Olist E-commerce Data Analysis Report

- **What is the Average Order Value (AOV), and how does it vary by product category and payment method?**

	average_order_value numeric 🔒
1	159.86

- The Average Order Value (AOV) for Olist customers is **159.86**.

	product_category_name text 🔒	average_order_value numeric 🔒
1	computers	1271.63
2	fixed_telephony	736.93
3	small_appliances_home_oven_and_cof…	670.42
4	agro_industry_and_commerce	470.05
5	home_appliances_2	455.38

- **AOV by Product Category:**
    - **Top 5 Highest AOV Categories**:
        1. Computers: 1271.63
        2. Fixed Telephony: 736
        3. Small Appliances (Home Oven and Coffee): 670
        4. Agro Industry & Commerce: 470
        5. Home Appliances: 455
        - These categories have high AOV because they consist of high-value, one-time purchase items.

68	food	88.04
69	electronics	87.59
70	cds_dvds_musicals	85.67
71	flowers	67.06
72	home_comfort_2	55.18

    - **Lowest AOV Categories**: Electronics, CDs & DVDs, Food, Flowers, and Home Comfort, all with AOV below 90.

AOV By Payment Type
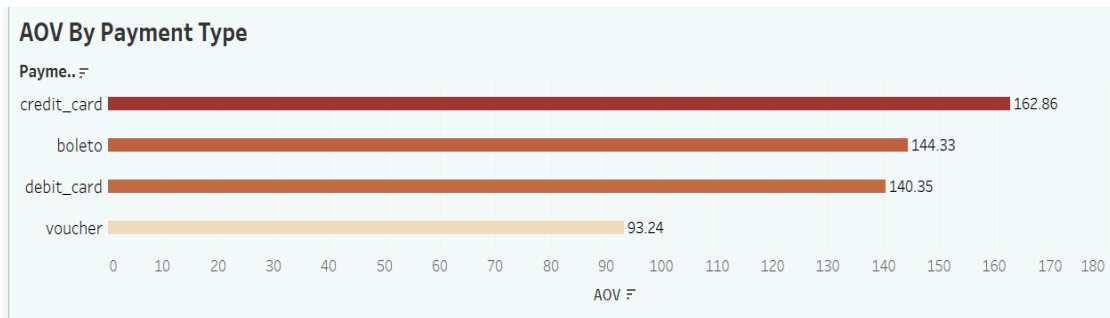
- Customers using **Credit Cards**, **Boleto**, and **Debit Cards** tend to have higher AOV.
- Customers using **Vouchers** have the lowest AOV.

- **How does the customer lifetime value (CLV) differ across product categories?**

	product_category_name text	total_payments numeric	total_orders bigint	avg_order_value_per_customer numeric	total_customers bigint	avg_customer_lifetime_value numeric
1	computers	274671.88	177	1551.82	176	1560.64
2	fixed_telephony	192338.39	212	907.26	212	907.26
3	small_appliances_home_oven_and_cof...	50281.65	72	698.36	72	698.36
4	agro_industry_and_commerce	115632.24	177	653.29	176	657.00
5	home_appliances_2	118854.06	227	523.59	222	535.38
6	office_furniture	636124.88	1254	507.28	1245	510.94
7	signaling_and_security	68263.59	138	494.66	137	498.27
8	construction_tools_safety	60932.07	159	383.22	158	385.65
9	musical_instruments	221118.16	611	361.90	607	364.28
10	air_conditioning	88849.72	246	361.18	244	364.14

