

CUSTOMER BEHAVIOR AND SALES INSIGHTS ANALYSIS



Presented By:
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INTRODUCTION



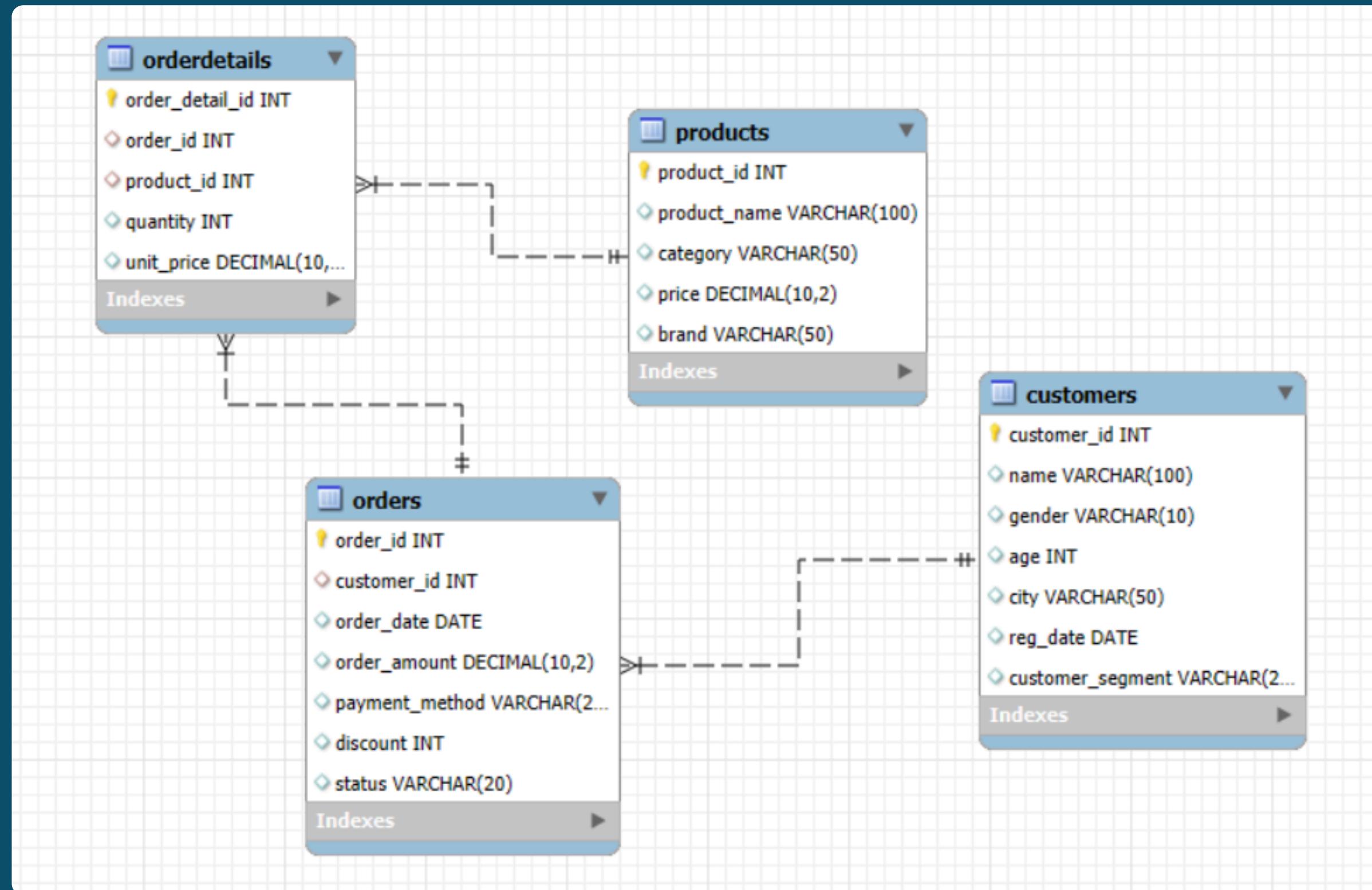
Objective: Demonstrate advanced SQL proficiency to derive actionable insights for strategic business decisions in the retail sector, focusing on customer behavior and sales performance.

Methodology: Utilizes SQL queries on a relational database (SalesTrendDB) comprising Customers, Products, Orders, and OrderDetails tables to analyze interconnected sales data.

Key Focus Areas:

- **Performance Monitoring:** Track monthly revenue trends to optimize strategic planning.
- **Market Analysis:** Identify top-performing regions and product categories to enhance marketing strategies.
- **Customer Profiling:** Segment customers by demographics and analyze discount and payment method impacts to tailor business strategies.

