Global E-Commerce Sales Analysis(SQL Project)

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Tools Used: MySQL, GitHub

Power BI

Introduction

- Objective: Analyze global e-commerce sales data to extract key business insights.

- Goal: Identify top-selling products, track monthly trends, and understand customer behavior.

Business Questions

1. What is the total sales amount for each month?
2. How many total orders were placed each month?
3. What is the average order value (AOV) per month?
4. What are the top 10 best-selling products based on quantity sold?
5. What is the total sales amount generated by each product category?
6. What is the average selling price per category?
7.Which countries had the highest total sales?
8.What is the number of customers and orders from each country?
9.How many new vs repeat customers placed orders?
10. Who are the top 5 customers based on total spending?
11 What is the average number of orders per customer?
12.What is the month-over-month sales growth rate?
13.On which weekdays are most orders placed?
14.Which product category is growing the fastest in monthly sales?

What is the total sales amount for each month?

```
16
17  SELECT
18      DATE_FORMAT(order_date, '%Y-%m') AS order_month,
19      CONCAT(ROUND(SUM(quantity * price) / 1000, 1),
20              'K') AS total_price
21  FROM
22      global_ecommerce
23  GROUP BY order_month
24  ORDER BY order_month;
25
```

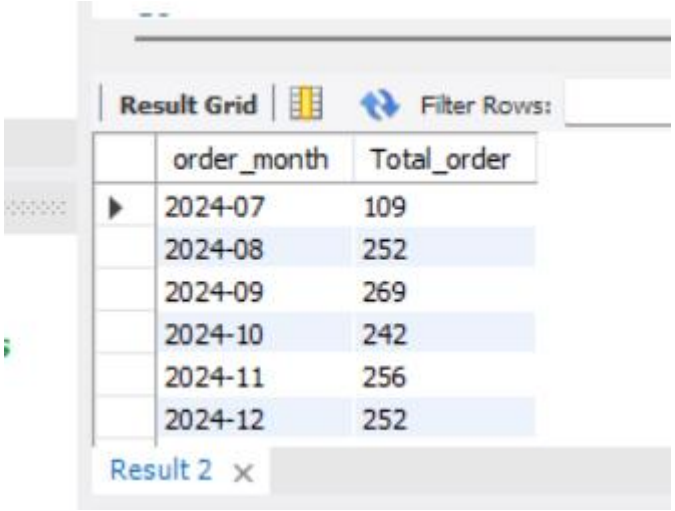
Result Grid | Filter Rows:

order_month	total_price
2024-07	132.9K
2024-08	319.1K
2024-09	325.2K
2024-10	276.9K
2024-11	317.1K
2024-12	322.4K

Result 1

How many total orders were placed each month?

```
37 •  SELECT
38        DATE_FORMAT(order_date, '%Y-%m') AS order_month,
39        COUNT(order_date) AS Total_order
40    FROM
41        global_ecommerce
42    GROUP BY order_month
43    ORDER BY order_month;
44
```



Result Grid | Filter Rows:

order_month	Total_order
2024-07	109
2024-08	252
2024-09	269
2024-10	242
2024-11	256
2024-12	252

Result 2

What is the average order value (AOV) per month?

```
53  SELECT
54      DATE_FORMAT(order_date, '%Y-%m') AS order_month,
55      ROUND(SUM(order_amount) / COUNT(ï»¿order_id),
56              2) AS avg_value
57  FROM
58      global_ecommerce
59  GROUP BY order_month
60  ORDER BY order_month;
61
```

Result Grid | Filter Rows:

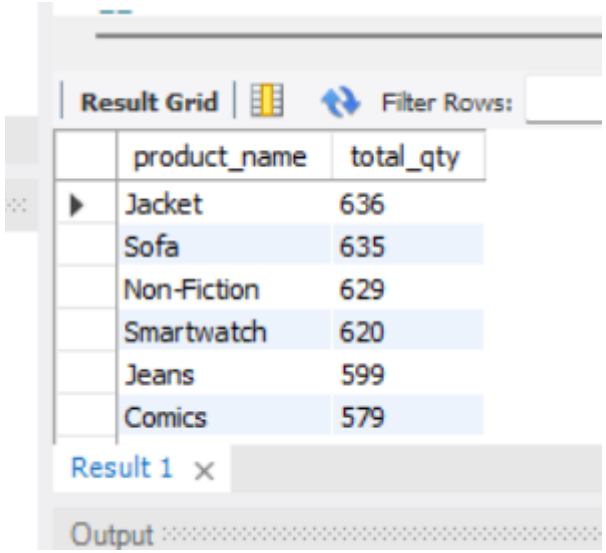
order_month	avg_value
2024-07	1219.13
2024-08	1266.36
2024-09	1209.06
2024-10	1144.25
2024-11	1238.78
2024-12	1279.35

Result 3 ×

Output

What are the top 10 best-selling products based on quantity sold?

```
56
57 •  SELECT
58        product_name, SUM(quantity) AS total_qty
59    FROM
70        global_ecommerce
71    GROUP BY product_name
72    ORDER BY total_qty DESC
73    LIMIT 10;
74
```



What is the total sales amount generated by each product category?

