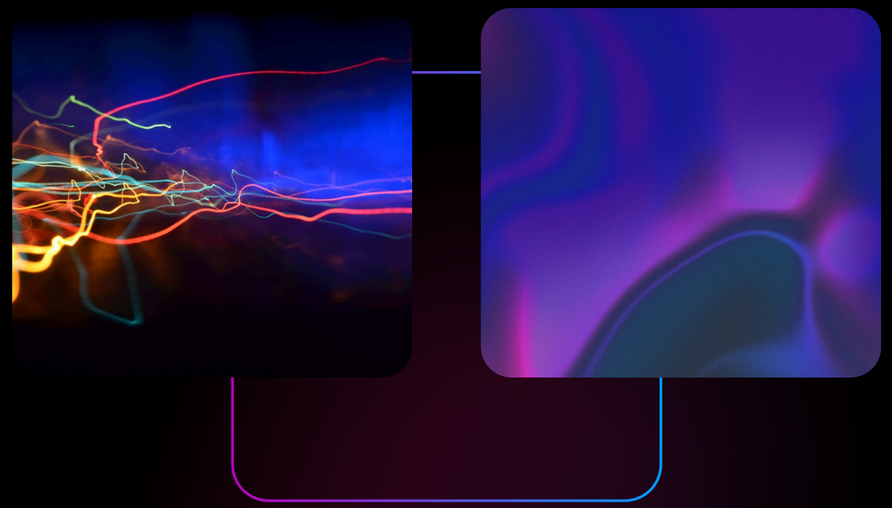
Olist E-Commerce Analysis

Olist
E-COMMERCE
ANALYSIS

Start Slide

Introduction

Olist is a Brazilian e-commerce platform that connects small and medium-sized sellers to multiple online marketplaces, enabling them to reach a wider customer base efficiently.This analysis focuses on understanding Olist's business performance by such as customer purchasing behavior, order trends, delivery performance, payment methods, and customer satisfaction.



Requirements

1)Weekday Vs Weekend (order_purchase_timestamp) Payment Statistics

2)Number of Orders with review score 5 and payment type as credit card.

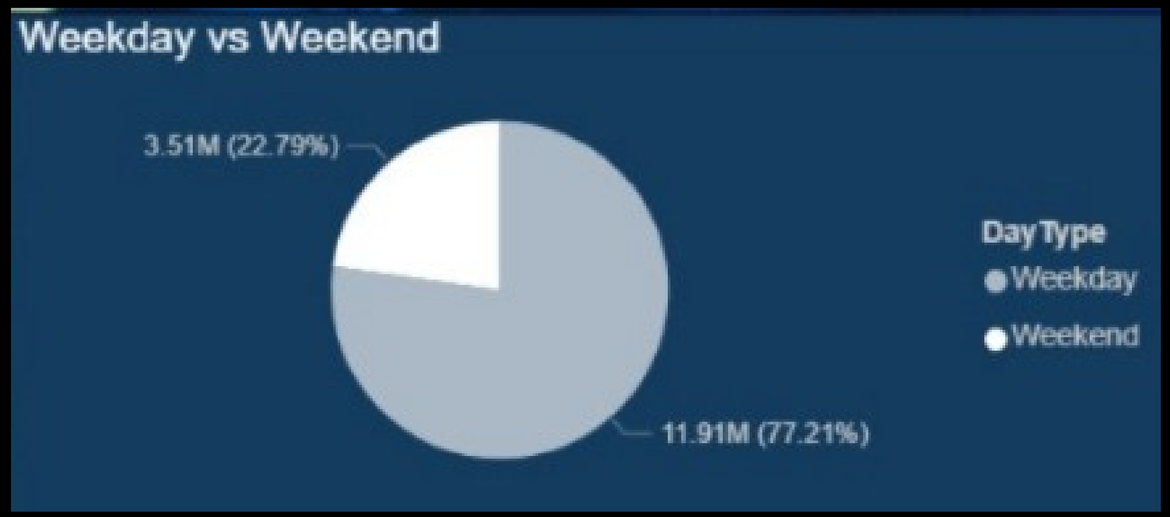
3)Average no.of days taken for order_delivered_customer_date for pet_shop.