Entity Relationship Diagram



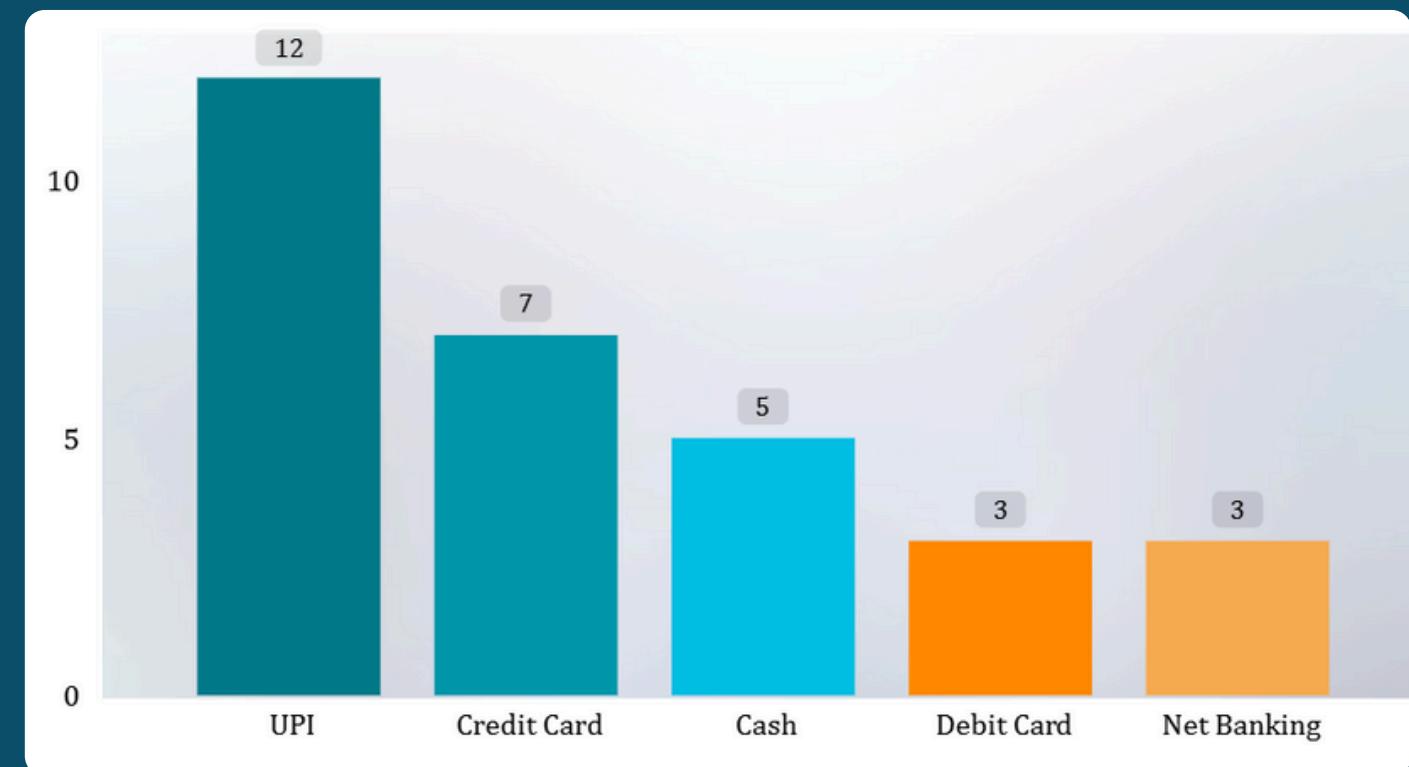
1. Most Popular Payment Method

Query:

```
SELECT  
    payment_method,  
    COUNT(order_id) AS method_count  
FROM Orders  
GROUP BY payment_method  
ORDER BY method_count DESC;
```

Output:

| | payment_method | method_count |
|---|----------------|--------------|
| ▶ | UPI | 12 |
| | Credit Card | 7 |
| | Cash | 5 |
| | Net Banking | 3 |
| | Debit Card | 3 |



Insight: UPI is the most popular payment method.

