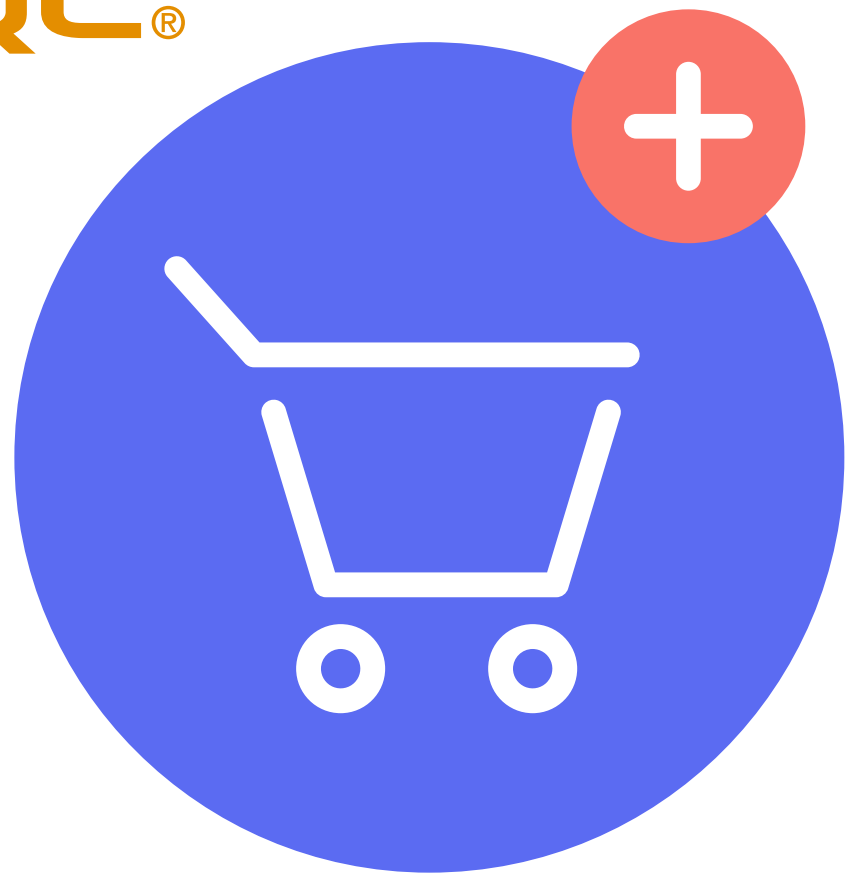
E-COMMERCE COMPANY

SQL Project



Top 3 cities with the highest number of customers

SQL

```sql
Select location,
count(*) as number_of_customers
 From Customers
Group by location
Order by  number_of_customers  desc
Limit 3;
```

location	number_of_customers
Delhi	16
Chennai	15
Jaipur	11

Distribution of customers by the number of orders placed

```sql
WITH cte AS (
    SELECT
        customer_id,
        COUNT(*) AS NumberOfOrders
    FROM orders
    GROUP BY customer_id
)
SELECT
    NumberOfOrders,
    COUNT(*) AS CustomerCount
FROM cte
GROUP BY NumberOfOrders
ORDER BY NumberOfOrders ASC;
```

NumberOfOrders	CustomerCount
1	26
2	26
3	18
4	6
5	6
6	1
8	1

Products where the average purchase quantity per order is 2 but with a high total revenue, suggesting premium product trends.

```sql
SELECT
    product_id,
    AVG(quantity) AS AvgQuantity,
    SUM(quantity * price_per_unit) AS TotalRevenue
FROM OrderDetails
GROUP BY product_id
having AVG(quantity)=2
Order by TotalRevenue desc;
```

product_id	AvgQuantity	TotalRevenue
1	2.0000	1620000
8	2.0000	390000

Unique number of customers for each product category

```sql
Select p.category,count(distinct (o.customer_id)) as unique_customers
From Products as p
Join  OrderDetails as od
on p.product_id=od.product_id
join orders as o
on od.order_id=o.order_id
Group by p.category
Order by unique_customers desc;
```