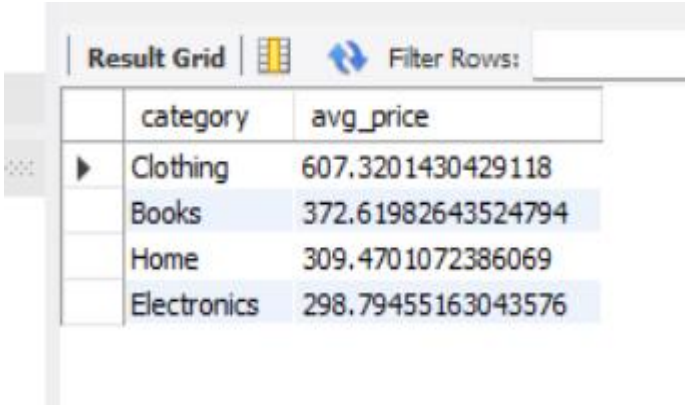
```sql
SELECT
    category, SUM(order_amount) AS total_sales
FROM
    global_ecommerce
GROUP BY category
ORDER BY total_sales DESC;
```

Result Grid | Filter Rows:

category	total_sales
Clothing	1444858.6600000036
Books	840725.0999999999
Home	707400.1500000005
Electronics	668670.250000004

What is the average selling price per category?

```sql
SELECT
    category, AVG(price) AS avg_price
FROM
    global_ecommerce
GROUP BY category
ORDER BY avg_price DESC;
```



category	avg_price
Clothing	607.3201430429118
Books	372.61982643524794
Home	309.4701072386069
Electronics	298.79455163043576

Which countries had the highest total sales?

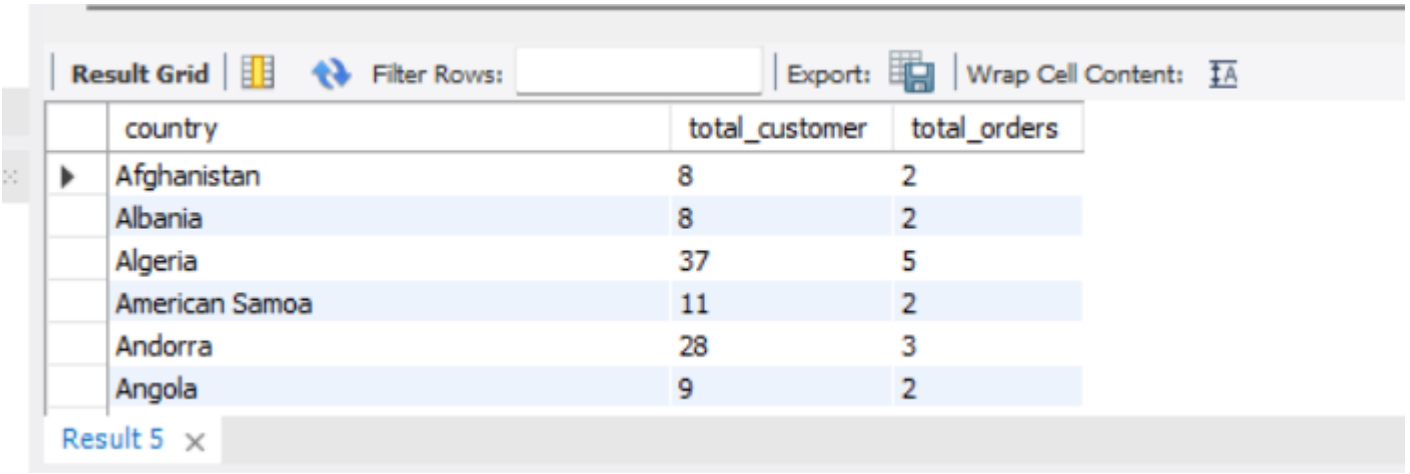
```
98  SELECT
99      country, SUM(quantity * price) AS total_sales
100 FROM
101     global_ecommerce
102 GROUP BY country
103 ORDER BY total_sales DESC
104 LIMIT 10;
```