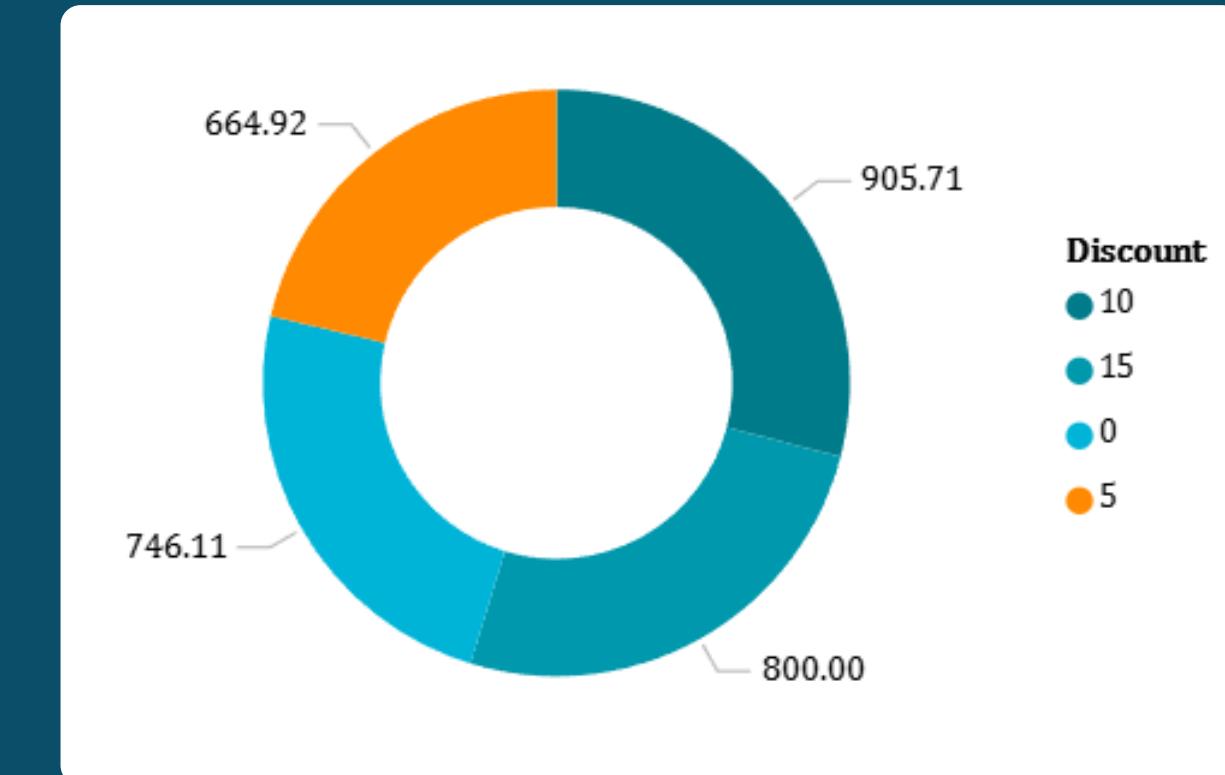
2. Average Order Amount by Discount

Query:

```
SELECT  
    discount,  
    ROUND(AVG(order_amount), 2) AS avg_order_amount  
FROM Orders  
GROUP BY discount  
ORDER BY discount;
```

Output:

| | discount | avg_order_amount |
|---|----------|------------------|
| ▶ | 0 | 746.11 |
| | 5 | 664.92 |
| | 10 | 905.71 |
| | 15 | 800.00 |



Insight: The highest average order value is associated with a 10% discount.

3. Monthly Revenue Trend

Query:

```
SELECT  
    DATE_FORMAT(order_date, '%m-%Y') AS order_month,  
    SUM(order_amount) AS monthly_revenue  
FROM Orders  
GROUP BY order_month  
ORDER BY order_month;
```

Output:

| order_month | monthly_revenue |
|-------------|-----------------|
| 03-2025 | 4090.00 |
| 04-2025 | 3945.00 |
| 05-2025 | 3860.00 |
| 06-2025 | 3280.00 |
| 07-2025 | 3819.00 |
| 08-2025 | 3640.00 |



Insight: Monthly revenue has fluctuated, with a significant dip in June 2025 and a partial recovery in July

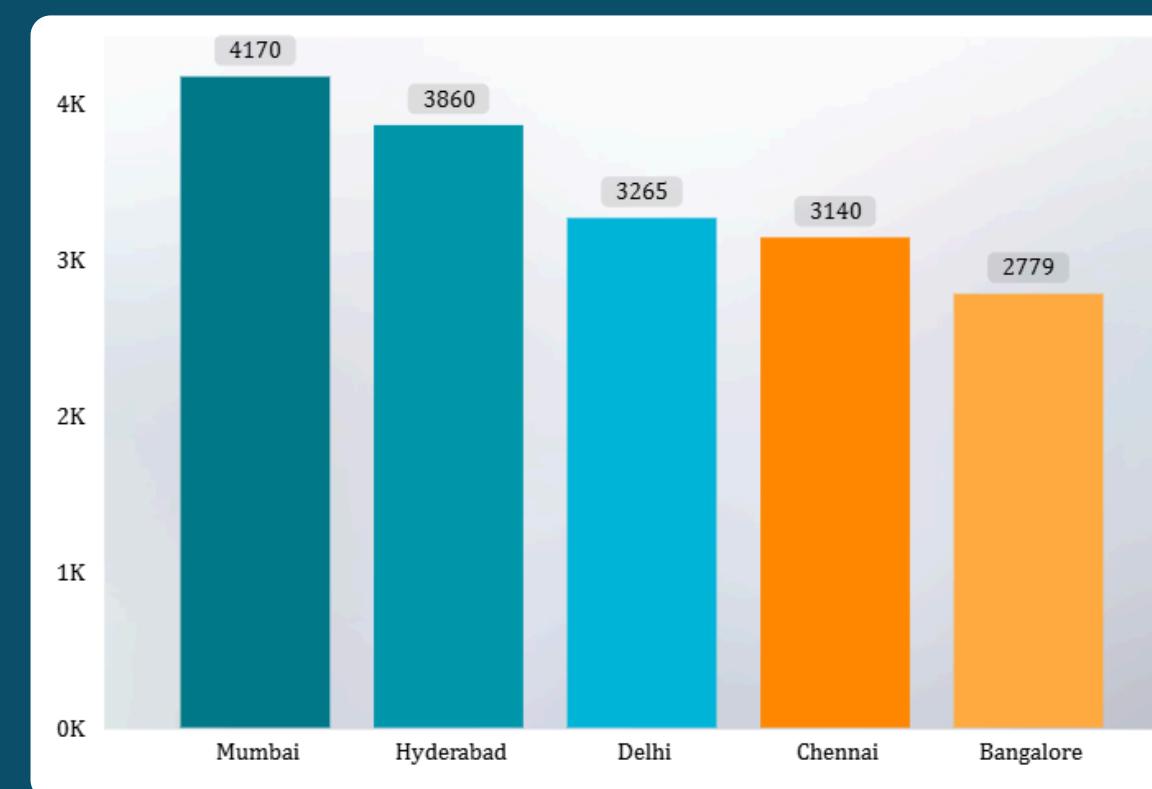
4. Top 5 Cities by Total Revenue

Query:

```
SELECT
    c.city,
    SUM(o.order_amount) AS total_revenue
FROM Orders o
JOIN Customers c ON o.customer_id = c.customer_id
GROUP BY c.city
ORDER BY total_revenue DESC
LIMIT 5;
```

Output:

| | city | total_revenue |
|---|-----------|---------------|
| ▶ | Mumbai | 4170.00 |
| | Hyderabad | 3860.00 |
| | Delhi | 3265.00 |
| | Chennai | 3140.00 |
| | Bangalore | 2779.00 |



Insight: Mumbai is the highest-revenue city.

