Olist Store Analysis

Presented By Group 2

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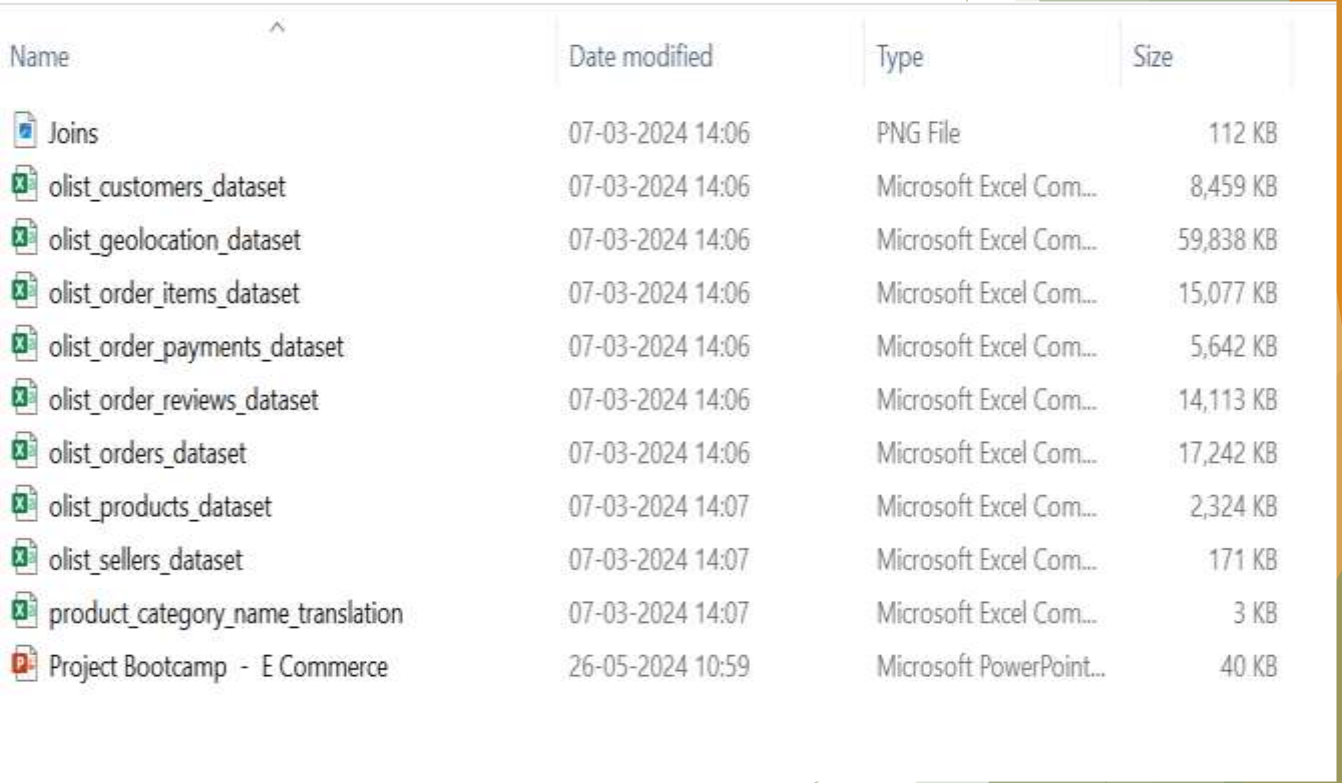
Data Set

- The Olist Store Analysis project focuses on understanding customer buying behaviors and payment statistics on the Olist e-commerce platform.
- It analyzes key performance indicators(KPI's) like weekday vs weekend sales, payment statistics, delivery times, and customer behavior.
- The analysis is based on nine CSV files, which are cleaned and manipulated to extract valuable insights.



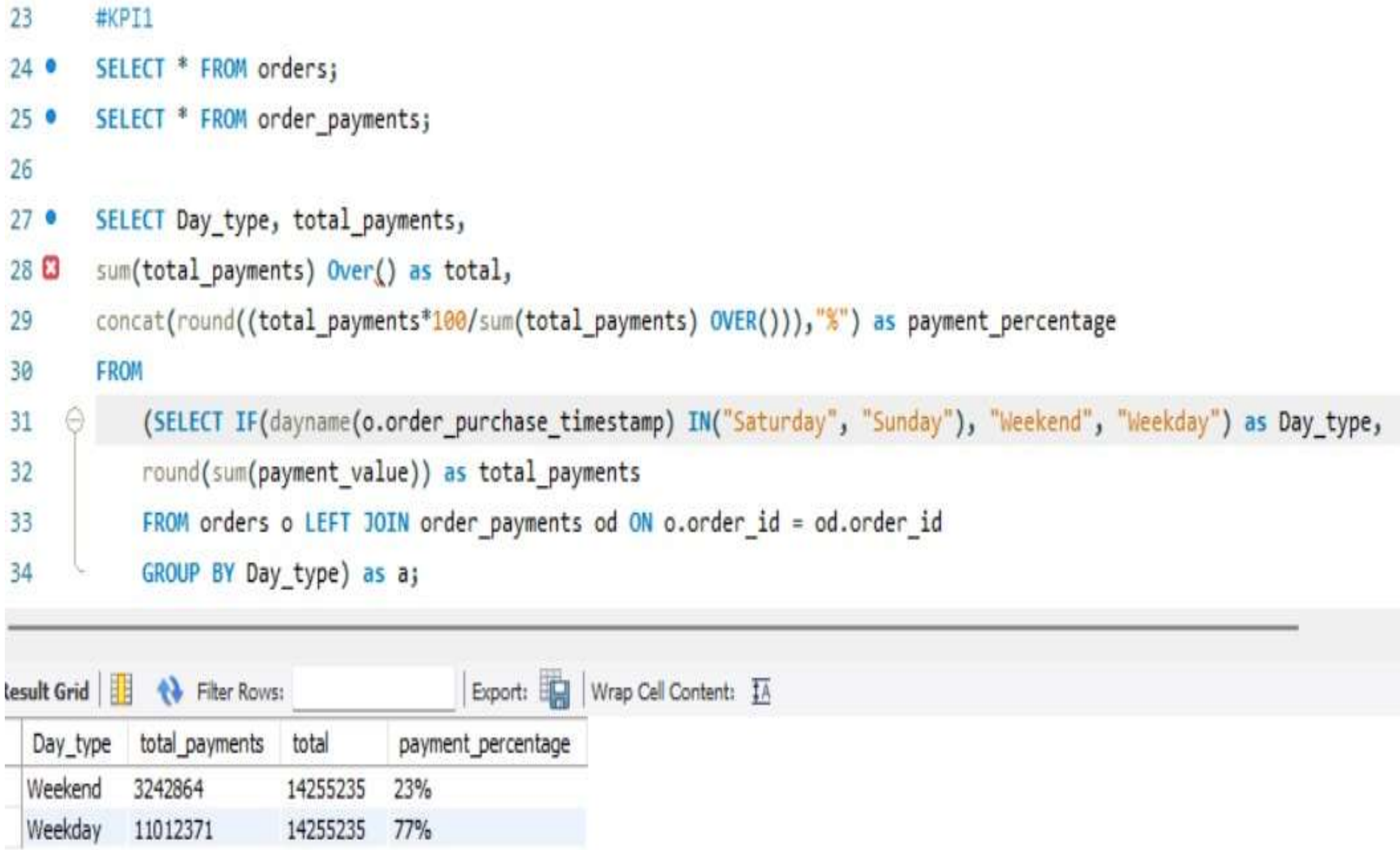
Name	Date modified	Type	Size
Joins	07-03-2024 14:06	PNG File	112 KB
olist_customers_dataset	07-03-2024 14:06	Microsoft Excel Com...	8,459 KB
olist_geolocation_dataset	07-03-2024 14:06	Microsoft Excel Com...	59,838 KB
olist_order_items_dataset	07-03-2024 14:06	Microsoft Excel Com...	15,077 KB
olist_order_payments_dataset	07-03-2024 14:06	Microsoft Excel Com...	5,642 KB
olist_order_reviews_dataset	07-03-2024 14:06	Microsoft Excel Com...	14,113 KB
olist_orders_dataset	07-03-2024 14:06	Microsoft Excel Com...	17,242 KB
olist_products_dataset	07-03-2024 14:07	Microsoft Excel Com...	2,324 KB
olist_sellers_dataset	07-03-2024 14:07	Microsoft Excel Com...	171 KB
product_category_name_translation	07-03-2024 14:07	Microsoft Excel Com...	3 KB
Project Bootcamp - E Commerce	26-05-2024 10:59	Microsoft PowerPoint...	40 KB

KPI-1

Weekday vs weekend payment statistics

Weekday Vs Weekend (order_purchase_timestamp) Payment Statistics

- ➢Helps to understand the customer buying behaviour.
- ➢Reveals which days have the highest sales.
- ➢Allows Olist to enhance weekdend sales and plan targeted promotions.



