

OLIST STORE ANALYSIS

E-Commerce Project

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INTRODUCTION

This is a public dataset of orders made at Olist Store in Brazil. The service helps shopkeepers and customers manage selling process smoothly. It offers an e-commerce marketplace solution to retailers of all sizes to increase their sales.

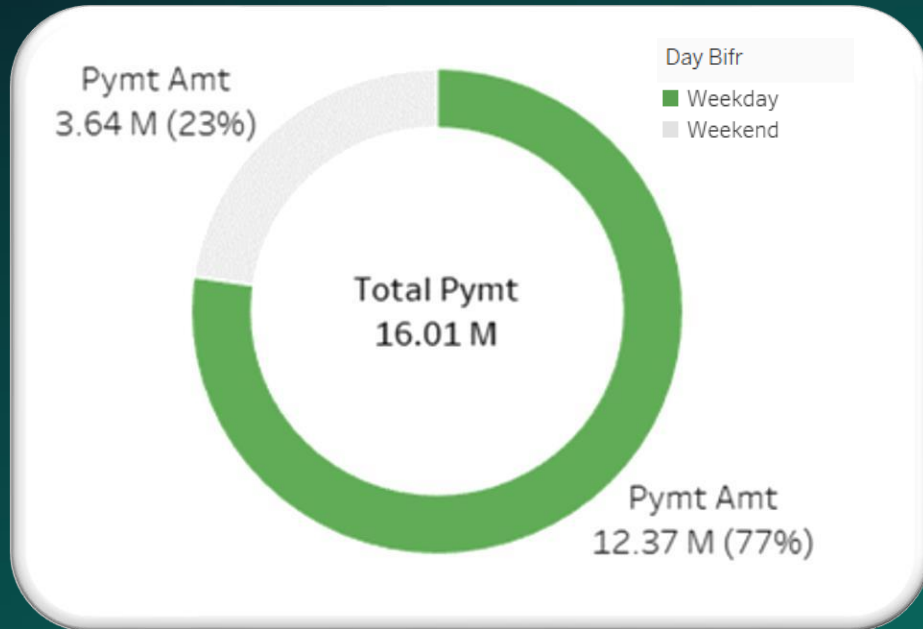
The dataset contains details of around 100k orders placed at various Brazilian marketplaces between 2016 and 2018. It allows to view orders from multiple dimensions like order status, payment, product price, product attributes, freight price, customer location, review score given by customers, etc.

OBJECTIVES

This database offers numerous analytical concepts along with a variety of information regarding multiple e-commerce platform viewpoints. The main objectives of this project are :-

- Utilize tools like Excel, Power BI, Tableau, and SQL to thoroughly cover all five Key Performance Indicators (KPIs) in the report, resulting in detailed analysis.
- Finding relevant connections among the table so that when joined together they can show even better insights which cannot be presented in isolation.
- Examine each table, seek to identify unique findings for every component of the data.
- Identify appropriate visualization methods to effectively present the transformed data, ensuring clarity and accessibility.
- Obtain deeper insights beyond raw data by aggregating and calculating information, uncovering hidden patterns and trends.
- To come up with recommendations which helps the store to increase sales, improve customer satisfaction and operational efficiency.

Weekday Vs Weekend Payment Statistics



Out of the 16M total payments, 12M which amounts to 77% of the total payments were done during weekdays and remaining 4M (23%) were done during weekends.

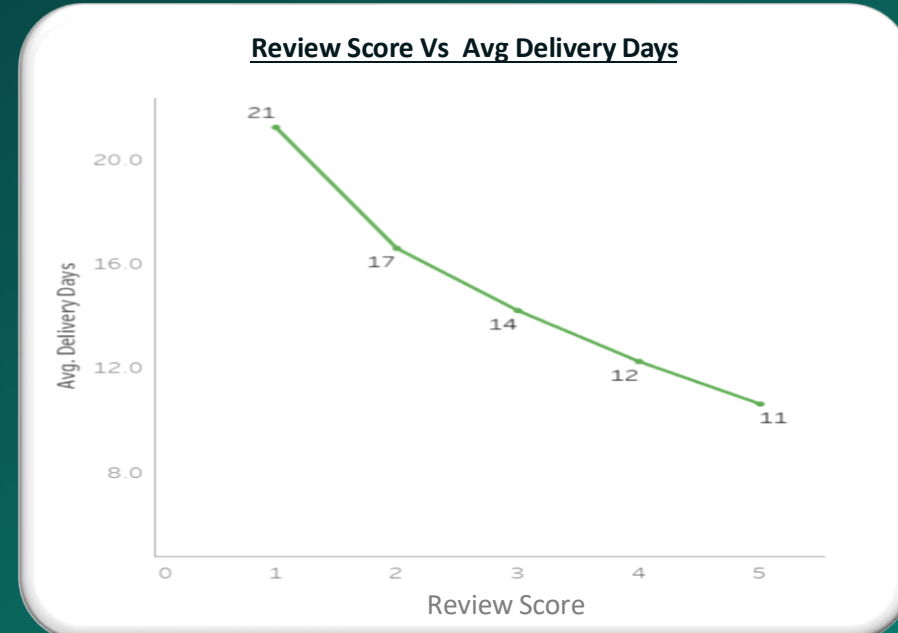
Day Wise View			
Days	Total Orders	Total Payment	Avg Payment
Mon	16.20 K	2.62 M	155
Tue	15.96 K	2.56 M	153
Wed	15.55 K	2.49 M	153
Thu	14.76 K	2.38 M	154
Fri	14.12 K	2.31 M	156
Sat	10.89 K	1.77 M	155
Sun	11.96 K	1.87 M	151

