Retail Business Performance & Profitability Analysis

Project Objective

The goal of this project is to analyze retail sales data to:

- Identify high-profit and loss-making product categories.

- Evaluate regional sales performance.

- Discover monthly sales patterns.

- Provide actionable recommendations to improve business decisions.

Tools & Technologies Used

- **MySQL Workbench** – For performing SQL queries and analysis.

- **Tableau Public** – For creating interactive dashboards and visualizations.

- **Microsoft Excel** – For initial data cleaning and formatting.

- **Dataset** – Superstore Sales Dataset (from Kaggle).

Steps Followed

1. Data Preparation (Excel)

- Opened the raw Superstore dataset in Excel.

- Removed empty rows and handled missing values in sales/profit columns.

- Ensured date fields were formatted correctly (MM/DD/YYYY).

- Saved the cleaned data as superstore_sales.csv for SQL import.

2. SQL Analysis

Performed the following queries in MySQL:

sql

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```
-- Total Profit by Region

SELECT Region, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit

FROM superstore_sales

GROUP BY Region;
```

```
-- Monthly Sales Trend

SELECT MONTH(`Order Date`) AS Month, SUM(Sales) AS Total_Sales

FROM superstore_sales

GROUP BY MONTH(`Order Date`)

ORDER BY Month;


-- Profit by Category and Sub-Category

SELECT Category, `Sub-Category`, SUM(Profit) AS Total_Profit

FROM superstore_sales

GROUP BY Category, `Sub-Category`

ORDER BY Total_Profit DESC;
```
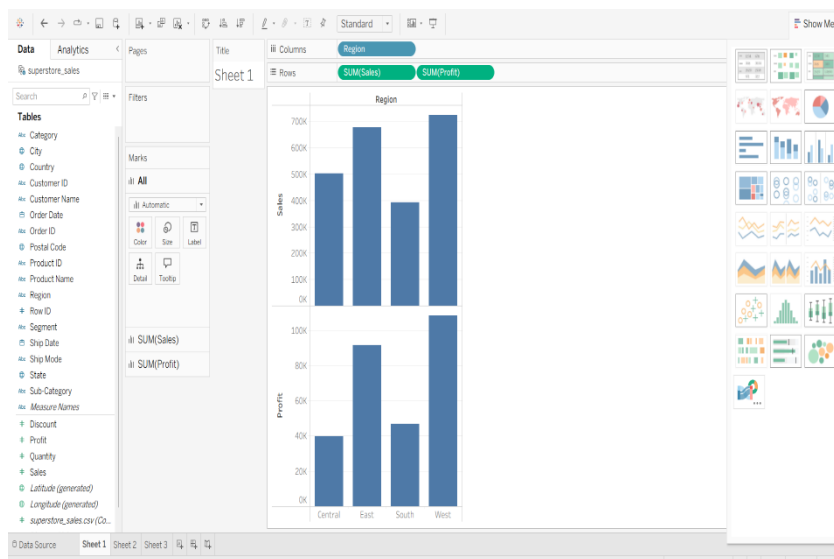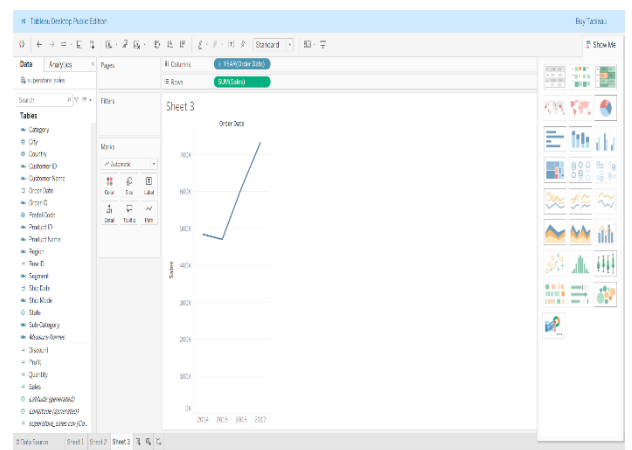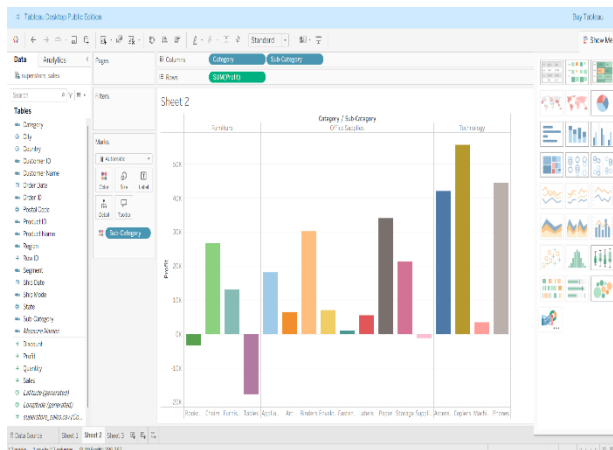

Tableau Dashboard Overview

Dashboards created in Tableau included the following:

- **Sales & Profit by Region** (Bar Chart)

- **Profit by Category and Sub-Category** (Stacked Bar Chart)

- **Monthly Sales Trend** (Line Chart)

- **Interactive Filters** (for Region, Category, Month)

Note: Dashboards are available in the .twbx Tableau workbook uploaded on GitHub.

Key Business Insights

- The **West region** generated the highest profit among all regions.

- The **Technology** category contributed the most to profit.

- The **Furniture** category showed negative profits in certain regions, especially Central and South.

- **Sales peaked in November and December**, indicating strong holiday-season performance.

Conclusion

This project used SQL and Tableau to explore and visualize key business metrics in retail sales. The analysis revealed profit trends across regions and categories and supported strategic decision-making for product focus and regional planning.

These insights can help businesses:

- Prioritize profitable categories like Technology.

- Re-evaluate underperforming segments like Furniture.

- Align marketing and inventory for peak seasons.

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