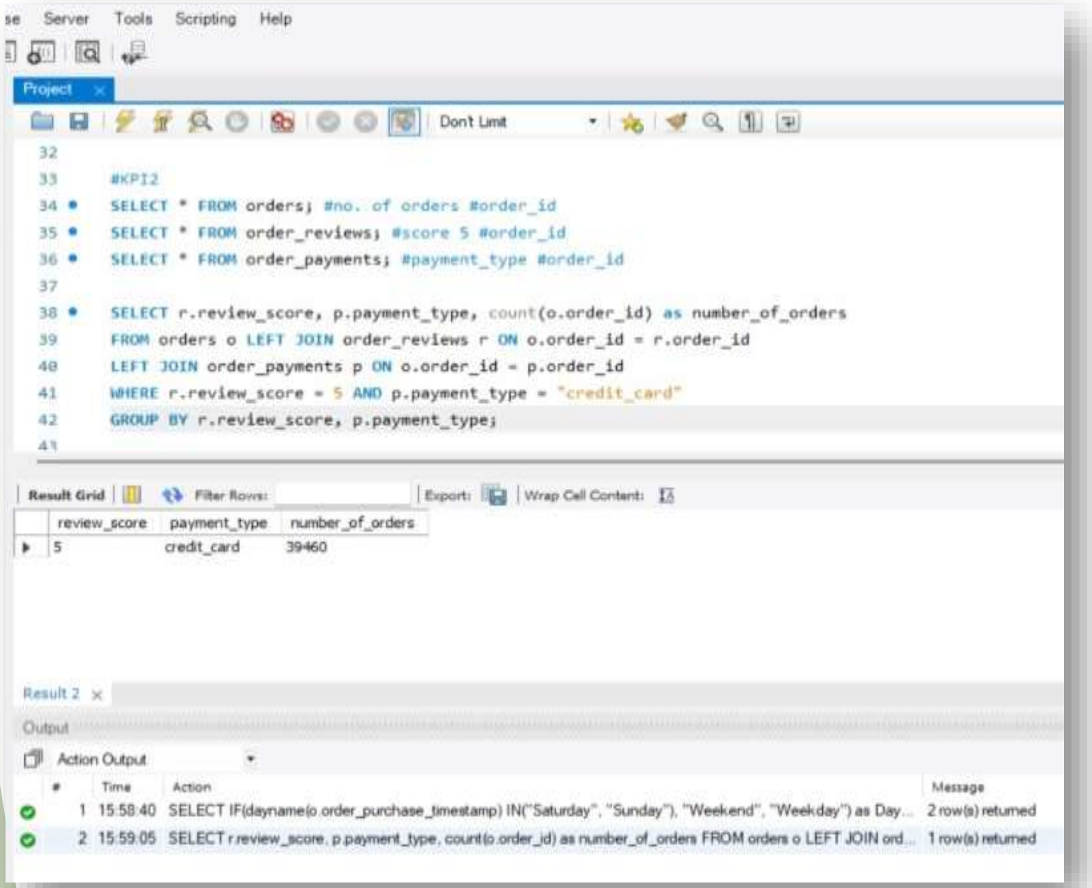
```
#KPI1
SELECT * FROM orders;
SELECT * FROM order_payments;

SELECT Day_type, total_payments,
sum(total_payments) Over() as total,
concat(round((total_payments*100/sum(total_payments) OVER())),"%") as payment_percentage
FROM
    (SELECT IF(dayname(o.order_purchase_timestamp) IN("Saturday", "Sunday"), "Weekend", "Weekday") as Day_type,
    round(sum(payment_value)) as total_payments
    FROM orders o LEFT JOIN order_payments od ON o.order_id = od.order_id
    GROUP BY Day_type) as a;
```

Day_type	total_payments	total	payment_percentage
Weekend	3242864	14255235	23%
Weekday	11012371	14255235	77%

KPI-2

Payment type with review score 5



```
#KPI2
SELECT * FROM orders; #no. of orders #order_id
SELECT * FROM order_reviews; #score 5 #order_id
SELECT * FROM order_payments; #payment_type #order_id

SELECT r.review_score, p.payment_type, count(o.order_id) as number_of_orders
FROM orders o LEFT JOIN order_reviews r ON o.order_id = r.order_id
LEFT JOIN order_payments p ON o.order_id = p.order_id
WHERE r.review_score = 5 AND p.payment_type = "credit_card"
GROUP BY r.review_score, p.payment_type;
```

review_score	payment_type	number_of_orders
5	credit_card	39460

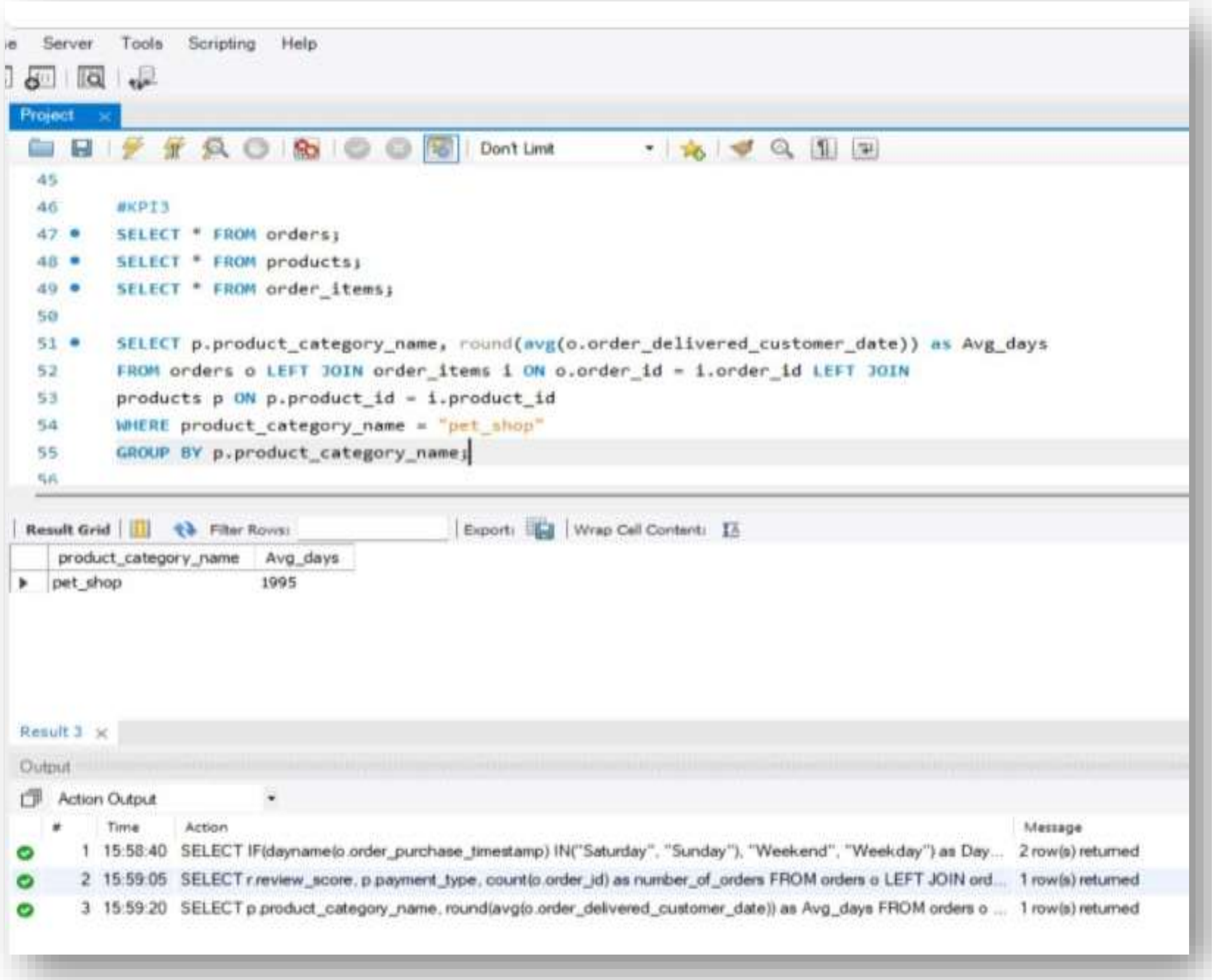
```
#  Time      Action                                                                                          Message
1  15:58:40  SELECT IF(dayname(o.order_purchase_timestamp) IN("Saturday", "Sunday"), "Weekend", "Weekday") as Day...  2 row(s) returned
2  15:59:05  SELECT r.review_score, p.payment_type, count(o.order_id) as number_of_orders FROM orders o LEFT JOIN ord...  1 row(s) returned
```

