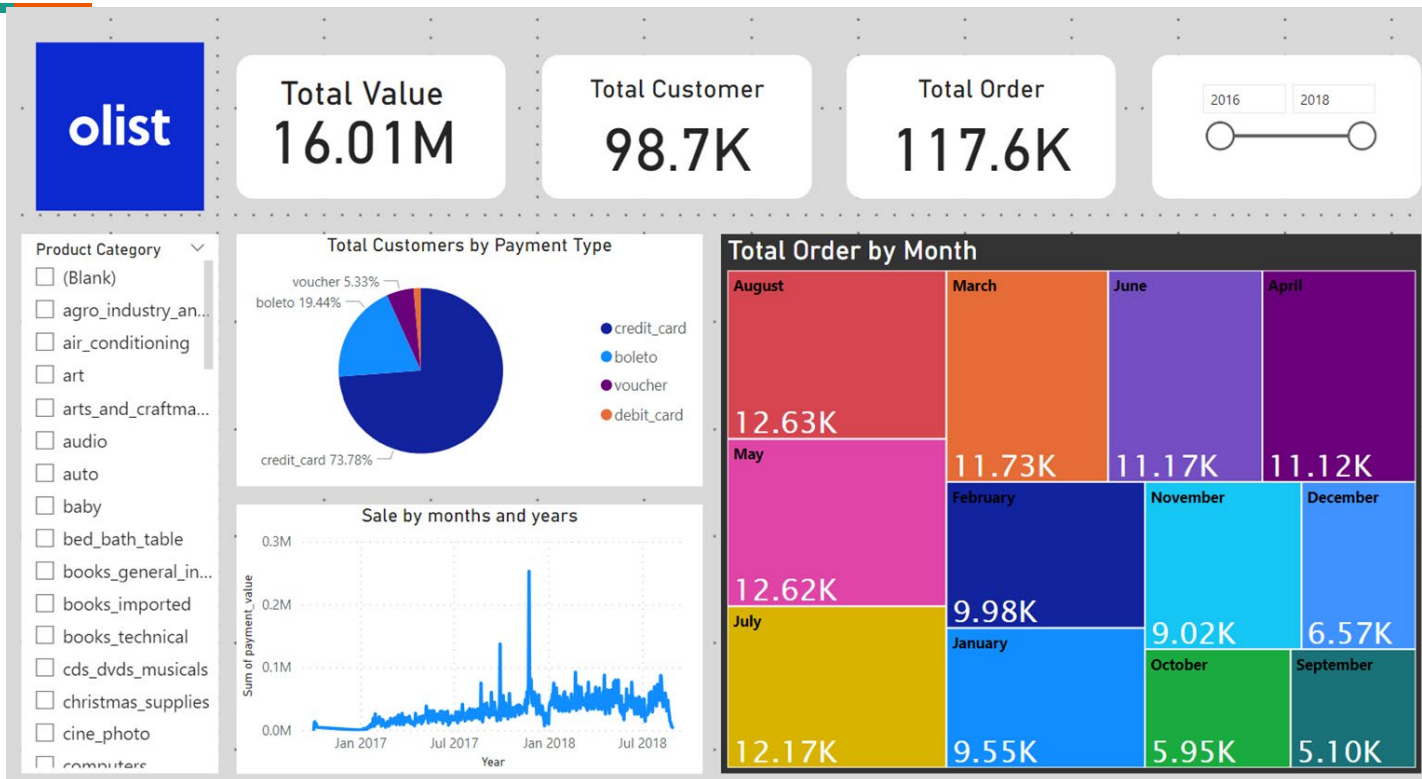# Final Project
Olist E-commerce

Team Orange

Overview

Overview

Olist is a Brazilian technology company that provides an online marketplace

Founded in 2015

Wide customer base

RFM

olist

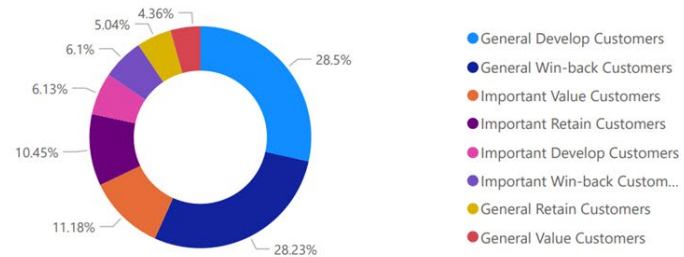**R**ecency – *How recently did the customer purchase?*
Frequency – *How often do they purchase?*
**M**onetary Value – *How much do they spend?*

customer_class	Sum of F	%GT Sum of M
General Develop Customers	32784	15.34%
General Retain Customers	5802	1.50%
General Value Customers	5010	1.38%
General Win-back Customers	32469	14.92%
Important Develop Customers	7054	15.28%
Important Retain Customers	12018	17.77%
Important Value Customers	12864	18.75%
Important Win-back Customers	7014	15.07%

customer_class	Average of R	Average of F	Average of M
Important Retain Customers	359.79	2.67	780.85
Important Value Customers	112.74	2.70	778.09
Important Develop Customers	110.12	1.00	428.21
Important Win-back Customers	366.71	1.00	424.92
General Value Customers	113.11	2.24	121.51
General Retain Customers	370.32	2.31	117.80
General Develop Customers	111.02	1.00	92.51
General Win-back Customers	362.96	1.00	90.84

Sum of F by customer_class

- 28.5% General Develop Customers
- 28.23% General Win-back Customers
- 11.18% Important Value Customers
- 10.45% Important Retain Customers
- 6.13% Important Develop Customers
- 6.1% Important Win-back Custom...
- 5.04% General Retain Customers
- 4.36% General Value Customers

%GT Sum of M by customer_class

Important Value Customers	18.75%