Day-wise analysis show a declining trend of orders placed & payments made over the week particularly on weekends. Average payment on Fridays (156) are highest and that on Sundays are lowest (151).

Review Score Analysis



- 44K orders placed using credit card got review score 5.
- 74% orders placed using credit card got review scores 4 or 5 and 12% of orders got review score 1 which is more than those orders which received review score 2 or 3 put together.



- This chart shows negative correlation which means faster deliveries are associated with better review scores.
- Average review score obtained for all orders is 4.1 and average delivery days are 12.5

City And Product Category Statistics

For Pet Shop

Avg Deliver Day

11

Sao Paulo Stats

Avg Payment

135.83

Avg Price

107.53

- Product category "Pet Shop" has an average delivery time of 11 days which is lesser than overall average of 12.5 delivery days for all orders.
- The orders from Sao Paulo city have average payment value of 136 and average product price of 108. Both are below overall average.

Top Ten Product

Rank	Product Category	Orders
1	cama_mesa_banho	9.42 K
2	beleza_saude	8.84 K
3	esporte_lazer	7.72 K
4	informatica_acessorios	6.69 K
5	moveis_decoracao	6.45 K
6	utilidades_domesticas	5.88 K
7	relogios_presentes	5.62 K
8	telefonica	4.20 K
9	automotivo	3.90 K
10	brinquedos	3.89 K

- Most orders were placed for product category "cama_mesa_banho" (bed_bath_table)
- The second most popular product category was "beleza_saude" (health_beauty)

Excel Dashboard

OLIST ECOMMERCE STORE SALES DASHBOARD

Purchase Year

2016

2017

2018

Payment Type

boleto

credit_card

debit_card

not_defined

voucher

Delivery Status

Before Time

Delayed

On Time

Total Orders

99,441

Total Payment Value

1,60,08,872

Avg Review Score

4.1

Avg Payment Value

154.10

Avg Delivery Days

12.50

Avg Weekend Orders Avg Weekday Orders

11,424

15,319

Avg Delivery Days for Pet Shop

11.31

Avg Weekend Payment Avg Weekday Payment

18,20,442

24,73,598

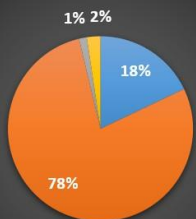
Sao Paulo

Avg Price Avg Payment

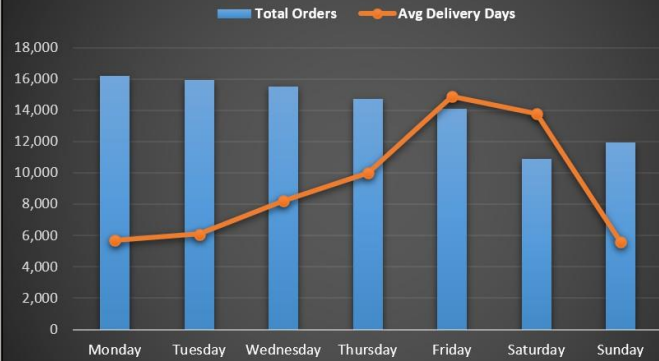
108

136

Total Payments





boleto credit_card
debit_card voucher



MySQL



KPI 1

Result Grid   Filter Rows: <input type="text"/>			
	Day_Type	Total Orders	Total Payment Value
▶	Weekday	76594	12367988
	Weekend	22847	3640884
	Total =	99441	16008872



KPI 3

Result Grid  	
	Avg Delivery Days for Pet Shop
▶	11.17


KPI 5

Result Grid   Filter Rows: <input type="text"/>		
	Review Score	Avg Delivery Days
▶	1	21
	2	17
	3	14
	4	12
	5	11

KPI 2

Result Grid   Filter	
	Orders with payment_type as credit_card & review_score = 5
▶	44333

KPI 4

Result Grid   Filter Rows: <input type="text"/>		
	Avg Price for Sao Paulo City	Avg Payment Value for Sao Paulo City
▶	107.53	135.83