Number of Orders with Review score as 5 And payment type as Credit card

- ➢ Helps to understand customer satisfaction and payment preferences
- ➢ Allows the store to target satisfied customers for repeat purchases.

KPI-3

Average number of delivery days taken for pet shop



```sql
#KPI3
SELECT * FROM orders;
SELECT * FROM products;
SELECT * FROM order_items;

SELECT p.product_category_name, round(avg(o.order_delivered_customer_date)) as Avg_days
FROM orders o LEFT JOIN order_items i ON o.order_id = i.order_id LEFT JOIN
products p ON p.product_id = i.product_id
WHERE product_category_name = "pet_shop"
GROUP BY p.product_category_name;
```

product_category_name	Avg_days
pet_shop	1995

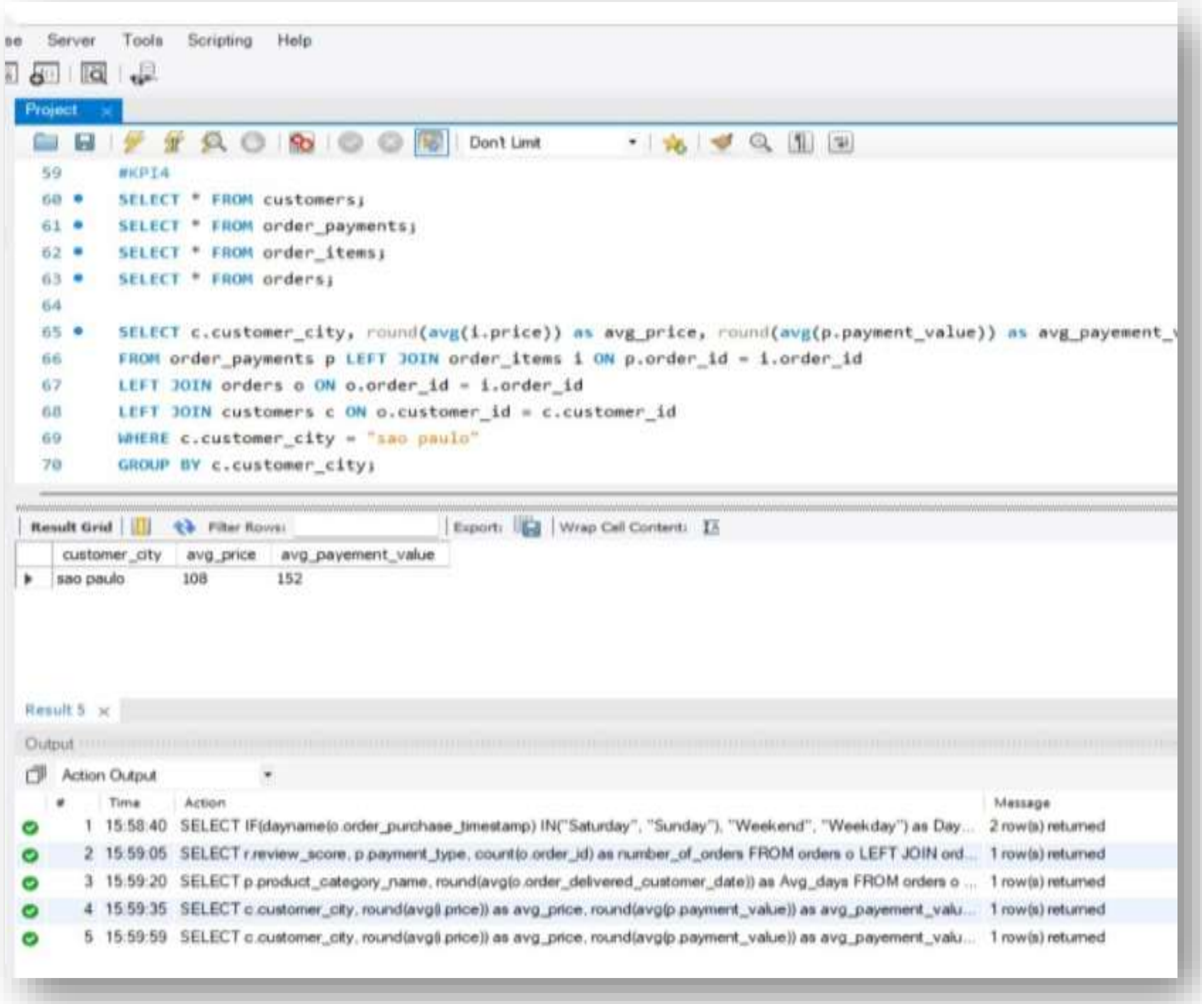
```
#  Time      Action                                                                                                  Message
1  15:58:40  SELECT IF(dayname(o.order_purchase_timestamp) IN("Saturday", "Sunday"), "Weekend", "Weekday") as Day...  2 row(s) returned
2  15:59:05  SELECT r.review_score, p.payment_type, count(o.order_id) as number_of_orders FROM orders o LEFT JOIN ord...  1 row(s) returned
3  15:59:20  SELECT p.product_category_name, round(avg(o.order_delivered_customer_date)) as Avg_days FROM orders o ...  1 row(s) returned
```

Average number of days taken for order_delivered_customer_date for pet_shop

- This KPI measures the average delivery time for pet shop orders.
- It helps Olist identify opportunities to improve delivery speed and maintain customer satisfaction.