Important Retain Customers	17.77%
General Develop Customers	15.34%
Important Develop Customers	15.28%
Important Win-back Custom...	15.07%
General Win-back Customers	14.92%
General Retain Customers	1.50%
General Value Customers	1.38%
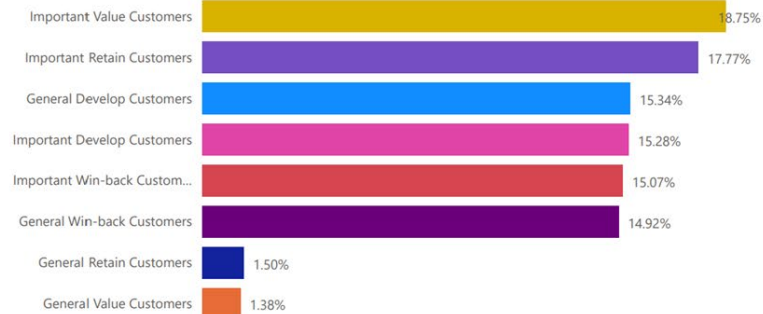
RFM

Recency (R): Recency represents the time interval since the customer's most recent transaction. A lower R value indicates a more recent transaction, suggesting an active customer, while a higher R value indicates a transaction occurred further in the past, indicating a less active customer.

Frequency (F): Frequency represents the number of transactions made by the customer within a given period. A higher F value indicates a higher transaction frequency, implying a loyal and active customer, while a lower F value suggests fewer transactions and lower customer activity.

Monetary (M): Monetary represents the total value of the customer's transactions within a given period. A higher M value indicates a higher monetary value, indicating a high-value customer, while a lower M value suggests lower transaction amounts and a lower-value customer.

Recommendation

RFM can separate important customers from general customers, so that targeted discounts can be made. Important customers can strengthen discounts, and you can also learn about their purchasing habits to promote products.

Discounts can include price reductions when purchasing a certain amount, etc.

General customers can offer free shipping for purchases over a certain amount to stimulate their desire to consume.