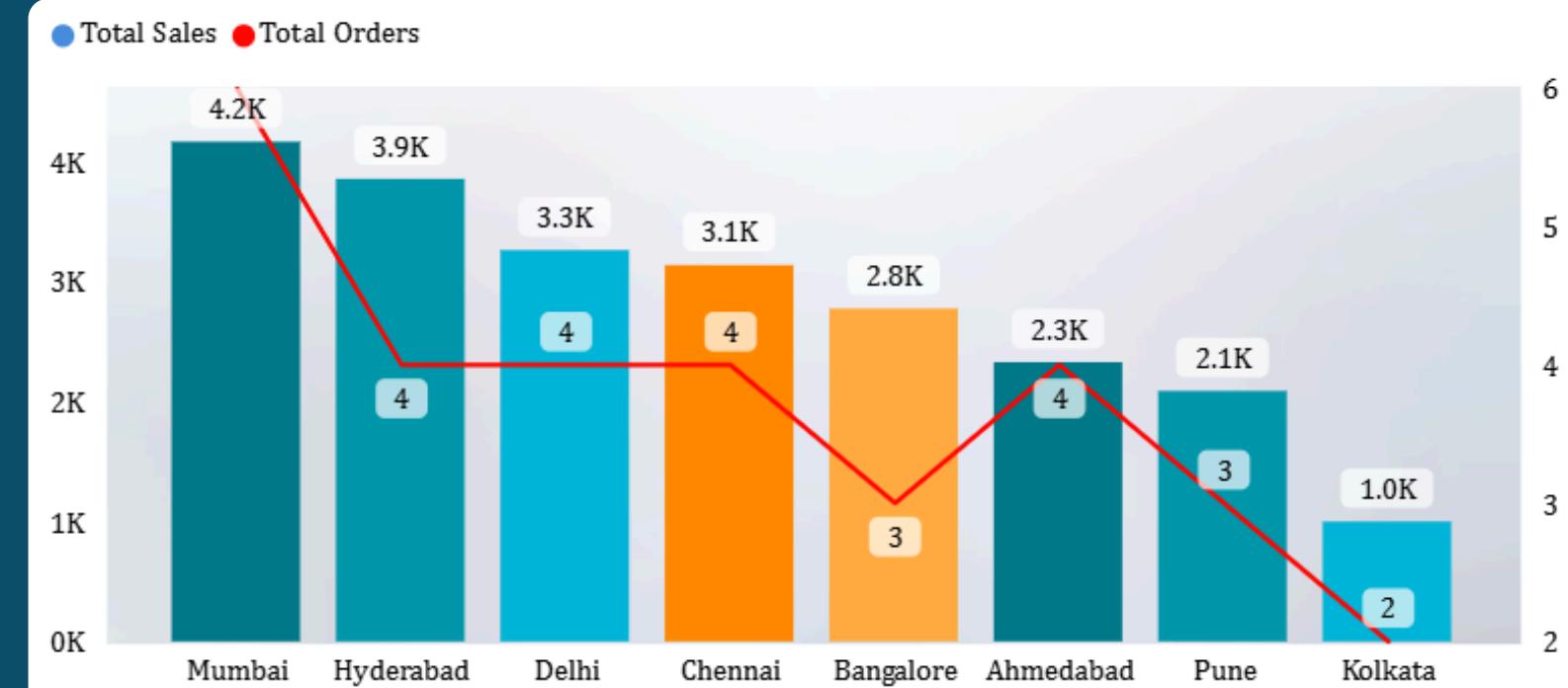
5. Sales and Customer Count by City

Query:

```
SELECT
    c.city,
    COUNT(o.order_id) AS total_orders,
    SUM(o.order_amount) AS total_sales
FROM Customers c
JOIN Orders o ON c.customer_id = o.customer_id
GROUP BY c.city
ORDER BY total_sales DESC;
```

Output:

| city | total_orders | total_sales |
|-----------|--------------|-------------|
| Mumbai | 6 | 4170.00 |
| Hyderabad | 4 | 3860.00 |
| Delhi | 4 | 3265.00 |
| Chennai | 4 | 3140.00 |
| Bangalore | 3 | 2779.00 |
| Ahmedabad | 4 | 2330.00 |
| Pune | 3 | 2090.00 |
| Kolkata | 2 | 1000.00 |



Insight: Mumbai leads in both total sales and order count.