KPI-4

Average price and payment value of Sao Paulo city.



```sql
#KPI4
SELECT * FROM customers;
SELECT * FROM order_payments;
SELECT * FROM order_items;
SELECT * FROM orders;

SELECT c.customer_city, round(avg(i.price)) as avg_price, round(avg(p.payment_value)) as avg_payement_v
FROM order_payments p LEFT JOIN order_items i ON p.order_id = i.order_id
LEFT JOIN orders o ON o.order_id = i.order_id
LEFT JOIN customers c ON o.customer_id = c.customer_id
WHERE c.customer_city = "sao paulo"
GROUP BY c.customer_city;
```

Result Grid | Filter Rows:

customer_city	avg_price	avg_payement_value
sao paulo	108	152

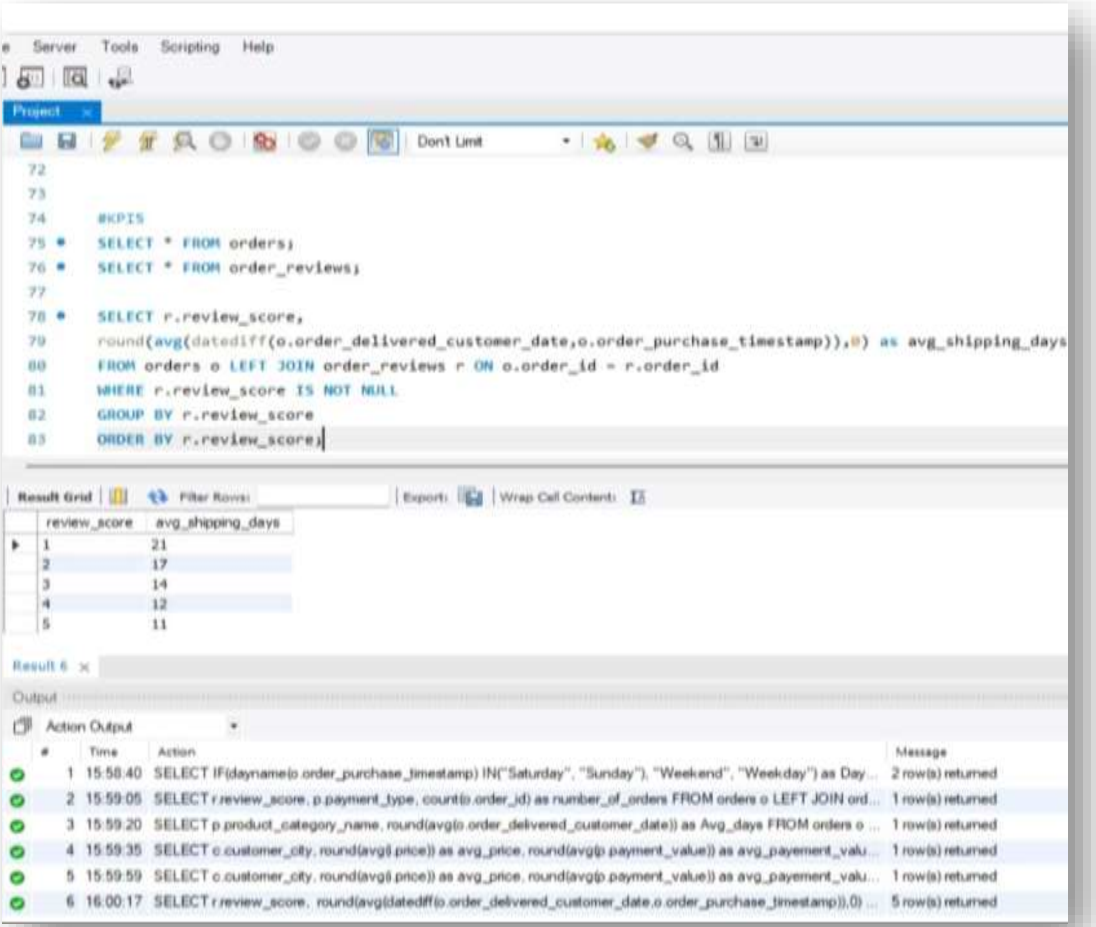
```
#  Time      Action                                                                                                       Message
1  15:58:40  SELECT IF(dayname(o.order_purchase_timestamp) IN("Saturday", "Sunday"), "Weekend", "Weekday") as Day...     2 row(s) returned
2  15:59:05  SELECT r.review_score, p.payment_type, count(o.order_id) as number_of_orders FROM orders o LEFT JOIN ord...  1 row(s) returned
3  15:59:20  SELECT p.product_category_name, round(avg(o.order_delivered_customer_date)) as Avg_days FROM orders o ...   1 row(s) returned
4  15:59:35  SELECT c.customer_city, round(avg(i.price)) as avg_price, round(avg(p.payment_value)) as avg_payement_valu...  1 row(s) returned
5  15:59:59  SELECT c.customer_city, round(avg(i.price)) as avg_price, round(avg(p.payment_value)) as avg_payement_valu...  1 row(s) returned
```

Average price and payment values from customers of sao paulo city

- Reveals their spending habits and purchasing power of customers.
- Helps the Olist to identify segments of high-value customers within this demographic.
- Olist can tailor marketing campaigns to effectively target these customers,to increase sales and customer loyalty.

KPI-5

Average shipping days vs review scores.



```
#KPIS
SELECT * FROM orders;
SELECT * FROM order_reviews;

SELECT r.review_score,
round(avg(datediff(o.order_delivered_customer_date,o.order_purchase_timestamp)),0) as avg_shipping_days
FROM orders o LEFT JOIN order_reviews r ON o.order_id = r.order_id
WHERE r.review_score IS NOT NULL
GROUP BY r.review_score
ORDER BY r.review_score;
```

review_score	avg_shipping_days
1	21
2	17
3	14
4	12
5	11

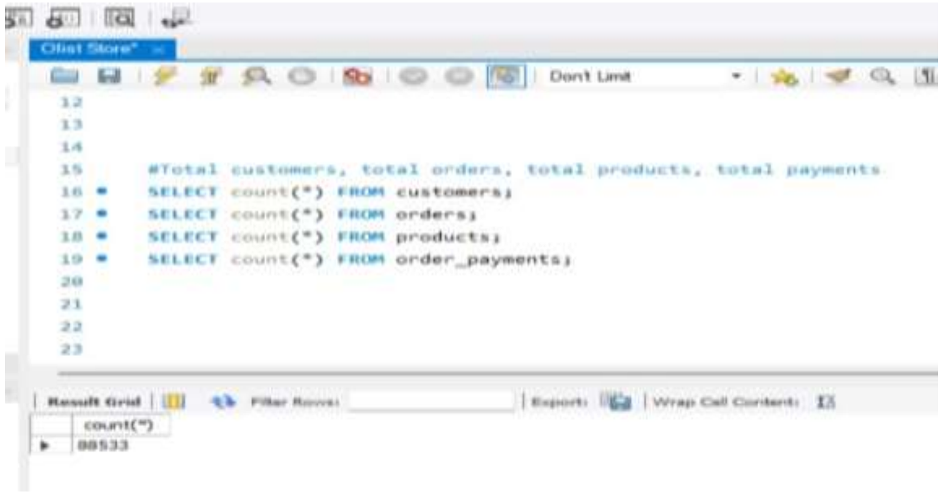
```
#  Time      Action                                                                                                   Message
1  15:58:40  SELECT IF(dayname(o.order_purchase_timestamp) IN("Saturday", "Sunday"), "Weekend", "Weekday") as Day ...  2 row(s) returned
2  15:59:05  SELECT r.review_score, p.payment_type, count(o.order_id) as number_of_orders FROM orders o LEFT JOIN ord...  1 row(s) returned
3  15:59:20  SELECT p.product_category_name, round(avg(o.order_delivered_customer_date)) as Avg_days FROM orders o ...  1 row(s) returned
4  15:59:35  SELECT c.customer_city, round(avg(i.price)) as avg_price, round(avg(p.payment_value)) as avg_payement_valu...  1 row(s) returned
5  15:59:59  SELECT c.customer_city, round(avg(i.price)) as avg_price, round(avg(p.payment_value)) as avg_payement_valu...  1 row(s) returned
6  16:00:17  SELECT r.review_score, round(avg(datediff(o.order_delivered_customer_date,o.order_purchase_timestamp)),0) ...  5 row(s) returned
```

Relationship between shipping days (order_delivered_customer_date_order_purchase_timestamp) Vs review scores.

- This KPI measures how shipping days, time taken between order placement and delivery, correlate with review scores.
- This helps how delivery speed influences customer satisfaction levels.