They can also invite friends to get discounts and so on to attract new customers to join. This increases customer satisfaction and revenue.

Sales

Sales

Top Sales City:Sao Paulo, Rio De Janeiro

   X-axis: City, Y-axis: Total value

Creat a new table, groupby customer unique id, creat two new column with the first time purchase day and the last time purchase day. To distinct the new and old customer.

   New customer trend increase every year. Good phenomenon.

   More than 97% are first time customer, company should develop on revenue with old customer .
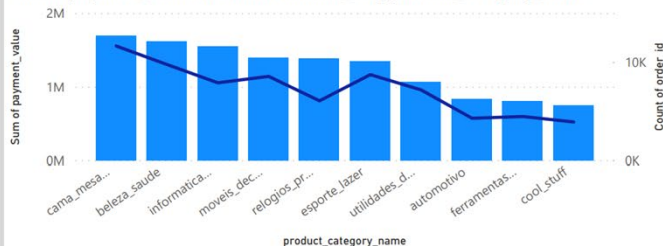
Product
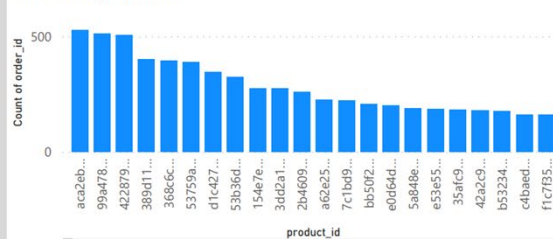

Sum of Payment Value: **16.01M**

No. of Transaction: **135K**

Average Price: **120.65**

**Sum of payment_value and Count of order_id by product_category_name**

Best Selling Product

product_category_name_english	Count of order_id	Sum of payment_value	Average of pric
bed_bath_table	11649	1,692,557.09	92.5
health_beauty	9761	1,620,868.35	130.2
computers_accessories	7897	1,549,252.47	116.3
furniture_decor	8553	1,393,972.04	87.1
watches_gifts	6063	1,387,046.31	200.0
sports_leisure	8731	1,349,194.08	113.4
housewares	7170	1,069,528.09	90.3
auto	4283	833,610.84	140.7
garden_tools	4463	810,460.70	110.3
Total	**115015**	**19,773,076.13**	**120.0**

Best Revenue Product
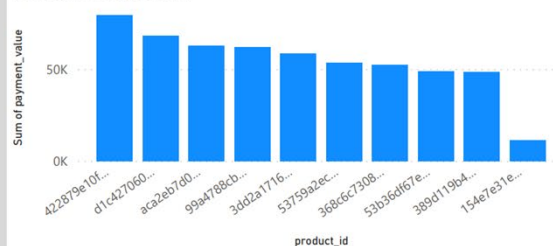
Sales

Most revenue product is d1c4…, most selling product is aca2….

X-axis : product, Y-axis: count of order id and sum of revenue

Best revenue product is health_beauty, watches_gifts, bed_bath_table

The most order item is bed_bath_table, health_beauty, sports_leisure

The most expensive price is watches_gifts, cool_stuff, auto

Use table to observe the result

Customer habits

Customer habits

The most selling day is 24 Nov 2017. Because this day is black friday.

Customer willing to purchase in 9am to 10pm. Both revenue and no. of item are in the peak during these hour.

Customer willing to purchase in Monday to Friday. The no. of order is the highest in Monday. And the no. of order are significant lower in Saturday and Sunday

Almost 74% customer are willing to pay via credit card, the second is boleto.