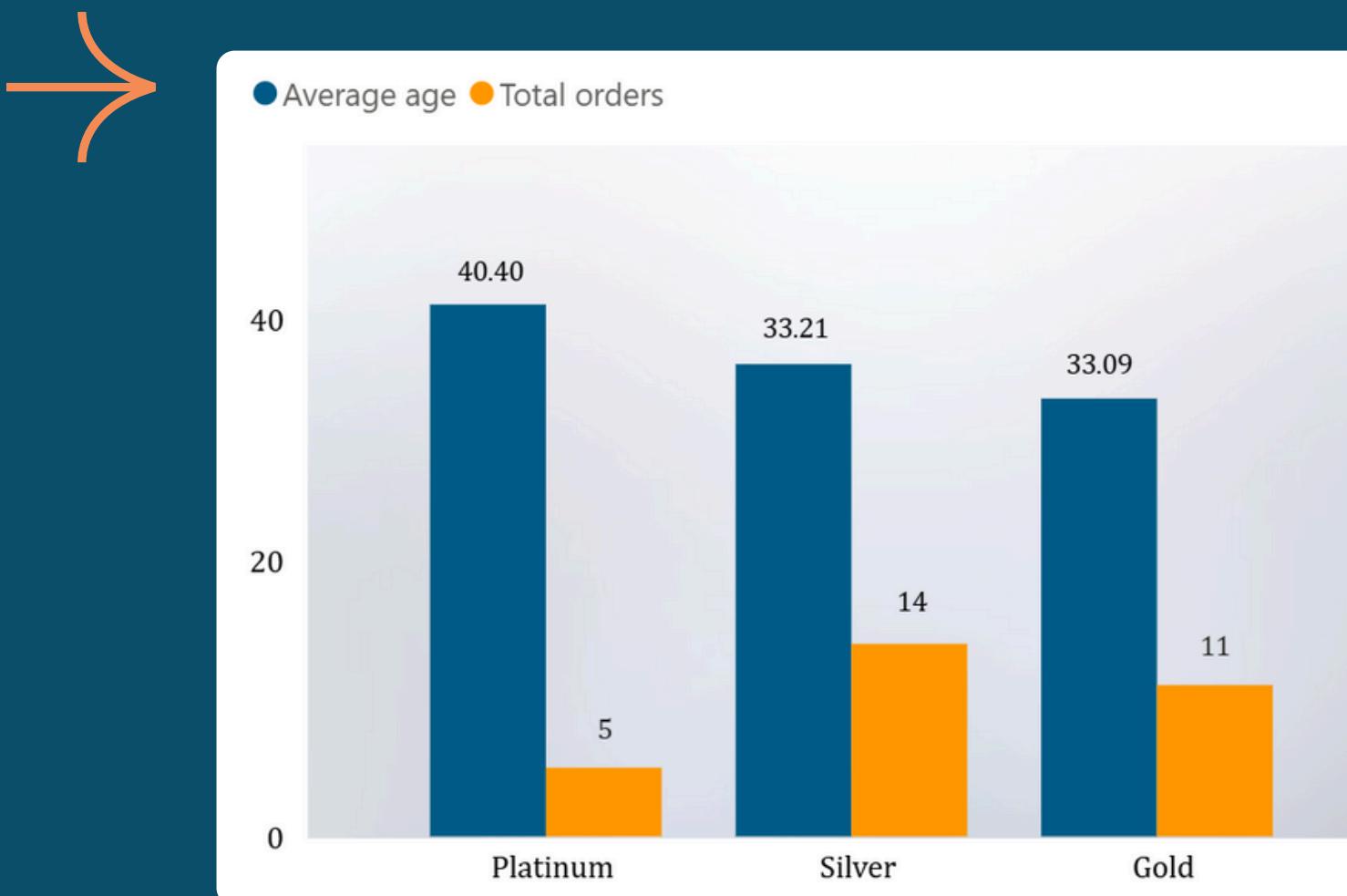
6. Average Age of Customers by Segment

Query:

```
SELECT  
    c.customer_segment,  
    ROUND(AVG(c.age), 2) AS avg_customer_age,  
    COUNT(o.order_id) AS total_orders  
FROM Customers c  
JOIN Orders o ON c.customer_id = o.customer_id  
GROUP BY c.customer_segment  
ORDER BY avg_customer_age DESC;
```

Output:

| customer_segment | avg_customer_age | total_orders |
|------------------|------------------|--------------|
| Platinum | 40.40 | 5 |
| Silver | 33.21 | 14 |
| Gold | 33.09 | 11 |



Insight: Platinum customers are the oldest, while Silver customers place the most orders.