- **High CLV Categories:** Computers, Fixed Telephony, Small Appliances (Home Oven and Coffee), and Agro Industry & Commerce.
    - **Recommendation**: Olist should ensure sufficient stock and competitive pricing for these high-CLV products to maintain and grow revenue.
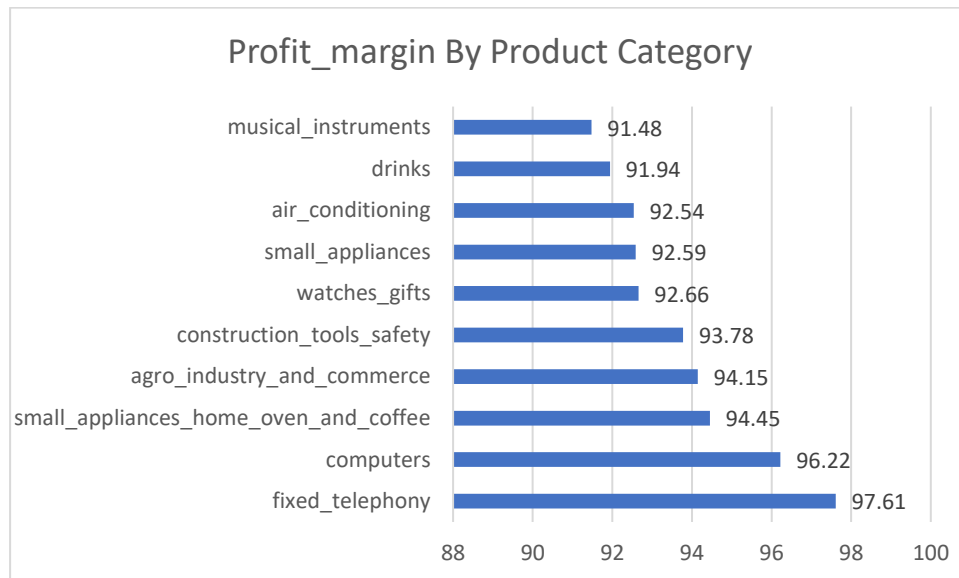

- **How many customers have made repeated purchases, and what percentage of total sales do they contribute?**

Data Output   Messages   Notifications

	total_customers bigint	total_repeat_customers bigint	total_sales numeric	total_repeat_sales numeric	repeat_customers_perc_sales numeric
1	93357	5464	15422461.77	1308422.99	8.48

- **Total Customers: 93,357.**
- **Repeat Customers:** Only 5,464 customers made repeat purchases, contributing to 8.42% of total sales.
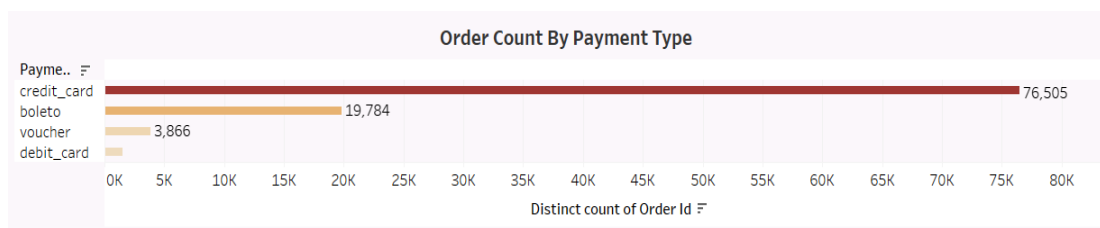
- o **Insight:** Olist has a predominantly one-time purchase customer base, indicating challenges in customer retention.

- **Which product categories have the highest profit margins on Olist, and how can the company increase profitability across different categories?**

Profit_margin By Product Category

Category	Profit Margin
musical_instruments	91.48
drinks	91.94
air_conditioning	92.54
small_appliances	92.59
watches_gifts	92.66
construction_tools_safety	93.78
agro_industry_and_commerce	94.15
small_appliances_home_oven_and_coffee	94.45
computers	96.22
fixed_telephony	97.61

- **High Profit Margin Categories**: Fixed Telephony, Computers, Small Appliances (Home Oven and Coffee).
- **Recommendation**: Focus on marketing high-margin products and optimizing pricing strategies to increase profitability across all categories.

- **Which payment methods are most commonly used by Olist customers**

Order Count By Payment Type

Payment Type	Distinct count of Order Id
credit_card	76,505
boleto	19,784
voucher	3,866
debit_card	

Most Popular Payment Method: **75%** of orders are paid via **Credit Cards**.
**Recommendation:** Introduce offers and rewards for customers paying via credit cards to boost engagement and sales