Delivery

olist

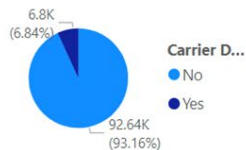| Avg. Processing Time	Avg. Order Processing Time	Max of duration	Average of Duration
625	11.98	175	13.51

order_status	Count of order_status
approved	2
created	5
processing	301
invoiced	314
unavailable	609
canceled	625
shipped	1107
delivered	96478
Total	**99441**

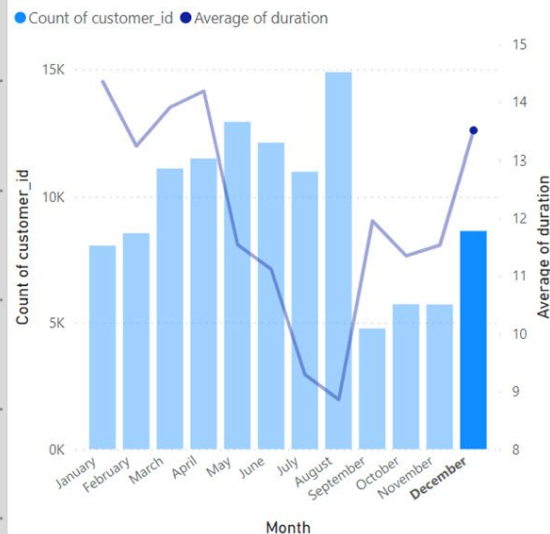### Delay Rate By Carrier

6.8K
(6.84%)

Carrier D...
● No
● Yes

92.64K
(93.16%)

Count of customer_state, Average of duration and Average of duration by customer_state

● Count of customer_state ● Average of duration
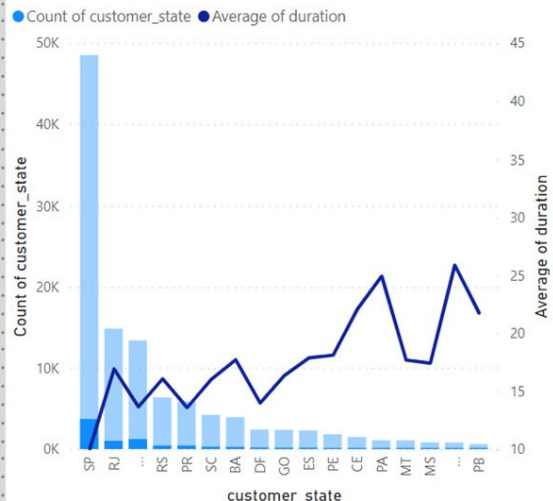
Count of customer_id and Average of duration by Month

● Count of customer_id ● Average of duration

Delivery

- Achieved a 97% delivery success rate out of a total of 99,441 orders
- Among the undelivered orders, 0.48% were due to sellers' late dispatch,
- 7.05% were caused by carrier delays, and 7.87% were delivered late.

Delivery

Recommandation:

Strengthen Delivery Speed: Work towards faster delivery times by reducing the time it takes for orders to reach customers.

Enhance Carrier Partnerships: Strengthen its relationships with reliable carriers to minimize delivery delays and provide a smoother customer experience.

Optimize Supply Chain Management: Improve coordination and collaboration with suppliers, carriers, and other stakeholders to optimize the supply chain and ensure timely and efficient delivery of products.
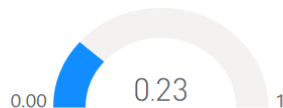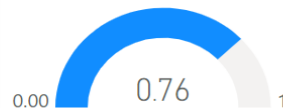
Sentiment Analysis

Sentiment Analysis
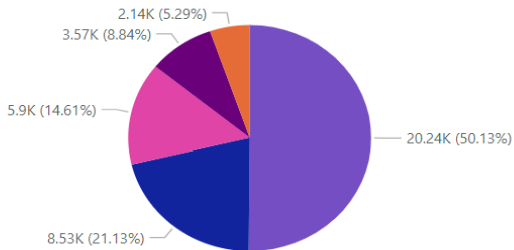
NLTK - Natural Language Toolkit

Vader SentimentAnalyser

Positive, Negative, Neutral, Compound

Sentiment Analysis

Performance Tracking

Address customer concerns

Reputation Management

Customer Engagement and Retention