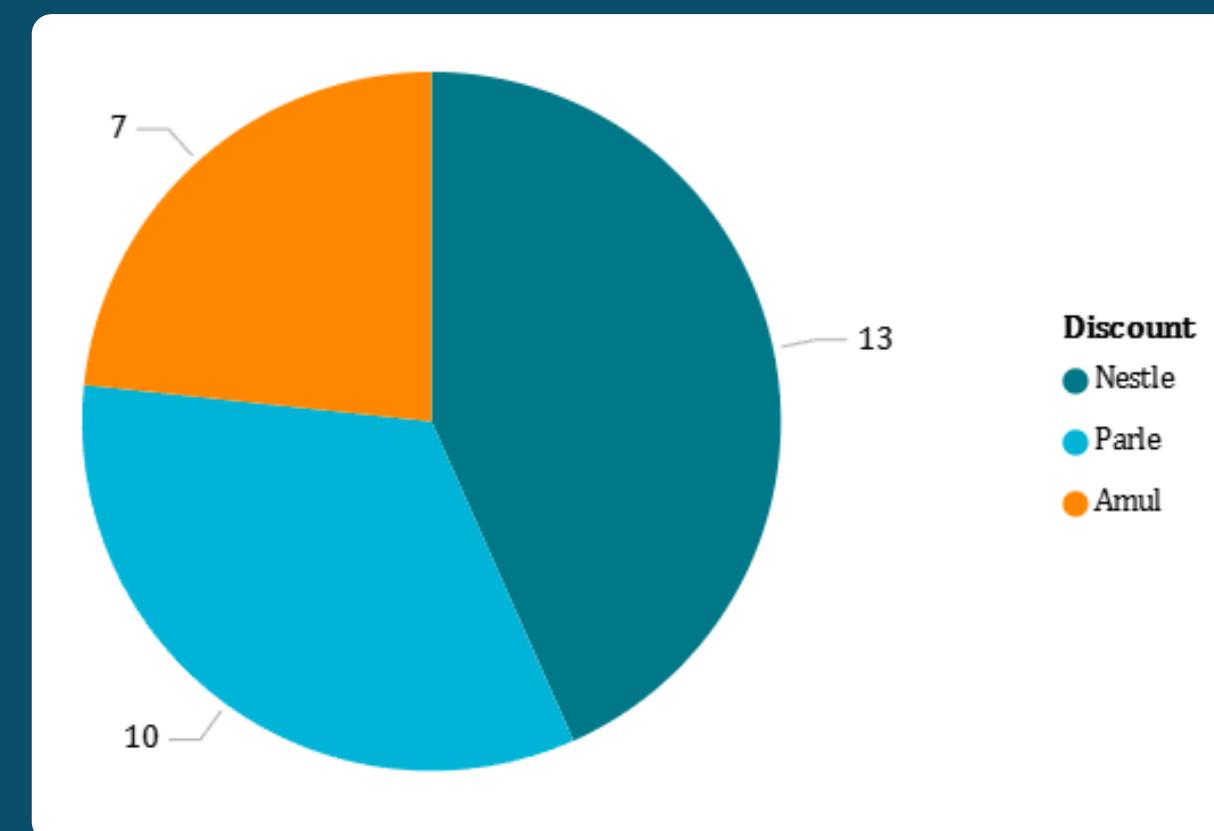
7. Top 3 Brands by Quantity Sold

Query:

```
SELECT
    p.brand,
    SUM(od.quantity) AS total_quantity_sold
FROM OrderDetails od
JOIN Products p ON od.product_id = p.product_id
GROUP BY p.brand
ORDER BY total_quantity_sold DESC
LIMIT 3;
```

Output:

| | brand | total_quantity_sold |
|---|--------|---------------------|
| ▶ | Nestle | 13 |
| | Parle | 10 |
| | Amul | 7 |



Insight: Nestle is the top-selling brand by quantity.

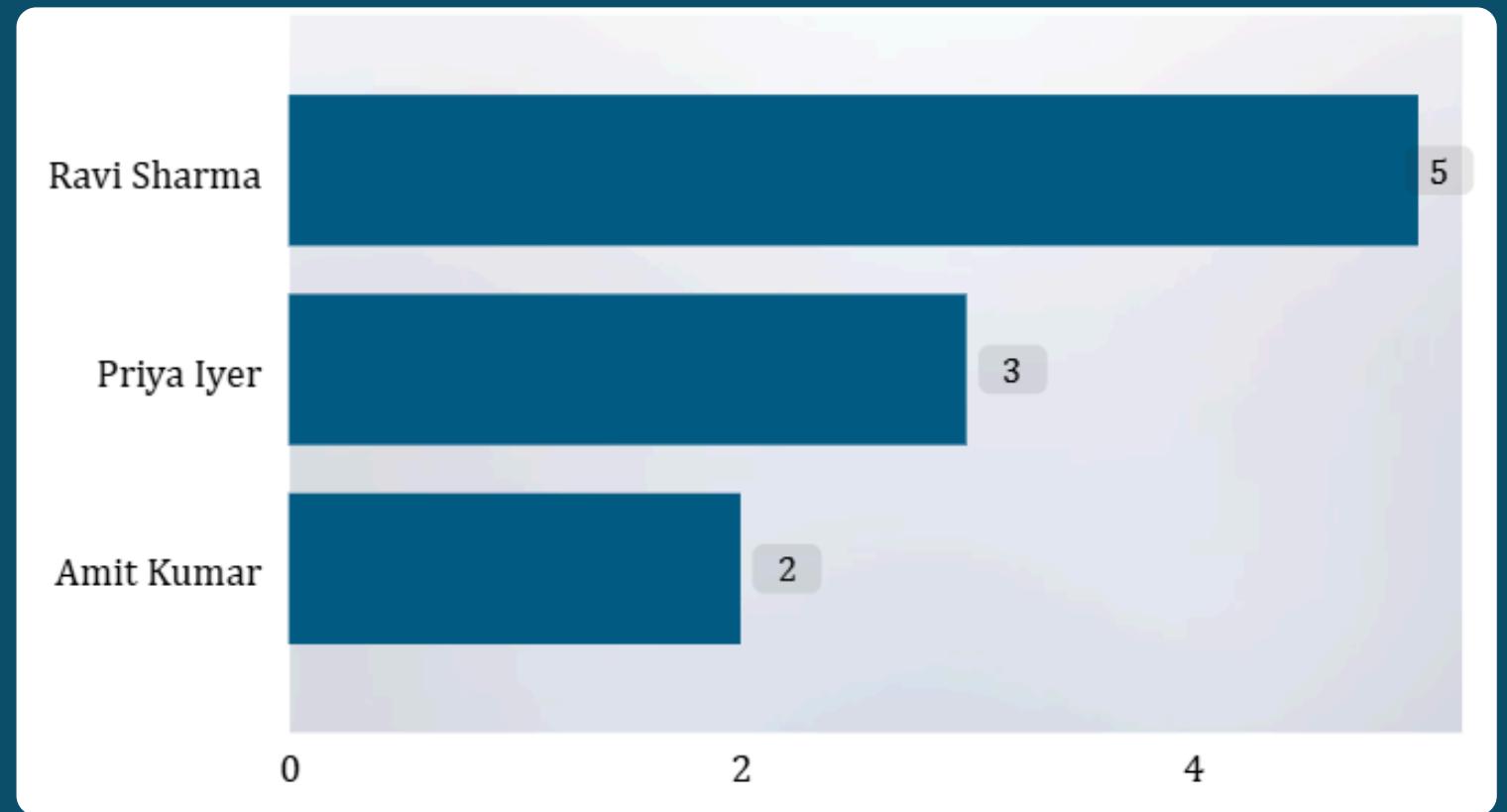
8. Top 3 Customers with High Order Count