category	unique_customers
Electronics	79
Wearable Tech	61
Photography	45

month-on-month percentage change in total sales

```sql
with sub as (
Select Date_Format(Order_date ,"%Y-%m") as Month,
sum(total_amount) as TotalSales,
Lag(sum(total_amount)) over(Order by Date_Format(Order_date ,"%Y-%m"))
as Previous_month_revenue
From Orders
Group by Month)
Select Month,TotalSales,
Round((TotalSales-Previous_month_revenue)/Previous_month_revenue*100,2)
as PercentChange
From Sub;
```

Month	TotalSales	PercentChange
2023-03	789000	NULL
2023-04	1704000	115.97
2023-05	1582000	-7.16
2023-06	1040000	-34.26
2023-07	2568000	146.92
2023-08	1800000	-29.91
2023-09	2927000	62.61
2023-10	1497000	-48.86
2023-11	1151000	-23.11
2023-12	2774000	141.01
2024-01	1555000	-43.94
2024-02	396000	-74.53

month-on-month average order value change

```sql
with sub as (
Select Date_Format(order_date,"%Y-%m") as Month,
Round(avg(total_amount),2) as AvgOrderValue
from Orders
Group by Date_Format(order_date,"%Y-%m"))
Select Month,AvgOrderValue,
Round(AvgOrderValue-Lag(AvgOrderValue) over(Order by Month),2)
 as ChangeInValue
From sub
Order by ChangeInValue desc;
```

Month	AvgOrderValue	ChangeInValue
2023-12	132095.24	36178.57
2023-04	81142.86	20450.55
2023-06	104000.00	16111.11
2023-08	112500.00	13730.77
2023-11	95916.67	12750.00
2023-09	121958.33	9458.33
2023-05	87888.89	6746.03
2024-01	129583.33	-2511.91
2023-07	98769.23	-5230.77
2023-10	83166.67	-38791.66
2024-02	44000.00	-85583.33
2023-03	60692.31	NULL

Products with the fastest turnover rates

```sql
Select  product_id,
count(*) as SalesFrequency
 from OrderDetails
 Group by product_id
 Order by SalesFrequency desc
 Limit 5;
```

product_id	SalesFrequency
7	78
3	68
4	68
2	67
8	65

Products purchased by less than 40% of the customer base

```sql
Select p.product_id,p.name,
count(distinct o.customer_id) as UniqueCustomerCount
from customers as c
join orders as o
on c.customer_id=o.customer_id
join orderdetails as od
on o.order_id=od.order_id
join products as p
on od.product_id=p.product_id
Group by 1,2
having count(distinct o.customer_id)< (Select count(* )*0.4 from Customers);
```

product_id	name	UniqueCustomerCount
1	Smartphone 6"	36
8	Wireless Earbuds	38

month-on-month growth rate in the customer base

```sql
With sub as (
Select Customer_id,
 Date_Format(min(Order_date),"%Y-%m")
  as FirstPurchaseMonth
From Orders
Group by Customer_id)
Select FirstPurchaseMonth,
Count(distinct Customer_id) as TotalNewCustomers
From sub
Group by FirstPurchaseMonth
Order by FirstPurchaseMonth asc;
```

FirstPurchaseMonth	TotalNewCustomers
2023-03	11
2023-04	18
2023-05	11
2023-06	8
2023-07	11
2023-08	9
2023-09	5
2023-10	3
2023-11	1
2023-12	4
2024-01	2
2024-02	1

Months with the highest sales volume

```sql
Select Date_Format(order_date,"%Y-%m") as Month,
sum(total_amount) as TotalSales
 from Orders
 Group by Date_Format(order_date,"%Y-%m")
 Order by TotalSales desc
 Limit 3;
```

Month	TotalSales
2023-09	2927000
2023-12	2774000
2023-07	2568000