Power BI Dashboard



Tableau Dashboard

Olist Store Analysis

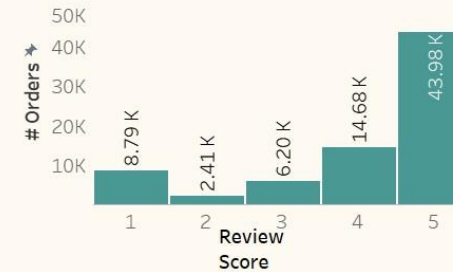
Year (All)

Total Orders	Total Paymen..	Avg Payment ..
99.44 K	16.01 M	154

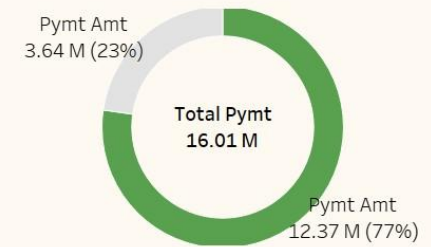
Quarter Wise Payment



Orders With Review Scores using Credit Card



Weekend VS Weekdays Payment Stats



Sao Paulo Stats

Avg. Paym..	136
Avg. Price	108

Avg Delivery Days for Pet Shop

11

Review Score Vs Avg delivery Days



Day Wise View

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INSIGHTS

1. The weekday v/s weekend and day-wise analysis shows the customer behavior pattern of shopping more on weekdays compared to weekends.
2. Credit card was the most popular payment type (78%) used by customers followed by Boleto (18%) which was distant second. Also 74% orders placed using credit cards got review score of either 4 or 5. This shows ease of use, efficiency and customer satisfaction is higher when it comes to usage of credit cards.
3. Highest number of orders and payments were done by the customers from Sao Paulo city but the average payment value and price per product paid by them were less than the overall average for Olist store.

INSIGHTS

4. "cama_mesa_banho" (bed_bath_table) was the most popular product category based on the number of orders made but it didn't translate into a better revenue-to-order count ratio (AOV). This means customers purchased more "cama_mesa_banho" (bed_bath_table) items but spent more money on an average on expensive items like "pcs" (computers).
5. Over 76% of the orders placed by customers on the Olist store got the review score of 4 and above, which indicates good sales performance. Orders which on an average took more time to deliver led to lower review ratings compared to orders which were delivered faster.
6. The average order cancelation rate on the Olist store was 0.63% (less than 1%) which is a good indicator that there is a high level of customer satisfaction and efficiency level.

RECOMMENDATIONS

1. The Olist store should introduce promotional schemes to improve sales on weekends. These schemes can be based on payments by credit cards as they are the most popular payment type.
2. As bulk of orders come from customers based in Sao Paulo city; but on an average they spend less on high value products, the Olist store needs to focus on better marketing schemes and improving delivery of these products to the city.
3. For Olist store to maximize sales performance, profitability, and customer satisfaction, the company will need to carefully employ different pricing strategies, e.g. employ the use of cross-sales promotion strategies for products like computers, and other high value products.

RECOMMENDATIONS

4. The Olist store will have to capitalize by highlighting positive customer feedback on its platform to help attract new and potential customers. It needs to employ loyalty programs to help improve customer retention rates. Customers seem to be satisfied with their orders based on the result of the low orders cancelation rate.
5. The Olist store needs to focus on faster delivery methods and reduce freight costs by improving their logistics. This will help to reduce delivery cost, earn better reviews and customer satisfaction levels which leads to more orders and adding new customers.
6. Regularly monitor and analyze customer reviews to gain insights in product quality and identify areas for improvement. Dashboards can be used to identify patterns in customer reviews. This will provide a data-driven approach to enhance customer experience.

LIMITATIONS

1. To better understand the Olist E-commerce market environment, we will need a longer period of datasets.
2. Getting datasets of other similar companies in the same region for comparison will help to better understand market & customer insights.
3. More information related to mode of delivery would help us get better insights into logistics.

CHALLENGES

1. This project helped us understand the relationship concepts and DAX while implementing KPIs in Excel. Initially we used merge technique for our dashboard.
2. Similarly, we faced issues with importing CSV files using “MySQL Workbench wizard”; as a result we learnt about INFILE function and used it to import these files into our tables & clean the data. We found this method to be quicker and efficient compared to the wizard. Also inclusion of INFILE commands to import CSV file as part of the SQL file (instead of using the import wizard) makes our code portable.
3. While creating Tableau dashboard we learnt about Gauge Chart implementation.

CONCLUSIONS

1. The Olist store analysis project provides valuable insights into customer behavior and payment statistics.
2. The analysis of these KPIs helps Olist in identifying areas of improvement and creating targeted marketing campaigns.
3. As data analyst, we have used Excel, Power BI, MySQL & Tableau to work on dataset and create meaningful visualizations.
4. This project serves as a great example of how data analysis can help businesses make informed & data-driven decisions to grow.



Thank You