Query:

```
SELECT
    c.name,
    COUNT(o.order_id) AS total_orders
FROM Customers c
JOIN Orders o ON c.customer_id = o.customer_id
GROUP BY c.name
HAVING COUNT(o.order_id) > 1
ORDER BY total_orders DESC
LIMIT 3;
```

Output:

| | name | total_orders |
|---|-------------|--------------|
| ▶ | Ravi Sharma | 5 |
| | Priya Iyer | 3 |
| | Amit Kumar | 2 |



Insight: Ravi Sharma is the most loyal customer with the highest number of orders.

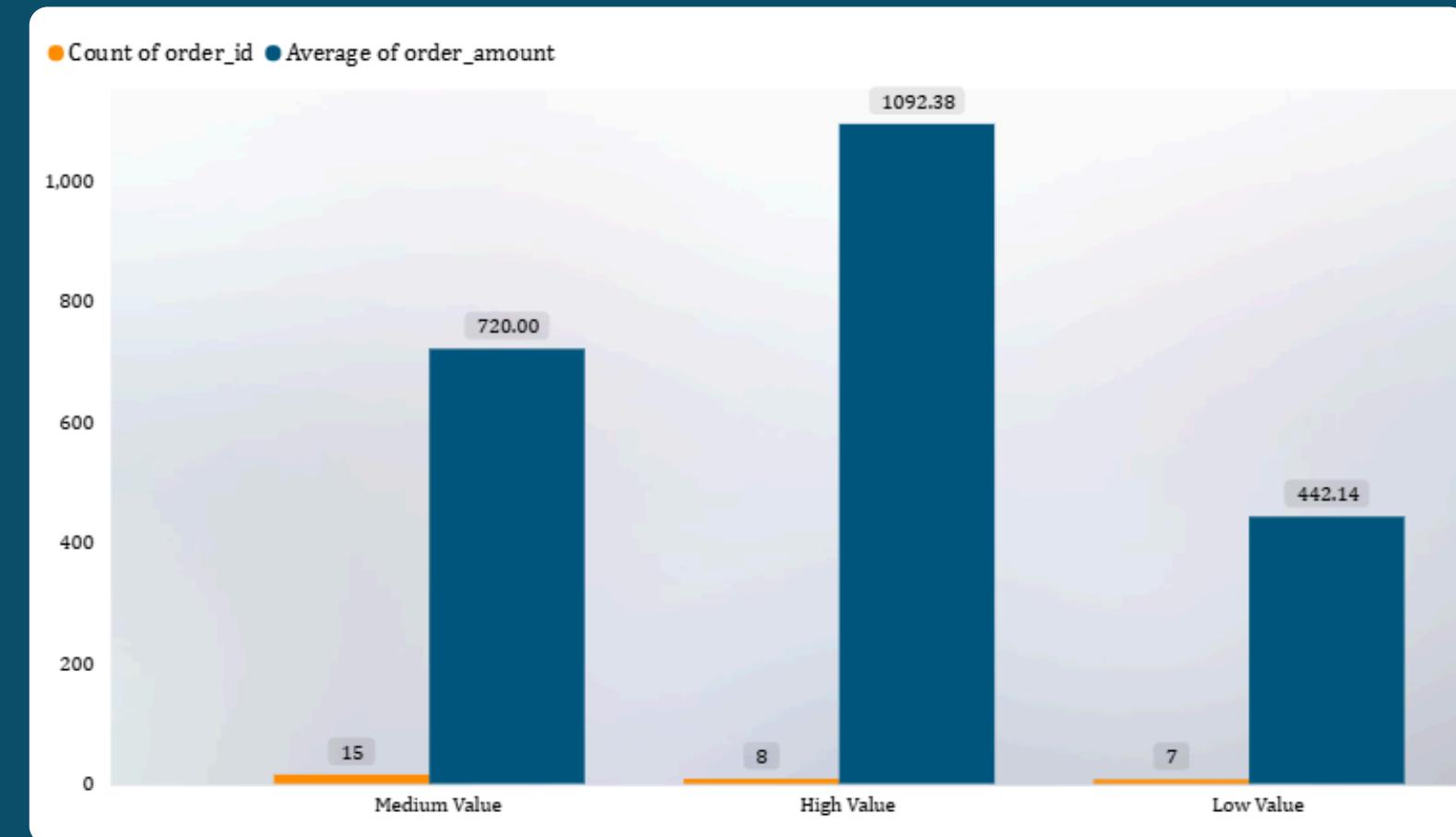
9. High-Value Orders by Customer Segment

