

# MONTHLY REVENUE AND ORDER VOLUME ANALYSIS REPORT

Prepared by: Mohammed Afrar

Date: April 29, 2025

## 1. OBJECTIVE

The goal of this analysis is to assess revenue trends and order volume over time using SQL queries on the `online_sales` dataset. By grouping sales data by year and month, we aim to derive insights into business performance and customer purchasing patterns.

## 2. DATA OVERVIEW

The dataset contains the following fields:

- `order_id` (Unique identifier for each order)
- `order_date` (Date of purchase)
- `amount` (Revenue generated per order)
- `product_id` (Identifier for the purchased product)

## 3. SQL QUERY USED

### • Average revenue per order :

```
SELECT  
EXTRACT(YEAR FROM order_date) AS  
year,  
EXTRACT(MONTH FROM order_date) AS  
month,  
SUM(amount) AS monthly_revenue,
```

```
COUNT(DISTINCT order_id) AS  
order_volume FROM    online_sales  
GROUP BY    year, month ORDER BY  
year, month;
```

- **Highest and Lowest Revenue Months:**

```
SELECT  
    EXTRACT(YEAR FROM order_date) AS year,  
    EXTRACT(MONTH FROM order_date) AS month,  
    SUM(amount) AS monthly_revenue  
FROM  
    online_sales  
GROUP BY  
    year, month  
ORDER BY  
    monthly_revenue DESC  
LIMIT 1; -- Highest revenue month
```

```
SELECT  
    EXTRACT(YEAR FROM order_date) AS year,  
    EXTRACT(MONTH FROM order_date) AS month,  
    SUM(amount) AS monthly_revenue  
FROM  
    online_sales  
GROUP BY  
    year, month  
ORDER BY  
    monthly_revenue ASC  
LIMIT 1;
```

- **Cumulative sales:**

```
SELECT
    year,
    month,
    SUM(monthly_revenue) OVER (ORDER BY year, month) AS cumulative_revenue
FROM (
    SELECT
        EXTRACT(YEAR FROM order_date) AS year,
        EXTRACT(MONTH FROM order_date) AS month,
        SUM(amount) AS monthly_revenue
    FROM
        online_sales
    GROUP BY
        year, month
) subquery;
```

4. Results Summary

| Year | Month | Total Revenue | Order Volume | Average order value | Cumulative revenue |
|------|-------|---------------|--------------|---------------------|--------------------|
| 2023 | Jan   | INR 250.00    | 2            | INR 125.00          | INR 250.00         |
| 2023 | Feb   | INR 450.00    | 2            | INR 225.00          | INR 700.00         |
| 2023 | Mar   | INR 300.00    | 1            | INR 300.00          | INR 1000.00        |

5. OBSERVATIONS & INSIGHTS

- January had moderate sales (INR 250.00) and two orders, suggesting steady early-year demand
- February saw the highest revenue (INR 450.00) and order volume, possibly indicating seasonal spikes or promotions.
- March had fewer transactions but maintained decent revenue, suggesting higher-value purchases per order.