Google Big Query / Data Studio
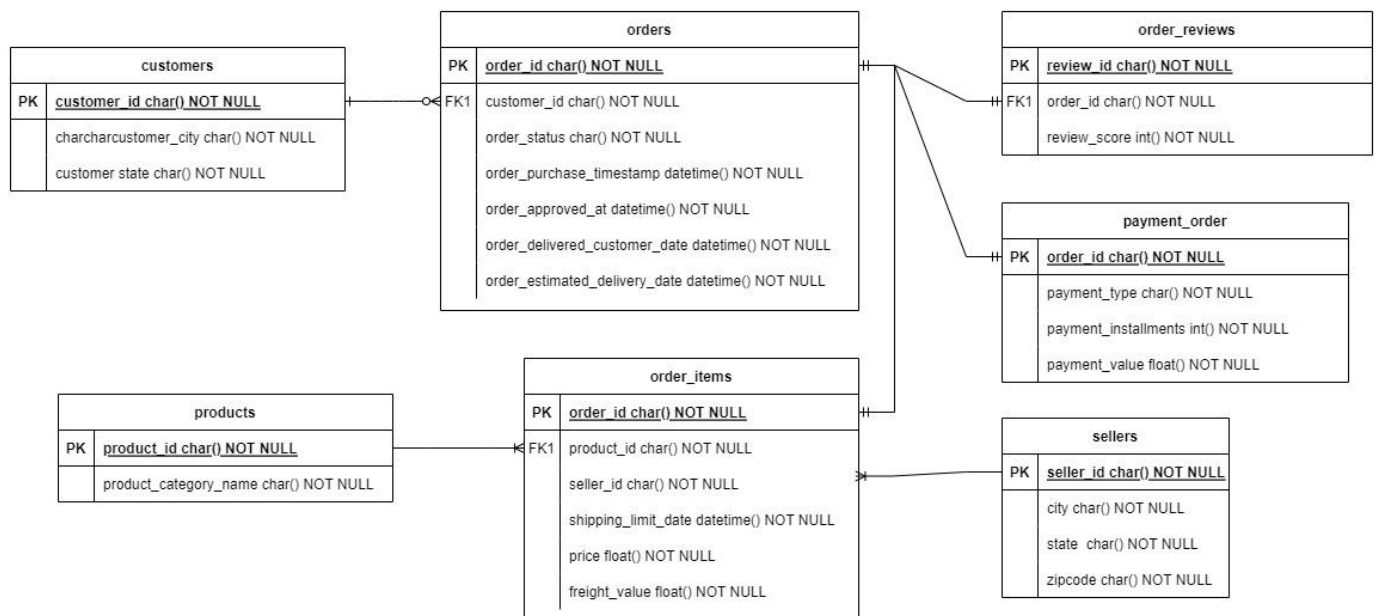# Olist eCommerce Analysis