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- **What are the most popular product categories on Olist, and how do their sales volumes compare to each other?**
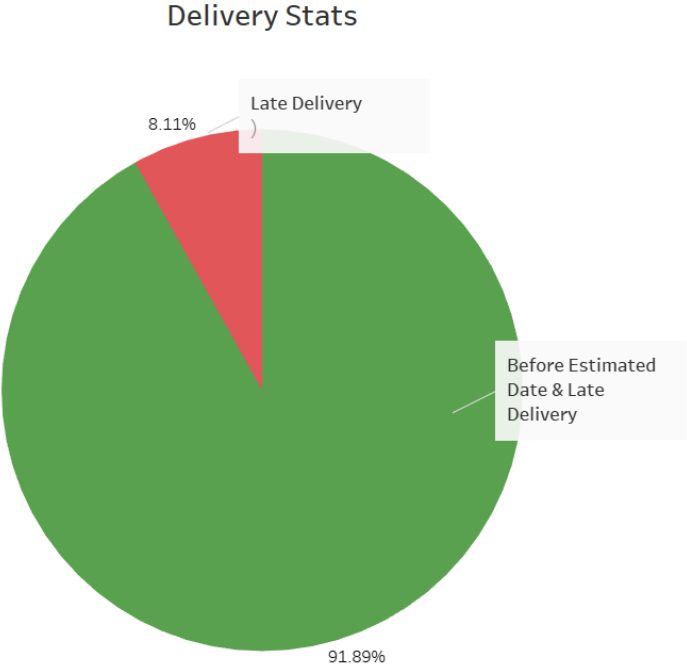
  Top Product Categories by Sales Volume and Revenue:
  - Health & Beauty
  - Watches & Gifts
  - Bed, Bath & Table
  - Sports & Leisure
  - Computer Accessories

Top 10 Products Category by Sales Volume & Revenue
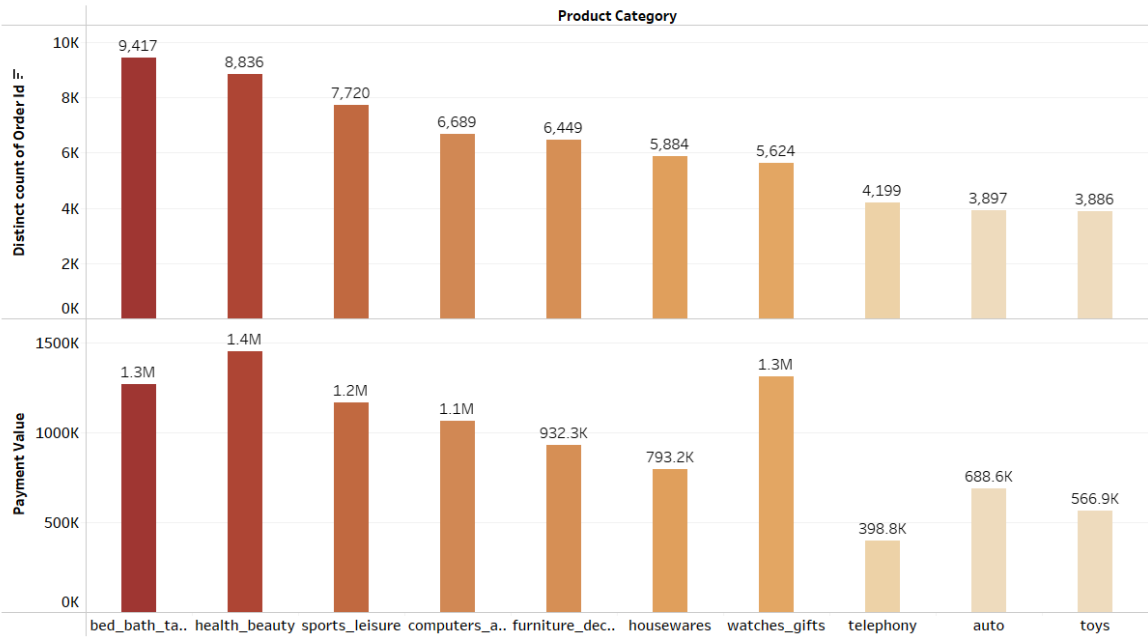
- **What percentage of orders on Olist experience late deliveries, and how does this impact customer satisfaction and operational efficiency?**

Delivery Stats

- **On-Time Delivery**: **92%** of orders were delivered before the estimated delivery date.

- **Late Deliveries**: **8.11%** of orders were delivered late.