Additional Insights

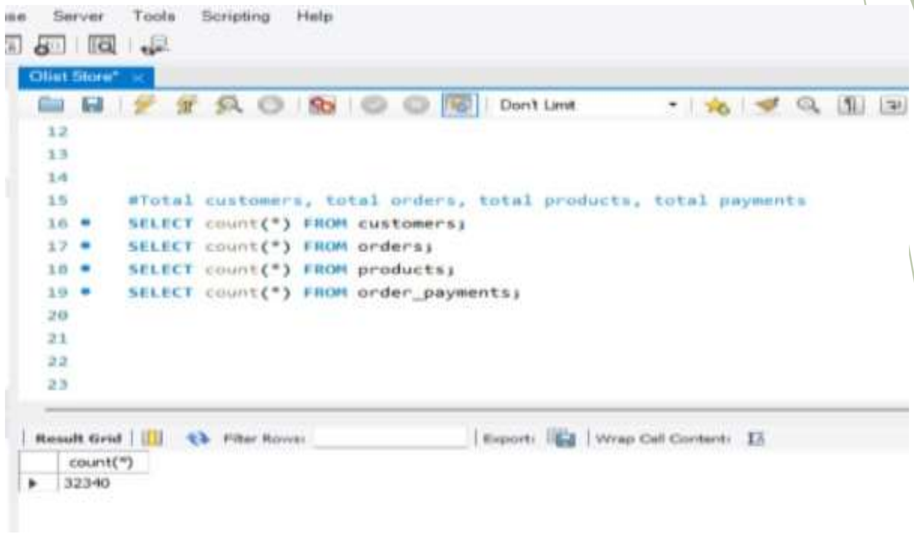
Total Orders



```
#Total customers, total orders, total products, total payments
SELECT count(*) FROM customers;
SELECT count(*) FROM orders;
SELECT count(*) FROM products;
SELECT count(*) FROM order_payments;
```

```
count(*)
88533
```

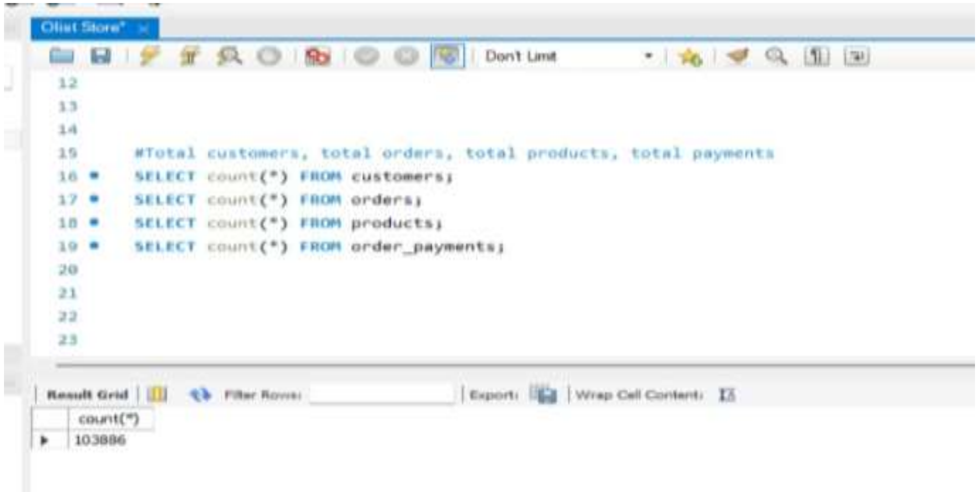
Total Products



```
#Total customers, total orders, total products, total payments
SELECT count(*) FROM customers;
SELECT count(*) FROM orders;
SELECT count(*) FROM products;
SELECT count(*) FROM order_payments;
```

```
count(*)
32340
```

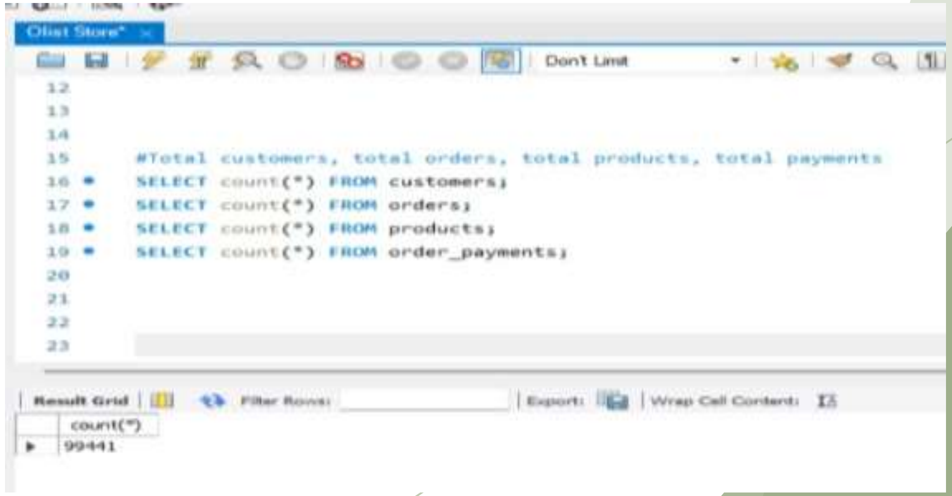
Total Payments



```
#Total customers, total orders, total products, total payments
SELECT count(*) FROM customers;
SELECT count(*) FROM orders;
SELECT count(*) FROM products;
SELECT count(*) FROM order_payments;
```

```
count(*)
103886
```

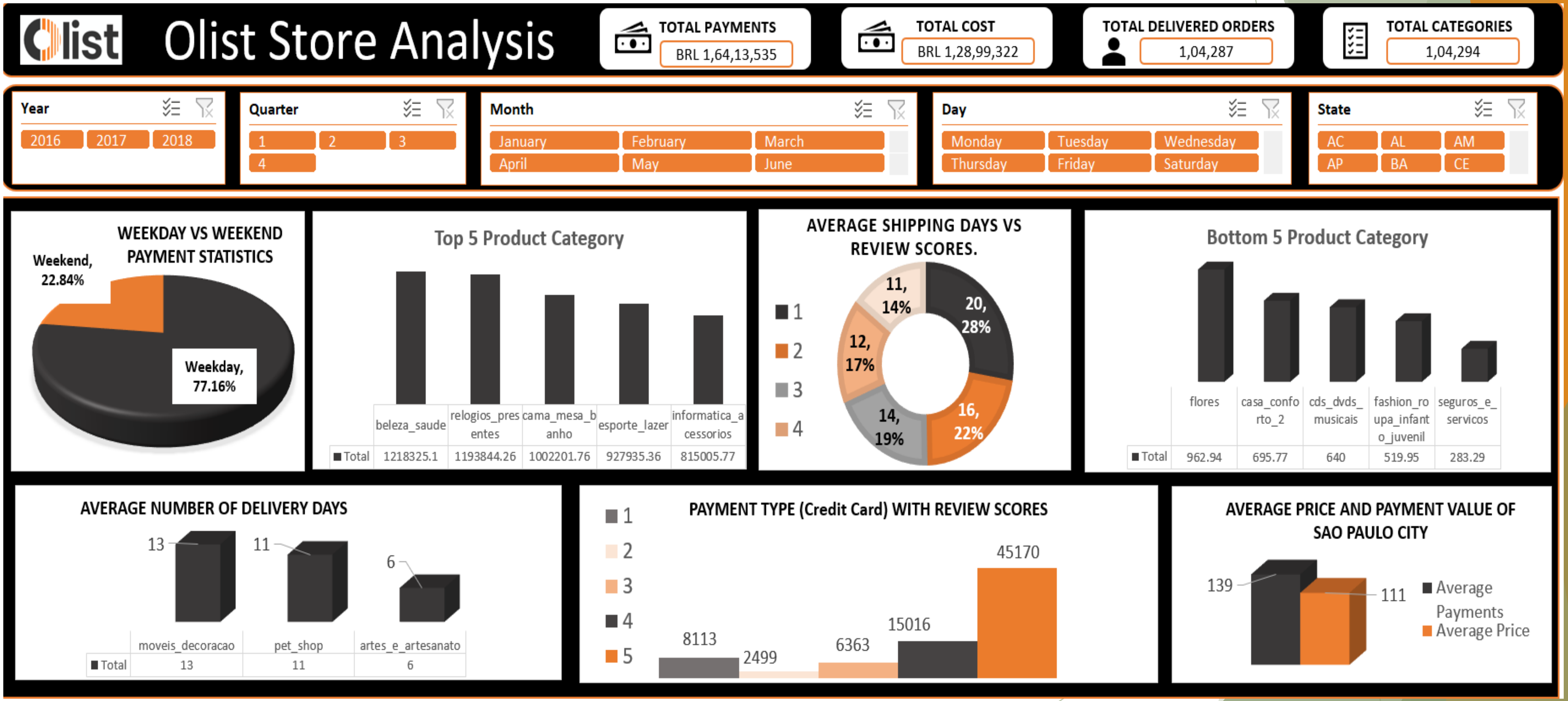
Total Customers



```
#Total customers, total orders, total products, total payments
SELECT count(*) FROM customers;
SELECT count(*) FROM orders;
SELECT count(*) FROM products;
SELECT count(*) FROM order_payments;
```

```
count(*)
99441
```