Data

This is a Brazilian ecommerce public dataset of orders made at Olist Store. The dataset has information of 100k orders from 2016 to 2018 made at multiple marketplaces in Brazil.
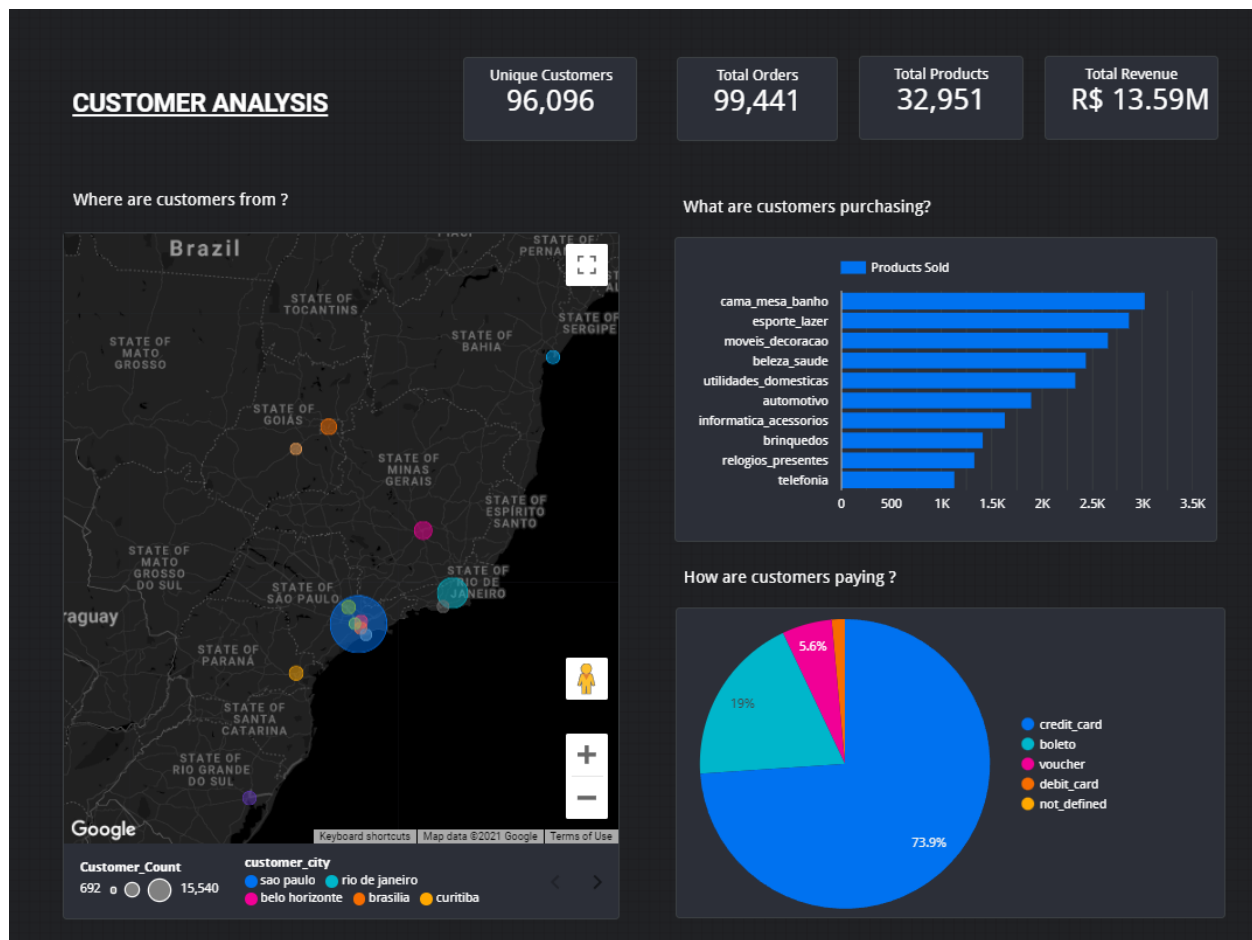
Source: https://www.kaggle.com/olistbr/brazilian-ecommerce

Data Model

Goal

The goal of the analysis is to help new sellers better understand Olist's existing customer base, delivery and logistics performance, product category analysis etc..
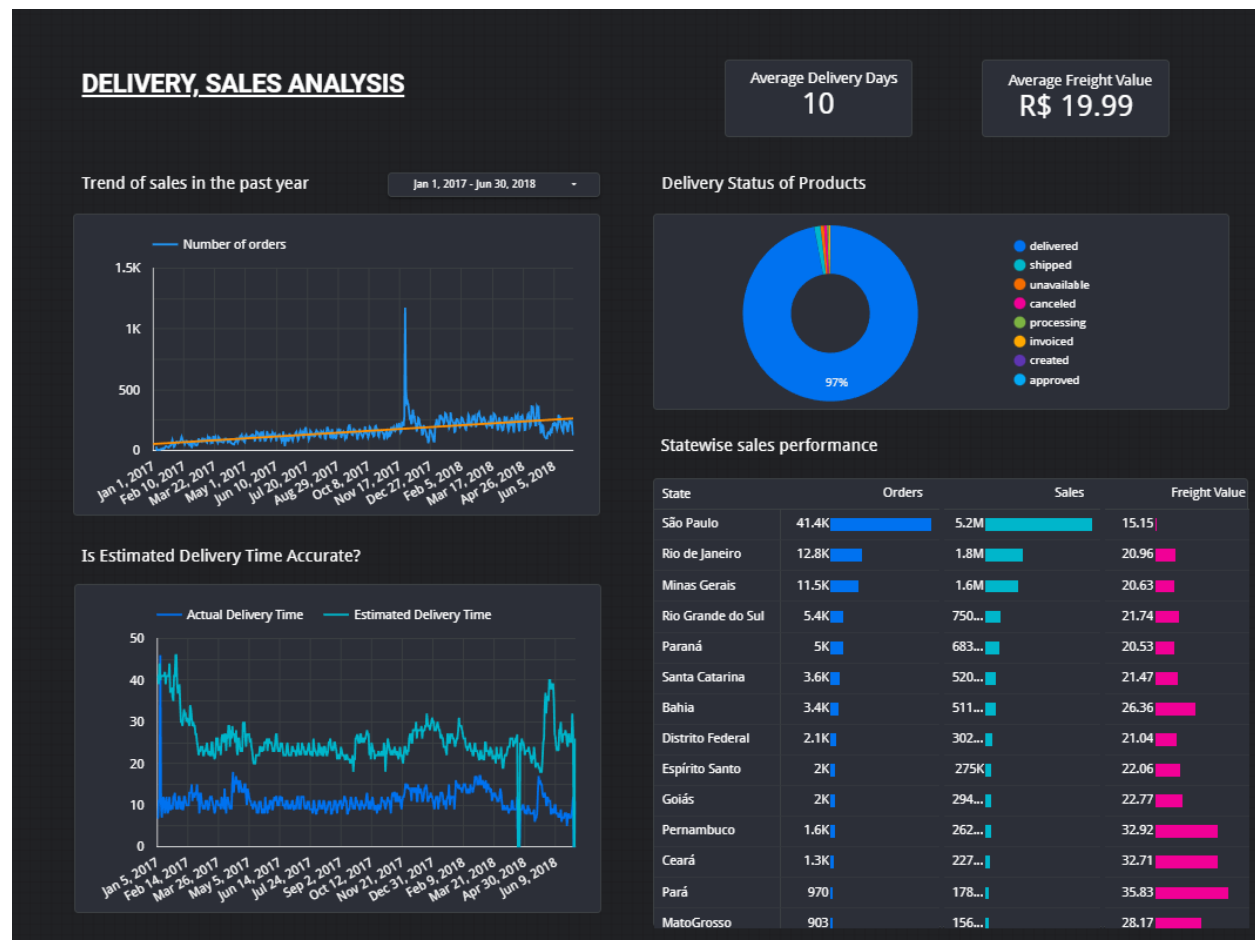
CUSTOMER ANALYSIS