4)Average price and payment values from customers of sao paulo city.

5)Relationship btw shipping days (order_delivered_customer_date - order_purchase_timestamp) Vs review scores.

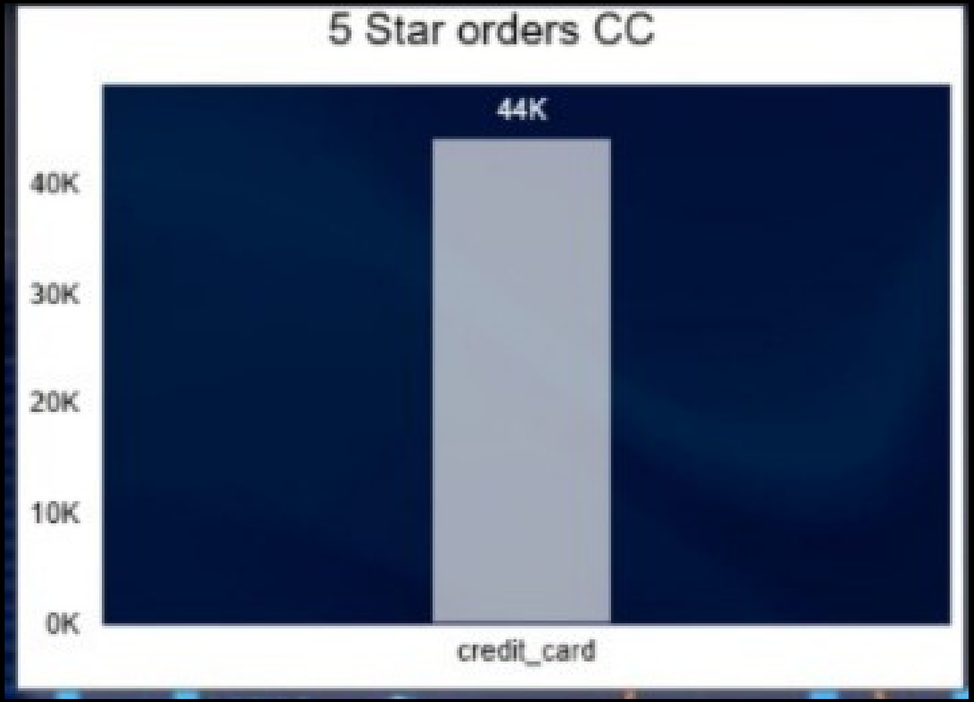
1.Weekday Vs Weekend (order_purchase_timestamp) Payment Statistics

This analysis compares customer payment behavior between weekdays and weekends based on the order purchase date. It helps identify differences in transaction volume and payment patterns across different days. Understanding this trend reveals when customers are more likely to make purchases. These insights support better planning for promotions and payment strategies.



2.Number of Orders with review score 5 and payment type as credit card.

This requirement focuses on identifying highly satisfied customers who used credit cards for payment. By analyzing orders with a perfect review score of 5 and credit card payments, we can assess customer satisfaction linked to this payment method. This insight helps understand trust and preference for credit card transactions. It also supports decisions related to payment options and customer experience improvement.



3.Average no.of days taken for order_delivered_customer_date for pet_shop.

This analysis measures the average delivery time for orders placed under the pet shop category. It helps evaluate logistics efficiency and delivery performance for this specific product segment. Understanding delivery timelines highlights potential delays or strengths in the supply chain. These insights are useful for improving customer satisfaction and operational efficiency.

4.Average price and payment values from customers of sao paulo city.

