 2017,
then assume sales would be the same from July - December

olist: 6-month recurring revenue (Jan-Jun 2018)

City	Total Customers	Average payment per customer	Total Amount
São Paolo	8261	70	581,302.65
Rio de Janeiro	26989	47	1,255,947.70

Insights

There are greater implications for sales if this trend continue.
- Why are some cities outperforming others?
  - Nearly 3x as many customers in Sao Paulo as in Rio yet population is only 2x larger
- Why is growth in some major cities below the average rate?
  - Rio de Janeiro   - 6% change
  - Goiania, Growth   -27% change

Insights

City	Total Customers	Average payment per customer	Total Amount
São Paolo	8261	70	581,302.65
Rio de Janeiro	26989	47	1,255,947.70

Takeaways

- Focus on Sao Paolo to identify factors contributing to higher growth
- Take a step back and examine broader trends in Rio de Janeiro - competitors? Amazon Brazil?
- Next steps: more python and predictive modeling