Inference

- Most of the customers are from south and south east region.
- Almost ¾ of customers use card based payments, so giving them cashbacks could boost sales.

DELIVERY AND SALES ANALYSIS

Inference

- The maximum orders peaked during the holiday week (Thanksgiving)
- The number of orders has linearly increased over time.
- Products can be expected to be delivered before the estimated delivery date.
- 97% of the orders can be expected to be delivered to the customer.
- Sao Paulo is the state with highest revenue, highest orders, and lowest freight value. Having a warehouse in Sao Paulo can be highly cost effective.

SQL Queries:

```sql
SELECT
  string_field_1,
  COUNT(DISTINCT(oi.order_id)) AS orders,
  AVG(freight_value) AS freight_value,
  ROUND(SUM(oi.price),2) AS sales
```

```
FROM
  `mgs613bigquery.olist_ecommerce.customers` AS c
INNER JOIN
  `mgs613bigquery.olist_ecommerce.orders` AS o
ON
  o.customer_id = c.customer_id
INNER JOIN
  `mgs613bigquery.olist_ecommerce.order_items` AS oi
ON
  o.order_id = oi.order_id
INNER JOIN
  `mgs613bigquery.olist_ecommerce.state_name` AS sn
ON
  c.customer_state = sn.string_field_0
GROUP BY
  sn.string_field_1
ORDER BY
  orders DESC
```

PRODUCT CATEGORY ANALYSIS

Inference

- Most profitable product categories are Beauty products and Gift watches.
- Books are highly rated categories so ranking your products on them could be difficult.
- Office furniture and fashion menswear categories have poorly rated products so ranking and boosting your sales can be easy provided you provide good quality clothes.

SQL Queries:

```sql
SELECT
  product_category_name,
  AVG(review_score) AS rating
FROM
  `mgs613bigquery.olist_ecommerce.order_reviews` AS orr
INNER JOIN
  `mgs613bigquery.olist_ecommerce.order_items`AS oi
ON
  oi.order_id = orr.order_id
INNER JOIN
  `mgs613bigquery.olist_ecommerce.products` AS p
ON
  oi.product_id = p.product_id
GROUP BY
  product_category_name
HAVING
  COUNT(DISTINCT(oi.order_id)) > 100
ORDER BY
  rating DESC
LIMIT
  10;

SELECT
  product_category_name,
  ROUND(SUM(price),2) AS Sales
FROM
  `mgs613bigquery.olist_ecommerce.products` AS pd
JOIN
  `mgs613bigquery.olist_ecommerce.order_items`AS oi
ON
  pd.product_id = oi.product_id
GROUP BY
  product_category_name
ORDER BY
  Sales DESC
LIMIT
  10
```

CONCLUSION

- Most of the customers are from south and south east region.
- Almost ¾ of customers use card based payments, so giving them cashbacks could boost sales.
- More orders can be expected during holiday season.
- Products can be expected to be delivered before the estimated delivery date.
- Most profitable states are Sao Paulo and Rio De Janerio.
- Least profitable states are Paraiba and Roraima.
- Most profitable product categories are Beauty products and Gift watches.