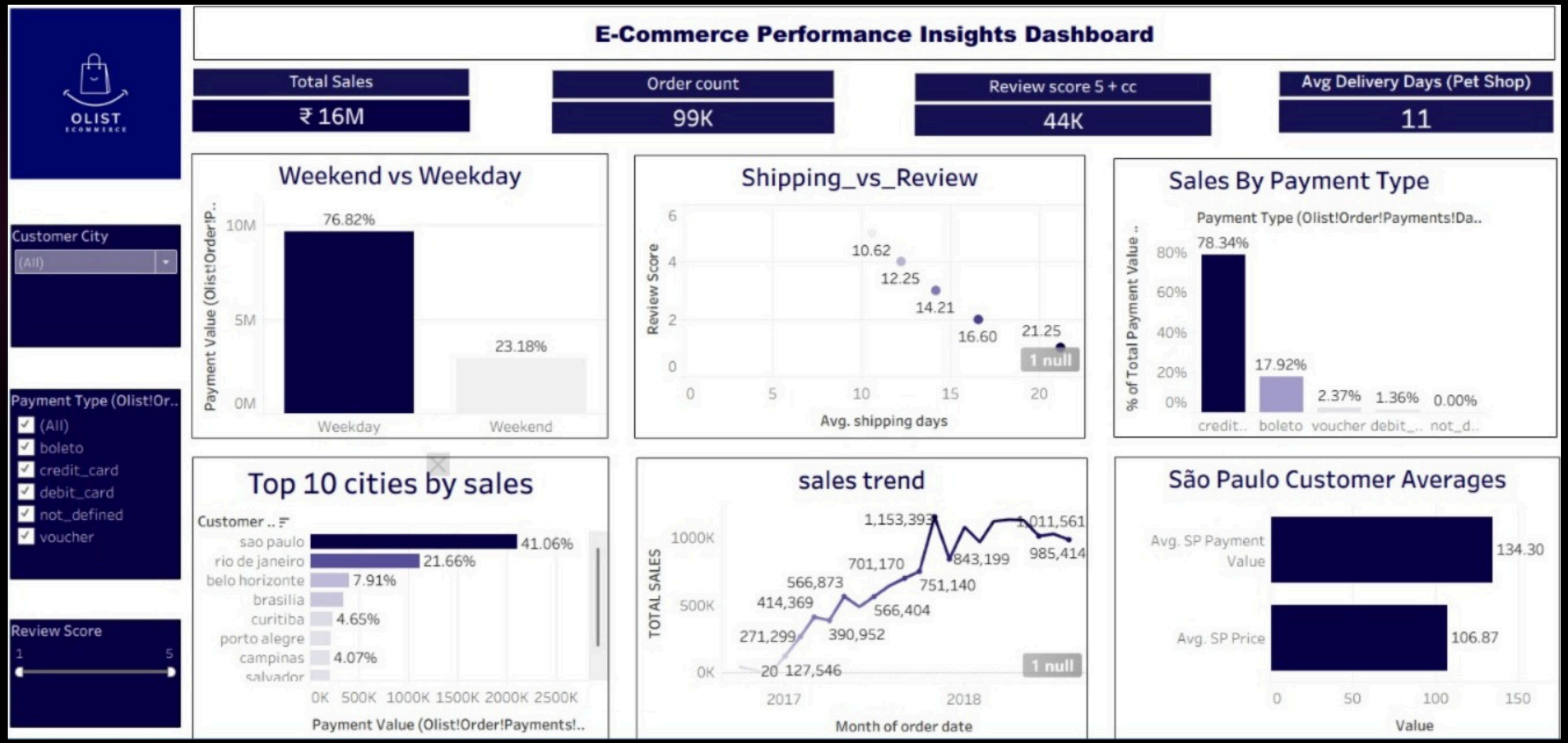
This requirement analyzes the average order price and payment value of customers from São Paulo. It helps understand purchasing power and spending behavior in one of the major customer regions. The insights reveal the economic importance of this city to the business. This information can support region-specific marketing and pricing strategies.

5.Relationship btw shipping days (order_delivered_customer_date - order_purchase_timestamp) Vs review scores.

This analysis examines the relationship between delivery duration and customer review ratings. It helps determine whether longer shipping times impact customer satisfaction. By comparing shipping days with review scores, we can identify trends affecting customer experience. These insights highlight the importance of timely delivery in maintaining high customer ratings.