Excel Dashboard



Olist Store Analysis

TOTAL PAYMENTS	TOTAL COST	TOTAL DELIVERED ORDERS	TOTAL CATEGORIES
BRL 1,64,13,535	BRL 1,28,99,322	1,04,287	1,04,294

Year: 2016, 2017, 2018

Quarter: 1, 2, 3, 4

Month: January, February, March, April, May, June

Day: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

State: AC, AL, AM, AP, BA, CE

WEEKDAY VS WEEKEND PAYMENT STATISTICS

Top 5 Product Category

	beleza_saude	relogios_presentes	cama_mesa_banho	esporte_lazer	informatica_acessorios
■ Total	1218325.1	1193844.26	1002201.76	927935.36	815005.77

AVERAGE SHIPPING DAYS VS REVIEW SCORES.

Bottom 5 Product Category

	flores	casa_conforto_2	cds_dvds_musicais	fashion_roupa_infanto_juvenil	seguros_e_servicos
■ Total	962.94	695.77	640	519.95	283.29

AVERAGE NUMBER OF DELIVERY DAYS

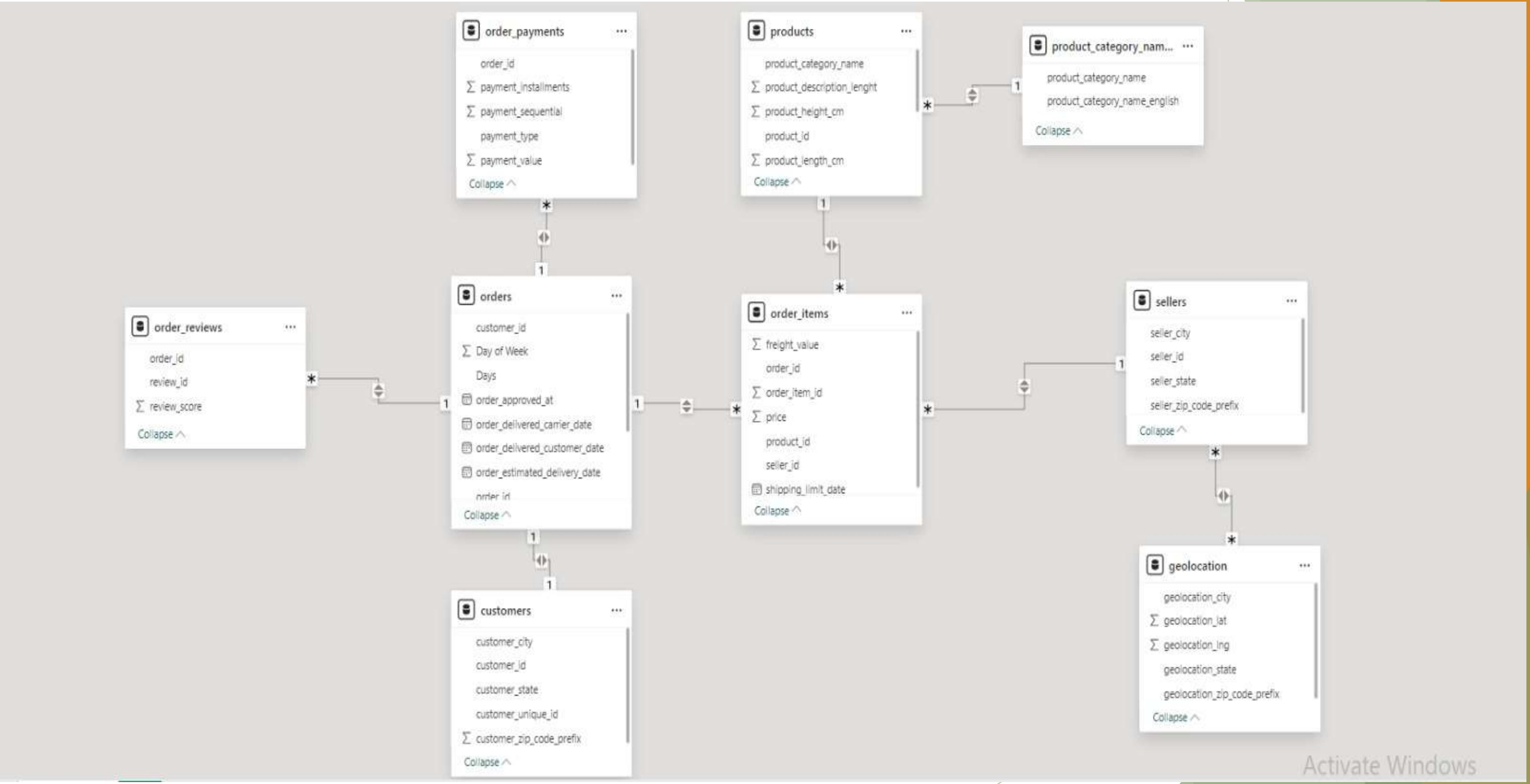
	moveis_decoracao	pet_shop	artes_e_artesanato
■ Total	13	11	6

PAYMENT TYPE (Credit Card) WITH REVIEW SCORES

AVERAGE PRICE AND PAYMENT VALUE OF SAO PAULO CITY

Power BI Data Modelling

Olist



order_payments
- order_id
- payment_installments
- payment_sequential
- payment_type
- payment_value

products
- product_category_name
- product_description_lenght
- product_height_cm
- product_id
- product_length_cm

product_category_nam...
- product_category_name
- product_category_name_english

order_reviews
- order_id
- review_id
- review_score

orders
- customer_id
- Day of Week
- Days
- order_approved_at
- order_delivered_carrier_date
- order_delivered_customer_date
- order_estimated_delivery_date
- order_id