Result Grid | Filter Rows:

country	total_sales
Ireland	59494.14
Algeria	52089.64000000001
Bahamas	51517.310000000005
Grenada	50529.03
Congo	49020.91
Cayman Islands	42177.939999999995

What is the number of customers and orders from each country?

```
108 •   SELECT
109         country,
110         COUNT(ï»¿order_id) AS total_customer,
111         COUNT(DISTINCT customer_id) AS total_orders
112     FROM
113         global_ecommerce
114     GROUP BY country;
115
```

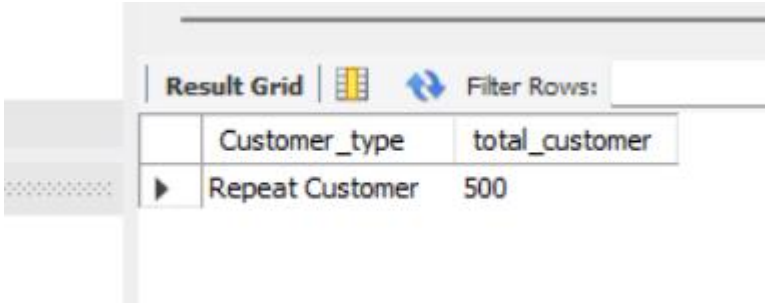


country	total_customer	total_orders
Afghanistan	8	2
Albania	8	2
Algeria	37	5
American Samoa	11	2
Andorra	28	3
Angola	9	2

Result 5

How many new vs repeat customers placed orders?

```
121 •  SELECT
122        CASE
123            WHEN DATE(order_date) = DATE(registration_date) THEN "New Customer"
124            ELSE "Repeat Customer"
125    END AS Customer_type,
126         COUNT(DISTINCT customer_id) AS total_customer
127    FROM  global_ecommerce
128    GROUP BY Customer_type;
129
```



Who are the top 5 customers based on total spending?

```sql
SELECT
    customer_name,
    customer_id,
    ROUND(SUM(order_amount), 2) AS total_spent
FROM
    global_ecommerce
GROUP BY customer_name , customer_id
ORDER BY total_spent DESC
LIMIT 5;
```

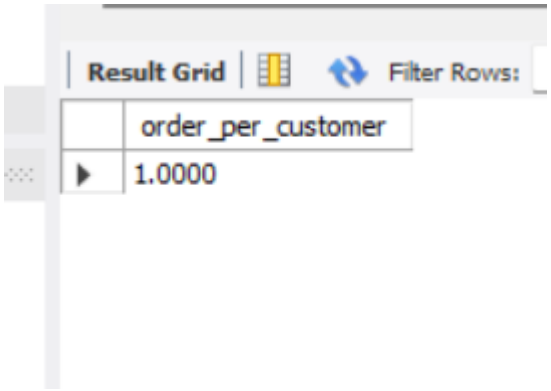
Result Grid | Filter Rows:

customer_name	customer_id	total_spent
Eugene Miller	105	22564.43
Lori Allen	346	20633.75
Jennifer Knox	491	19967.68
Anthony Cruz	319	19957.99
Samantha Smith	289	19691.93

Result 7

What is the average number of orders per customer?

```
146
147 •  SELECT
148        COUNT(ï»¿order_id) / COUNT(customer_id) order_per_customer
149    FROM
150        global_ecommerce;
151
```



.What is the month-over-month sales growth rate?

```sql
WITH monthly_sales AS (
    SELECT
        DATE_FORMAT(order_date, '%Y-%m') AS order_month,
        SUM(order_amount) AS total_sales
    FROM global_ecommerce
    GROUP BY order_month
)
SELECT
    order_month,
    total_sales,
    ROUND(
        ((total_sales - LAG(total_sales) OVER (ORDER BY order_month)) /
          LAG(total_sales) OVER (ORDER BY order_month)) * 100, 2
    ) AS growth_rate_percent
FROM monthly_sales;
```

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

order_month	total_sales	growth_rate_percent
2024-07	132885.43999999997	NULL
2024-08	319121.54000000004	140.15
2024-09	325236.5899999998	1.92
2024-10	276908.4299999999	-14.86
2024-11	317128.2499999998	14.52

Result 9

On which weekdays are most orders placed?

```
173
174 •  SELECT
175        DAYNAME(order_date) AS weekday, COUNT(*) AS total_orders
176    FROM
177        global_ecommerce
178    GROUP BY weekday
179    ORDER BY total_orders DESC;
180
```

Result Grid | Filter Rows:

weekday	total_orders
Tuesday	445
Sunday	445
Wednesday	439
Friday	429
Saturday	420

Result 10 ×