Excel dashboard

Tableau dashboard



Sql Queries

```sql
#1 WEEKEND VS WEEKDAY

WITH valid_orders AS (
    SELECT DISTINCT o.order_id,
           o.order_purchase_timestamp,
           CASE
               WHEN WEEKDAY(o.order_purchase_timestamp) IN (5,6) THEN 'Weekend'
               ELSE 'Weekday'
           END AS Day_Type
    FROM orders o
    JOIN order_payments p ON o.order_id = p.order_id
    WHERE o.order_purchase_timestamp IS NOT NULL
)
SELECT
    Day_Type,
    COUNT(order_id) AS Total_Orders,
    ROUND(
        COUNT(order_id) / (SELECT COUNT(order_id) FROM valid_orders) * 100,
        0
    ) AS Order_Percentage
FROM valid_orders
GROUP BY Day_Type;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Day_Type	Total_Orders	Order_Percentage
Weekday	75183	77
Weekend	22474	23

```sql
#2 NUM OF ORDERS REVIEW WITH REVIEW 5 SCORE

SELECT COUNT(DISTINCT r.order_id) AS total_orders
FROM order_reviews r
JOIN order_payments p ON r.order_id = p.order_id
WHERE r.review_score = 5
AND p.payment_type = 'credit_card';

#3 AVG NO DAY TAKEN FOR ORDER DELIVERED CUSTOMER DATE PE

SELECT
    ROUND(AVG(DATEDIFF(o.order_delivered_customer_date,
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_orders
43981

```sql
#3 AVG NO DAY TAKEN FOR ORDER DELIVERED CUSTOMER DATE PET SHOP

SELECT
    ROUND(AVG(DATEDIFF(o.order_delivered_customer_date, o.order_purchase_timestamp)), 0)
        AS avg_delivery_days_petshop
FROM order_items oi
JOIN products pr ON oi.product_id = pr.product_id
JOIN orders o ON oi.order_id = o.order_id
WHERE pr.product_category_name = 'pet_shop'
  AND o.order_delivered_customer_date IS NOT NULL;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg_delivery_days_petshop
11

```sql
#4 AVG PRICE AND PAYMENT values FOR FROM CUSTOMERS OF SAO PAULO CITY
SELECT
    (SELECT AVG(oi.price)
     FROM order_items oi
     JOIN orders o ON oi.order_id = o.order_id
     JOIN customers c ON o.customer_id = c.customer_id
     WHERE c.customer_city = 'sao paulo') AS avg_price_sp,

    (SELECT AVG(p.payment_value)
     FROM order_payments p
     JOIN orders o ON p.order_id = o.order_id
     JOIN customers c ON o.customer_id = c.customer_id
     WHERE c.customer_city = 'sao paulo') AS avg_payment_sp;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg_price_sp	avg_payment_sp
106.79648690203675	134.1033448949998