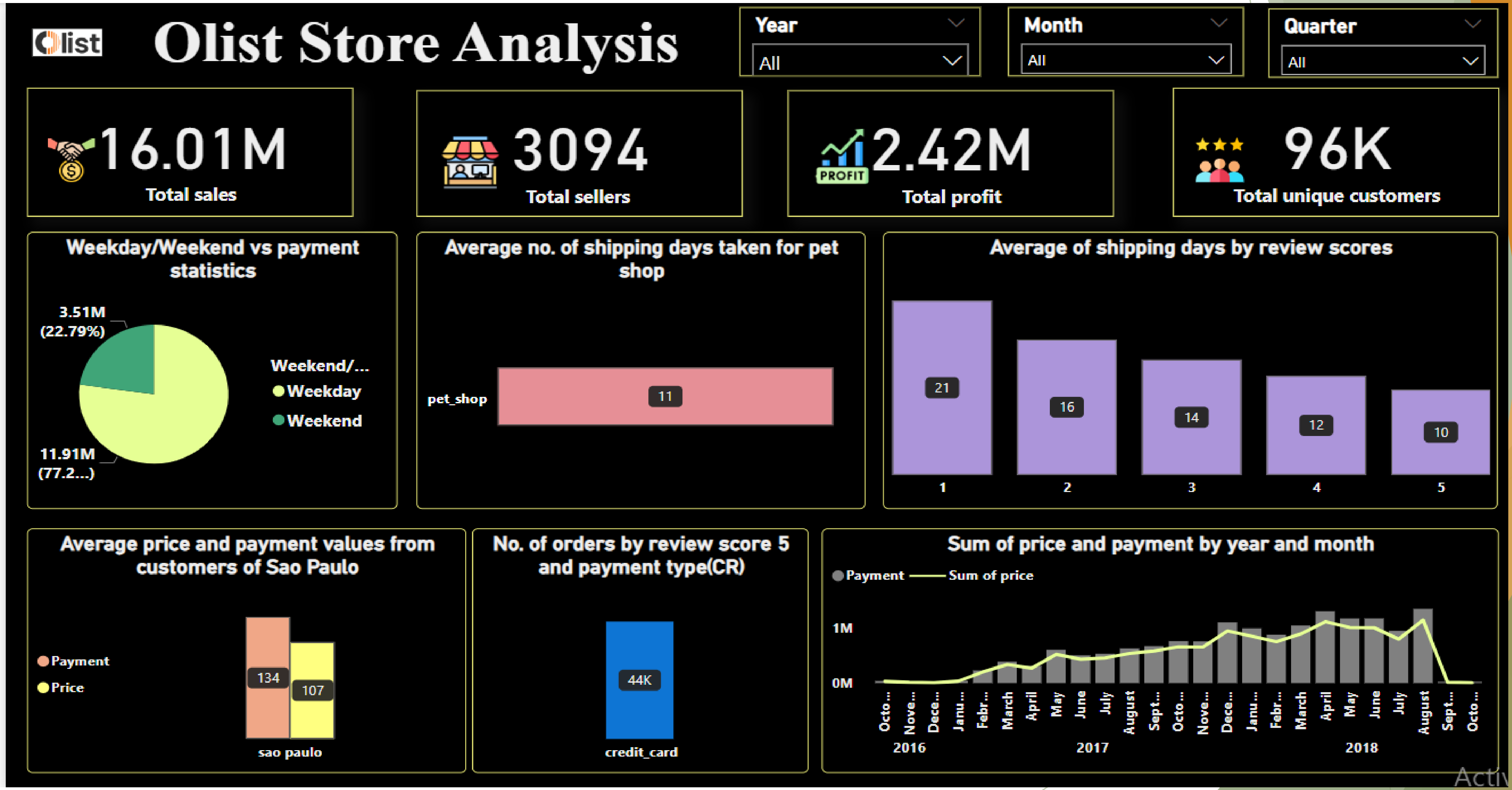
order_items
- freight_value
- order_id
- order_item_id
- price
- product_id
- seller_id
- shipping_limit_date

sellers
- seller_city
- seller_id
- seller_state
- seller_zip_code_prefix

customers
- customer_city
- customer_id
- customer_state
- customer_unique_id
- customer_zip_code_prefix

geolocation
- geolocation_city
- geolocation_lat
- geolocation_lng
- geolocation_state
- geolocation_zip_code_prefix