- **Recommendation**: Collect and analyse data from delivery partners to identify reasons for delays and improve operational efficiency to enhance customer satisfaction.

- **What is the overall order cancellation rate on Olist, and which factors (e.g., product categories, customer demographics, order size) contribute most to cancellations?**

	total_order_cnt bigint	canceled_order_count bigint	canceled_order_percentage numeric
1	99441	625	0.63

- **Cancellation Rate:** Only 0.63% of orders were canceled.

  - Insight: The low cancellation rate indicates efficient order processing and customer satisfaction.
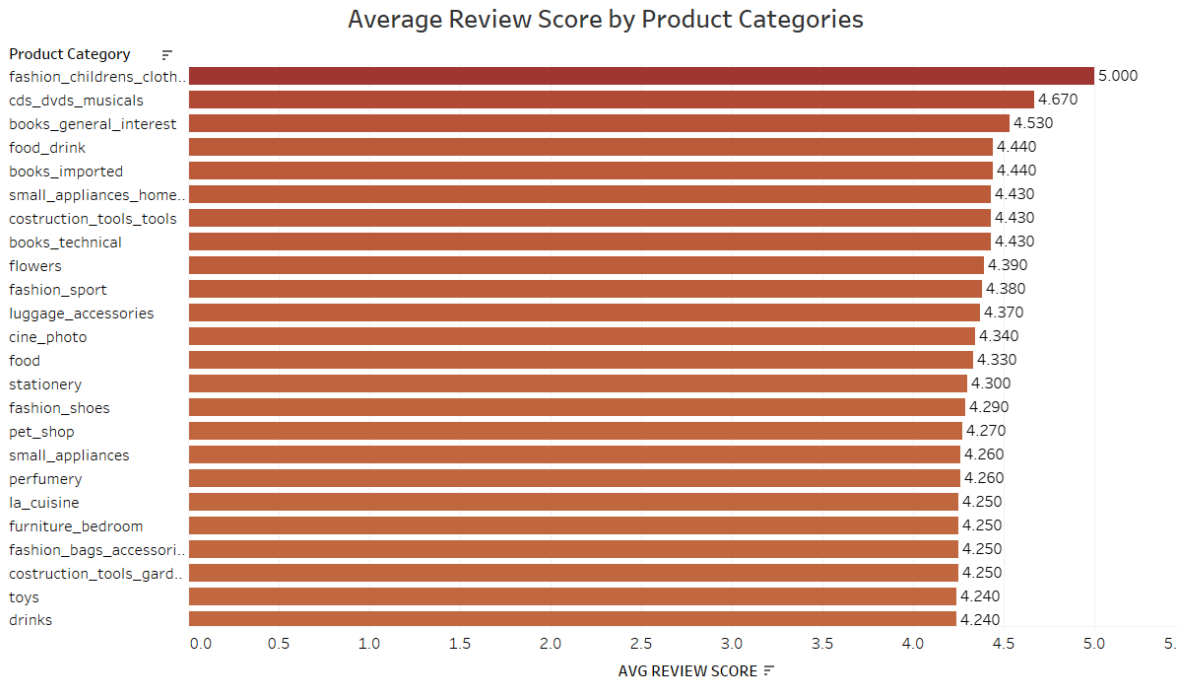

- **What is the average number of days it takes for orders in each product category to be delivered, and how can this information be used to improve inventory management and customer satisfaction?**

Average Delivery Time by Product Category

Product Category	Avg. deliver days
office_furniture	20.77
Unkown	16.82
fashion_shoes	15.35
christmas_supplies	
security_and_services	14.85
furniture_bedroom	
furniture_mattress_an..	14.46
home_comfort_2	
home_appliances_2	14.24
computers	
consoles_games	14.20
furniture_living_room	
fashion_underwear_be..	13.83
garden_tools	
home_confort	13.67
fashio_female_clothing	
home_construction	13.45
audio	
dvds_blu_ray	13.43
computers_accessories	
fashion_male_clothing	13.34
furniture_decor	
musical_instruments	13.23
telephony	
bed_bath_table	13.05
watches_gifts	
electronics	12.97
stationery	
market_place	

Average: 12.42

- **Overall Delivery Time**: The average delivery time is 12.4 days.
- **Categories with Longer Delivery Times**:
  - Office Furniture, Unknown Categories, Fashion Shoes, Christmas Supplies.
- **Insights**:
  - Furniture requires additional logistics due to size and vehicle requirements.
  - Small products like Fashion Shoes taking longer than average delivery times need further investigation.