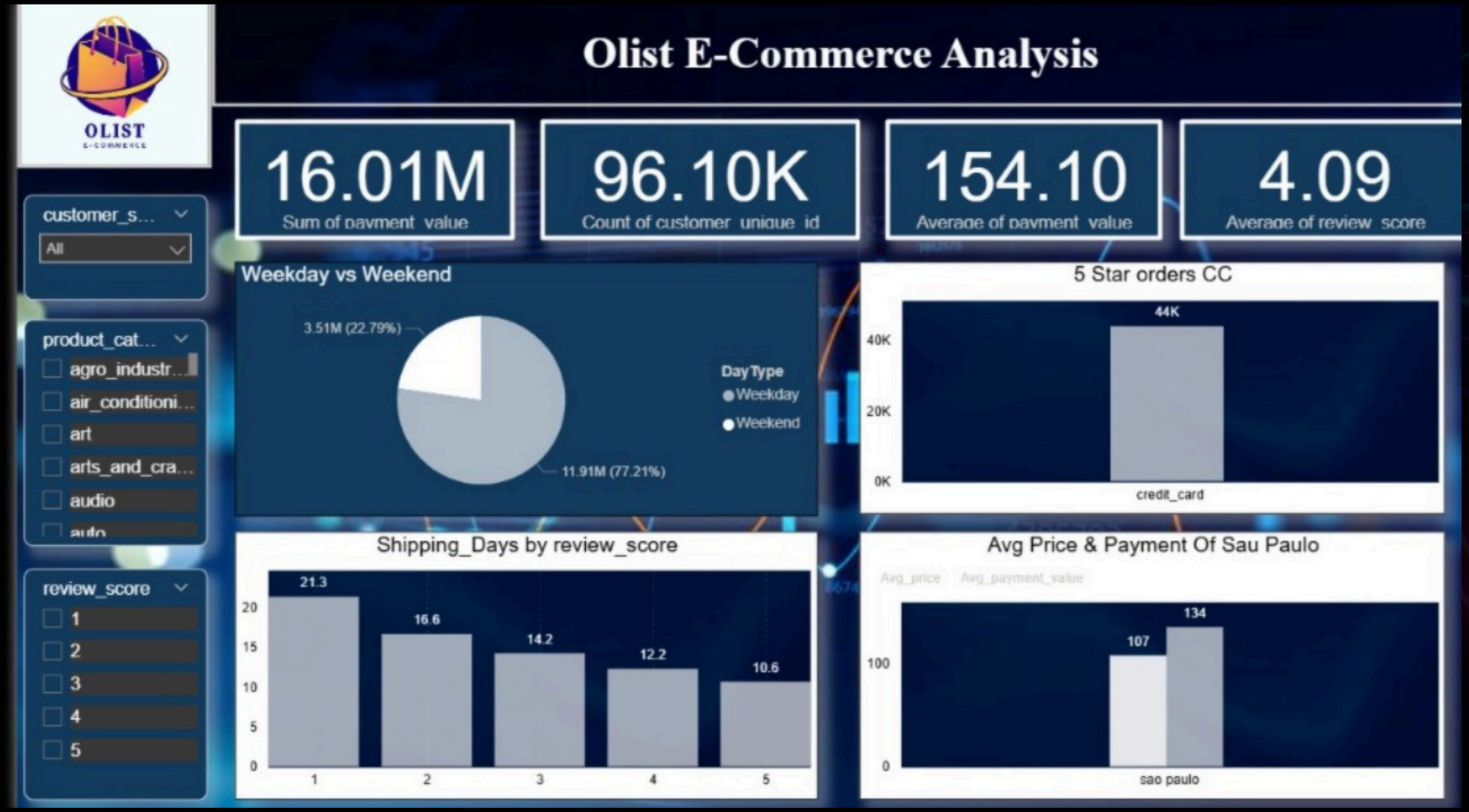
```sql
#5 RELATIONSHIP BETWEEN REVIEWS SCORE VS SHIPPING DAYS
SELECT
r.review_score,
ROUND(
    AVG(DATEDIFF(o.order_delivered_customer_date, o.order_purchase_timestamp)),
    0
)AS avg_shipping_days
FROM order_reviews r
JOIN orders o ON r.order_id = o.order_id
WHERE o.order_delivered_customer_date IS NOT NULL
GROUP BY r.review_score
ORDER BY r.review_score;

#6 Top 5 product categories by total sales value
SELECT
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

Power BI dashboard

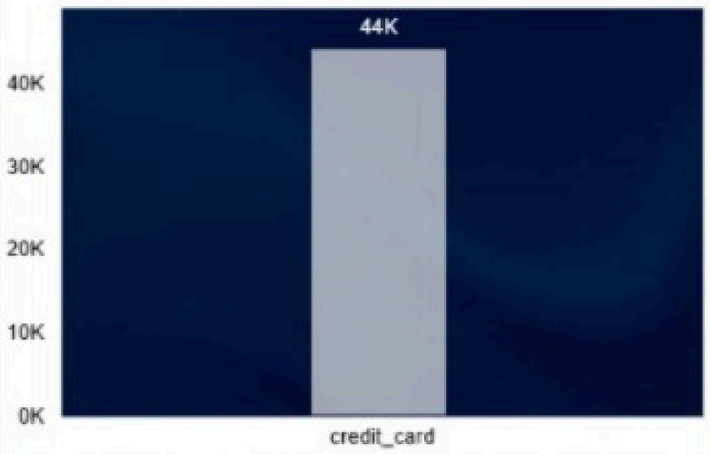


customer_city

All

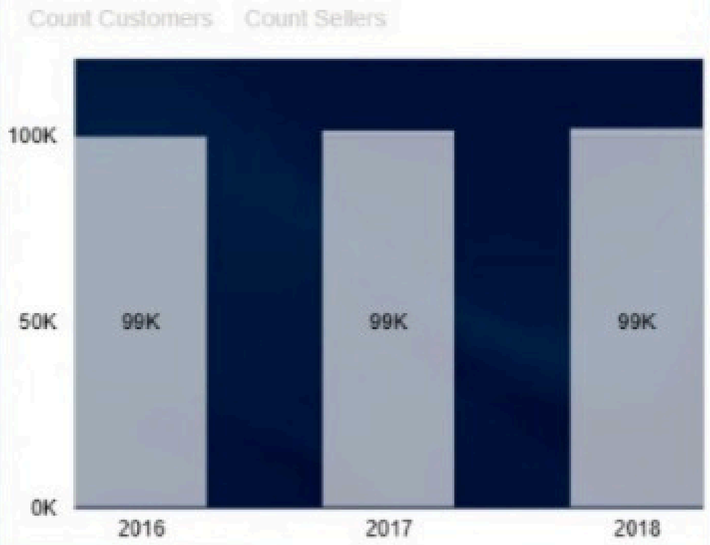
Avg_payment_value and Avg_price by customer_state

5 Star orders CC

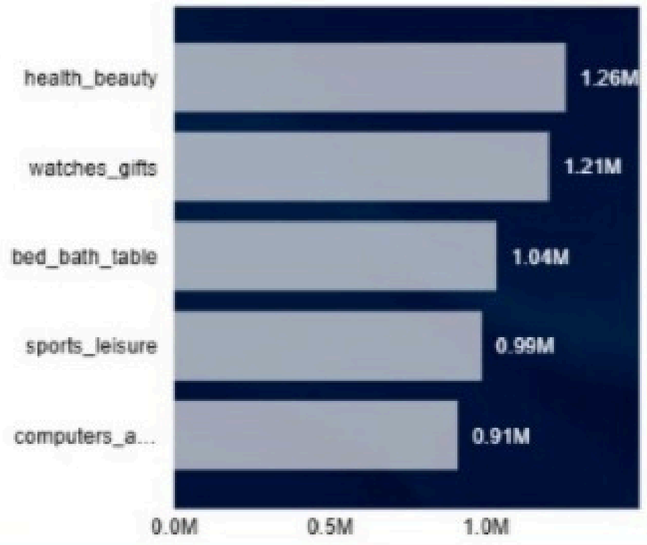


Avg No. Of Days For PetShop

Count Customers and Count Sellers by Year



Top 5 Best Products Categories



Conclusion

This project analyzed Olist’s e-commerce data to uncover key insights into customer behavior, payment preferences, delivery performance, and satisfaction. The results highlighted weekday–weekend purchasing patterns, the impact of delivery speed on reviews, and high-value regions like São Paulo. Overall, the analysis demonstrates how data-driven insights can improve operational efficiency and customer experience.

Future Scope

- Incorporate real-time data to monitor order trends, delivery performance, and customer satisfaction more effectively.
- Perform customer segmentation based on location, purchase frequency, and spending behavior to enable targeted marketing strategies.
- Analyze seller performance to identify top and underperforming sellers and improve marketplace efficiency.

Thank You

1.Neethu Mariyam Sjajan
2.Tinu Merin Skariah
3.Mohammed Anas KP
4.Muhammed Sinan BV
5.Gouri Manoj
6.Akhil Krishnan S