Power BI Dashboard



Olist Store Analysis

Year: All

Month: All

Quarter: All

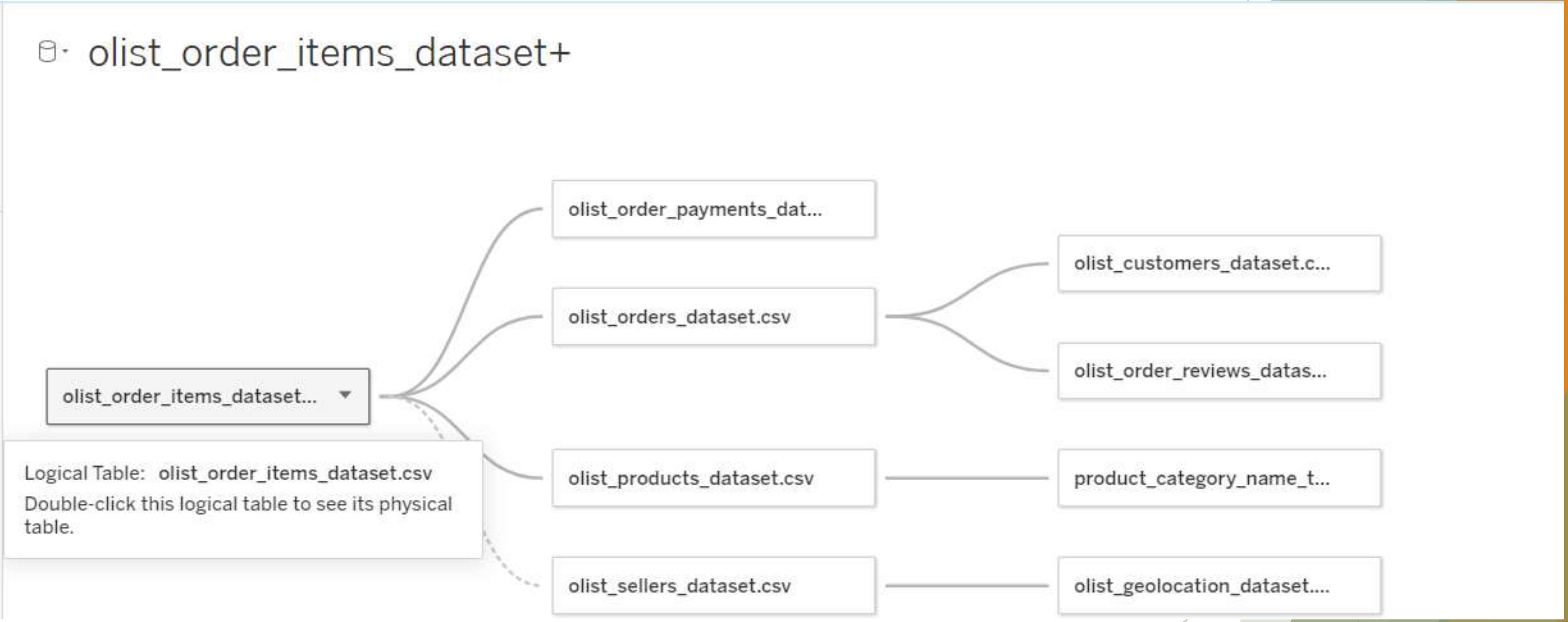
16.01M Total sales

3094 Total sellers

2.42M Total profit

96K Total unique customers

Tableau Dashboard



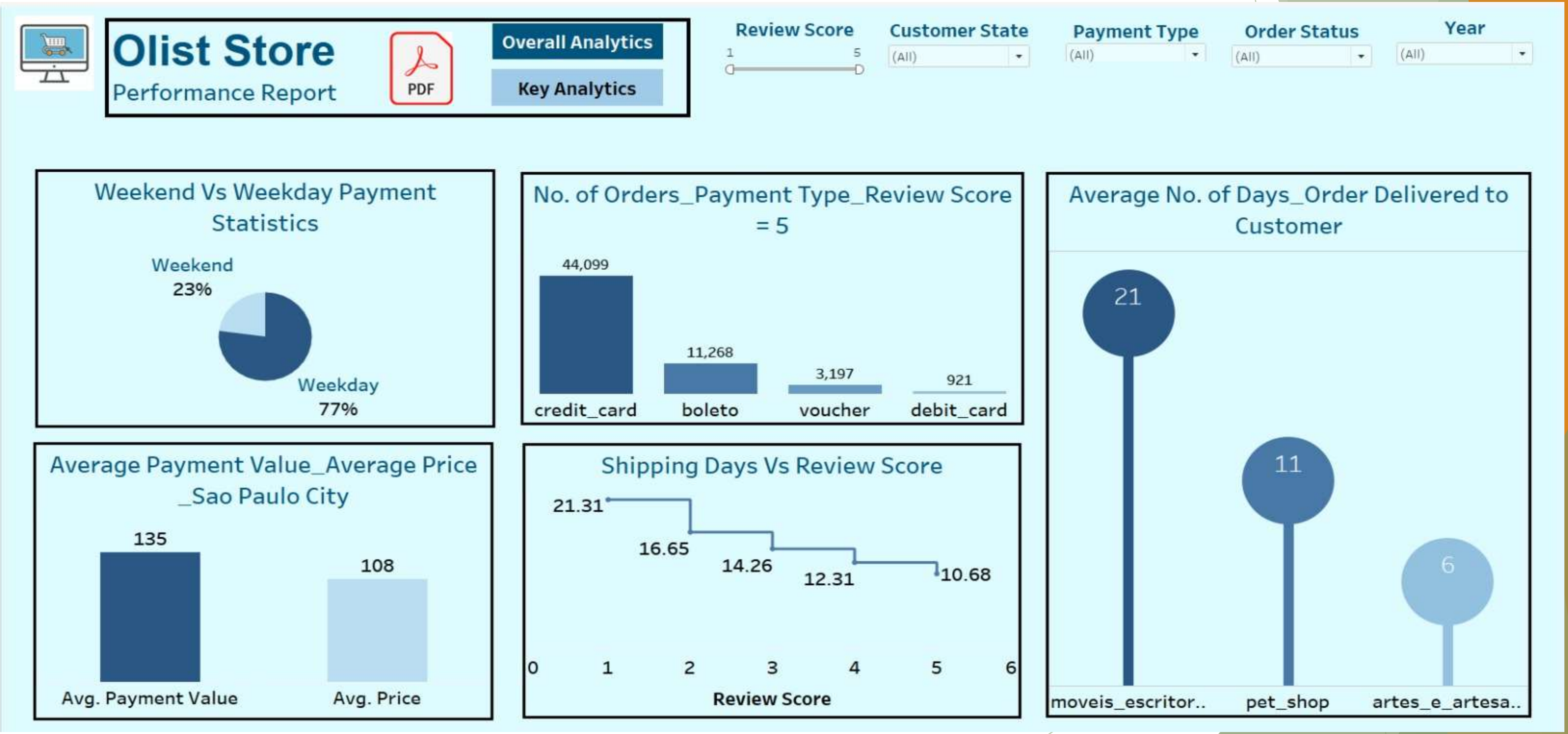
olist_order_items_dataset+

olist_order_items_dataset...
olist_order_payments_dat...
olist_orders_dataset.csv
olist_customers_dataset.c...
olist_order_reviews_datas...
olist_products_dataset.csv
product_category_name_t...
olist_sellers_dataset.csv
olist_geolocation_dataset....

Logical Table: olist_order_items_dataset.csv

Double-click this logical table to see its physical table.

Tableau Dashboard



Olist Store

Performance Report

Review Score: 1 – 5

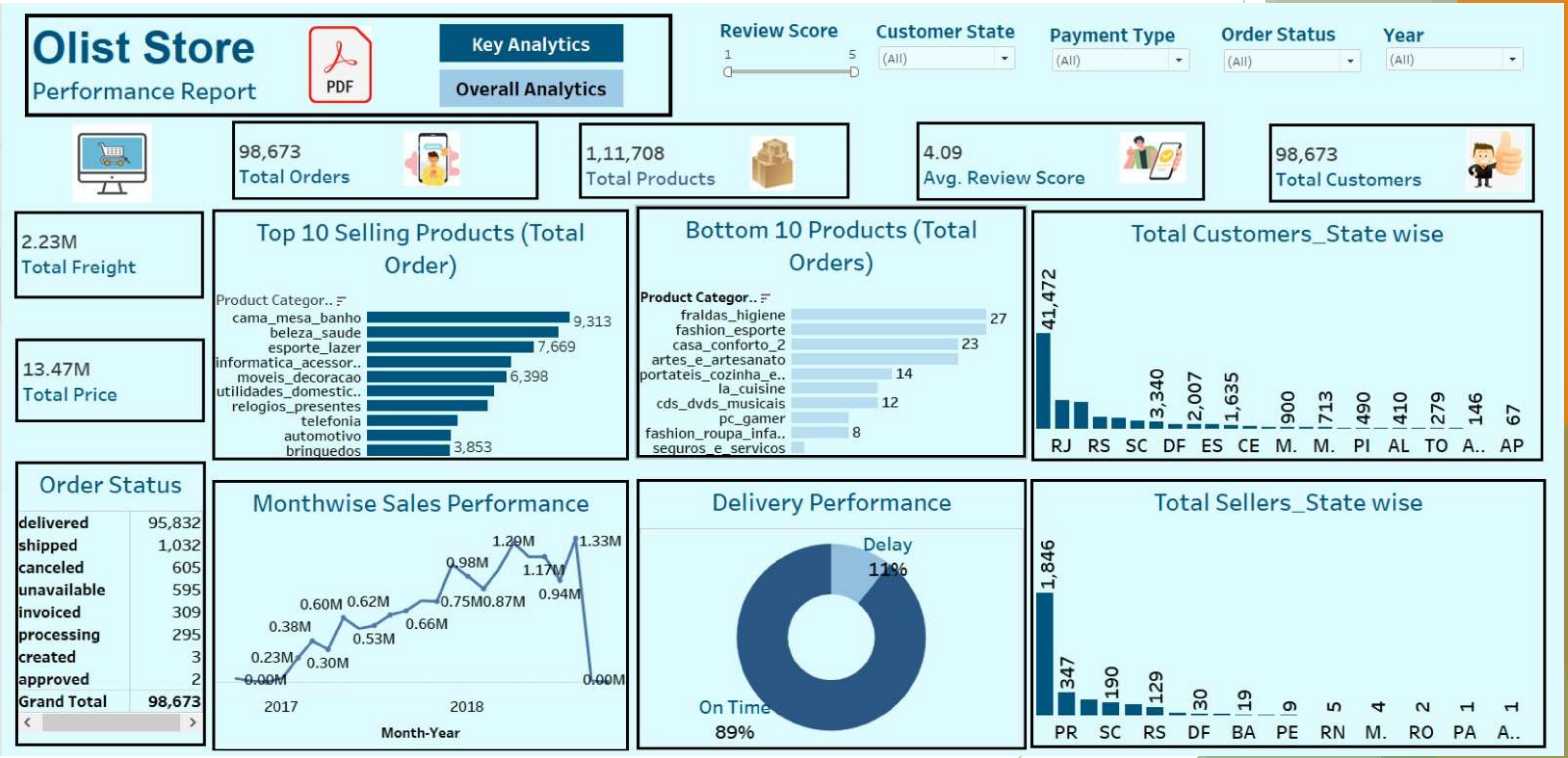
Customer State: (All)

Payment Type: (All)

Order Status: (All)

Year: (All)

Tableau Dashboard



Olist Store

Performance Report

PDF

Key Analytics

Overall Analytics

Review Score 1 – 5

Customer State (All)

Payment Type (All)

Order Status (All)

Year (All)

98,673 Total Orders

1,11,708 Total Products

4.09 Avg. Review Score

98,673 Total Customers

2.23M Total Freight

13.47M Total Price

Order Status

delivered	95,832
shipped	1,032
canceled	605
unavailable	595
invoiced	309
processing	295
created	3
approved	2
Grand Total	98,673

Insights

- According to the data, Olist E-commerce has about 99,440 orders. With about 89,940 orders being delivered, the company has a 90% delivery success rate.
- Their average product rating is 4.09 stars, with product categories going as high as 4.67 stars and as low as 2.5 stars.
- I Star reviews are on third place in the review score distribution ranking which likely indicates that there could be problems with product quality in some product categories.

Summary

- Overall, regular monitoring of customer reviews, real-time tracking of fleet performance, and proper shipment tracking and communication system can improve Olist's delivery and supply chain performance and ensure customers are delighted with the service.

Conclusion

- The Olist Store Analysis project provides valuable insights into customer behavior and payment statistics. The analysis of these KPIs helps Olist in identifying areas of improvement and creating targeted marketing campaigns.
- As a data analyst, We have used Excel and Power BI to clean and manipulate the dataset
- We have Used Power Bi & Tableau to create meaningful visualizations.
- We have used SQL for data validation

Thank you