- **Recommendation**: Optimize logistics and work with delivery partners to reduce delivery times for categories with longer-than-average delivery periods.

- **Which product categories have the highest average customer review scores for delivered orders, and how do they compare to each other?**

Average Review Score by Product Categories

Product Category ≡	AVG REVIEW SCORE
fashion_childrens_cloth..	5.000
cds_dvds_musicals	4.670
books_general_interest	4.530
food_drink	4.440
books_imported	4.440
small_appliances_home..	4.430
costruction_tools_tools	4.430
books_technical	4.430
flowers	4.390
fashion_sport	4.380
luggage_accessories	4.370
cine_photo	4.340
food	4.330
stationery	4.300
fashion_shoes	4.290
pet_shop	4.270
small_appliances	4.260
perfumery	4.260
la_cuisine	4.250
furniture_bedroom	4.250
fashion_bags_accessori..	4.250
costruction_tools_gard..	4.250
toys	4.240
drinks	4.240

AVG REVIEW SCORE ≡

- Fashion children clothes have the highest average customer review score of 5 .
- 70 product categories have review greater than 0 only security & services have 2.5 review score.

- **How many orders were placed on Olist, and how does this vary by month or season?**

Revenue Trend Over Time

Values shown: 41.0, 10.5K, 5.4K, 861.6, 15.4K, 83.6K, 154.3K, 125.2K, 218.3K, 197.7K, 212.5K, 238.3K, 244.7K, 264.9K, 281.5K, 438.6K, 368.0K, 349.7K, 434.0K, 507.4K, 452.8K, 472.0K, 348.4K, 564.4K, 10.5K, 979.2

Y-axis: R$ 0,00 to R$ 550.0..

X-axis (Months): Aug, 16 — Oct, 16 — Dec, 16 — Feb, 17 — Apr, 17 — Jun, 17 — Aug, 17 — Oct, 17 — Dec, 17 — Feb, 18 — Apr, 18 — Jun, 18 — Aug, 18 — Oct, 18

- Sales have increase over time from 2016 to August 2018
- There is a sudden drop in sales from August 2018

Key Insights

- The Average Order Value on Olist is **160.**
- **Credit Cards** are the most preferred payment method, contributing to higher AOV.
- **Repeat Customers** contribute only **8.42%** of total sales, highlighting a need for improved customer retention strategies.
- **High Profit Margins** are observed in categories like Fixed Telephony, Computers, and Small Appliances.
- **75% of orders** are paid via Credit Cards, indicating customer preference for this payment method.
- **Popular Categories** like Health & Beauty, Watches & Gifts, and Bed & Bath Table drive the highest sales volumes and Revenue.
- The **average delivery time** is **12.4 days**, with Furniture and Fashion Shoes experiencing longer delivery times.
- **Late Deliveries** account for **8.11%** of orders, necessitating improvements in logistics and delivery operations.
- **Customer Reviews** are generally positive, with Fashion Children's Clothes receiving the highest ratings.

Recommendation

1. **Increase Repeat Purchases**:

   o Implement loyalty programs, such as discounts and rewards for repeat purchases.

   o Use personalized marketing campaigns to re-engage one-time buyers.

2. **Optimize Inventory Management**:

   o Increase stock for high-demand and high-margin categories like Computers, Fixed Telephony, and Small Appliances.

3. **Improve Delivery Efficiency**:
   o Collaborate with delivery partners to reduce delivery times, especially for categories like Furniture and Fashion Shoes.
   o Collect and analyse data on late deliveries to identify and address root causes.

4. **Enhance Customer Experience**:
   - o Address issues in low-rated categories like Security & Services to improve customer satisfaction.
   - o Provide additional incentives for customers using Credit Cards, such as cashback or discounts.

By implementing these recommendations, Olist can enhance operational efficiency, improve customer satisfaction, and drive sustainable revenue growth.

Thank You