Query:

```
SELECT
    CASE
        WHEN order_amount > 900 THEN 'High Value'
        WHEN order_amount > 500 THEN 'Medium Value'
        ELSE 'Low Value'
    END AS order_value_tier,
    COUNT(order_id) AS number_of_orders,
    ROUND(AVG(order_amount), 2) AS avg_order_amount
FROM Orders
GROUP BY order_value_tier
ORDER BY number_of_orders DESC;
```

Output:

| order_value_tier | number_of_orders | avg_order_amount |
|------------------|------------------|------------------|
| Medium Value | 15 | 720.00 |
| High Value | 8 | 1092.38 |
| Low Value | 7 | 442.14 |



Insight: The majority of orders are in the medium-value tier, but the high-value tier has the highest average order amount.

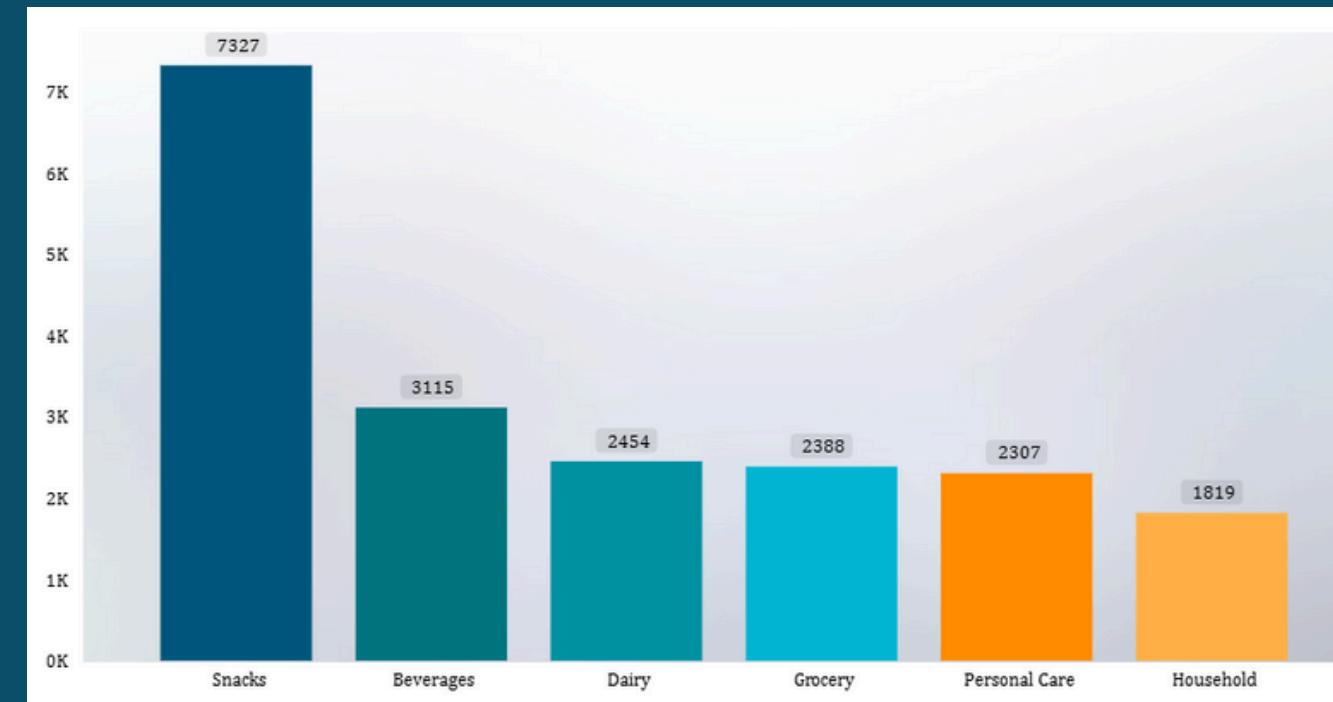
10. Product Category Revenue

Query:

```
SELECT
    p.category,
    SUM(od.quantity * od.unit_price) AS category_revenue
FROM OrderDetails od
JOIN Orders o ON od.order_id = o.order_id
JOIN Products p ON od.product_id = p.product_id
GROUP BY p.category
ORDER BY category_revenue DESC;
```

Output:

| | category | category_revenue |
|---|---------------|------------------|
| ▶ | Snacks | 7327.00 |
| | Beverages | 3115.00 |
| | Dairy | 2454.00 |
| | Grocery | 2388.00 |
| | Personal Care | 2307.00 |
| | Household | 1819.00 |



Insight: The Snacks category generates the highest revenue.

THANK YOU



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