Sales Performance Dashboard

Project Overview:

The **Sales Performance Dashboard** project aims to analyze sales data efficiently using various tools and technologies, including **Power Query, Microsoft Excel, Power BI, SQL, and Python (Pandas)**. The project focuses on data cleaning, visualization, and generating insightful reports to enhance business decision-making.

Tools Used:

- **Power Query**
- **Microsoft Excel**
- **Power BI**
- **SQL**
- **Python (Pandas)**

Data Cleaning & Preparation:

Power Query:

- Removed duplicate records to ensure data accuracy.
- Converted **Ordered Date** column from DateTime type to Date type.
- Removed blank rows to maintain data integrity.
- Capitalized text values in name-related columns.
- Rounded profit values for consistency.
- Extracted **Month Name** and **Day Name** from the **Ordered Date** column.
- Extracted **First Name** and **Second Name** from the **Customer Name** column.
- Created a **Profit Status** column (High/Low) using conditional logic.

Data Processing in Microsoft Excel:

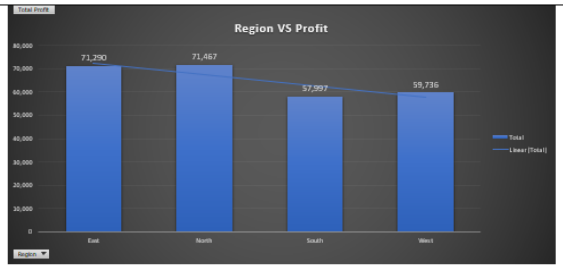
- Applied proper alignment (**center, middle align**) for readability.
- Applied **table styles** and added borders to improve presentation.
- Highlighted high-profit orders in **yellow-orange** with italicized fonts.

- Implemented **Data Validation** in the **Region** column (List: East, West, North, South) with input and error messages (Style: Warning).
- Created summary calculations:
    - **Last Ordered Date**
    - **Earliest Ordered Date**
    - **Number of High-Profit Orders**
    - **Number of Low-Profit Orders**
- Developed **Pivot Tables & Charts** for analysis:
    - **Region vs Profit**
    - **Category vs Sales**
    - **Profit Status vs No. of Orders**
    - **Sales Rep vs Sales**
    - **Date vs Sales (Line Chart)**
- Used **INDEX MATCH** to identify the **Top-Selling Product**.
- Applied **Full-Row VLOOKUP** for lookup operations.
- Protected **Pivot Tables, Charts, and Calculation** sheet except the **Lookup Value Cell** (Password: 1234).

Region vs Profit	
Region	Total Profit
East	71,290
North	71,467
South	57,997
West	59,736
Grand Total	2,60,490

Category VS Sales	
Category	Total Sales
Clothing	2,81,335
Electronics	3,37,167
Furniture	4,17,386
Groceries	3,02,826
Grand Total	13,38,714

Profit Status VS No of order	
Profit Status	No of order
High Profit	73
Low Profit	427
Grand Total	500



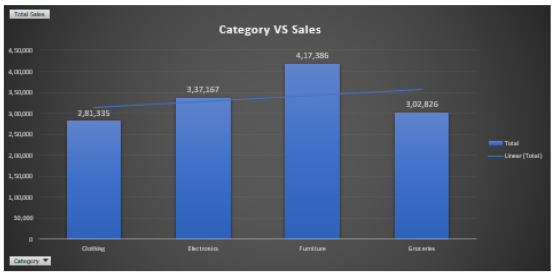
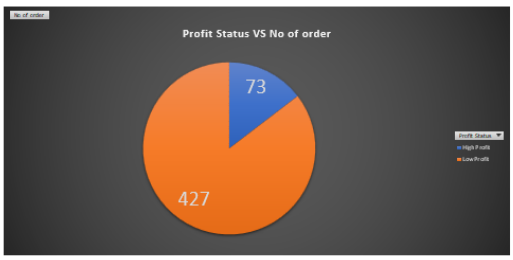


Fig.1

Sales Rep VS Sales	
Sales Rep	Total Sales
Chris Wilson	2,51,824
David Johnson	2,53,602
Emma Brown	2,56,412
Jane Smith	2,59,107
John Doe	3,17,768
Grand Total	13,38,714

Date VS Sales		
Ordered Year	Ordered Month	Total Sales
2024	Mar	45891.62
	Apr	127349.74
	May	122936.82
	Jun	100820.19
	Jul	116668.07
	Aug	106134.71
	Sep	136950.55
	Oct	111964.25
	Nov	104116.93
	Dec	95664.53
2024 Total		1068497.41
2025	Jan	105189.74
	Feb	110906.4
	Mar	54120.8
2025 Total		270216.94
Grand Total		1338714.35



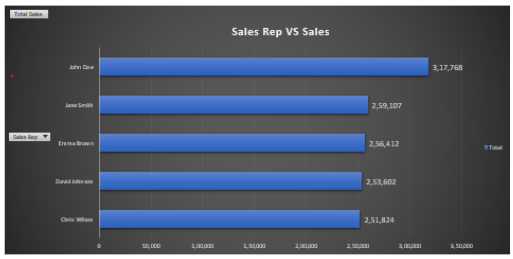
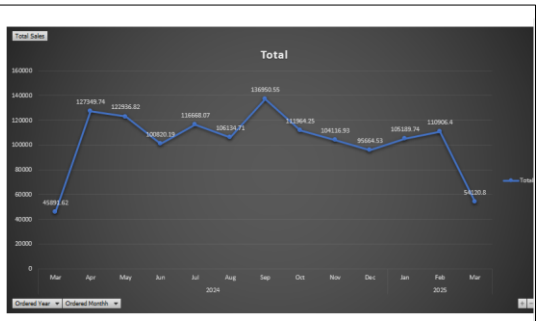


Fig.2

Latest Ordered Date	13 March 2025
Earliest Ordered Date	13 March 2024
No of high profit orders	73
No of low profit orders	427
Top selling product	Shoes



Order ID	Ordered Date	Ordered Month	Ordered Day Name	Customer Name	First name	Second name	Product	Category	Sales Amount	Quantity	Discount	Exact Profit	Profit Rounded	Profit Status	Region	Sales Rep
ORD-2016	11-04-2024	April	Thursday	Dawn Guzman	Dawn	Guzman	Cabinet	Furniture	2761.36	7	488.86	295.88	296.00	Low Profit	East	Jane Smith

Fig.3

Report Development in Power BI:

Visualizations & Dashboards:

- **Single Row Cards**: Total Sales, Total Profit, Total Discount.
- **Slicers**: Category, Sales Rep, Region.
- **Matrix**: Category vs Sales by Region.
- **Pie Chart**: Category vs Profit.
- **Line Chart**: Date vs Sales.
- **Multi-Row Card**: Top 3 Most Profitable Categories.
- **Matrix**: Product vs Quantity.
- **Bar Chart**: Sales Rep vs Sales.
- **Donut Chart**: Category vs Discount.
- **Gauge Chart**: Sales Done vs Sales Target.
- **Matrix**: Region vs High/Low Profit Product Count.
- **Bar Chart**: Product vs Sales.

Additional Steps:

- Published the report to **Power BI Service**.
- Pinned visuals to a **Power BI Dashboard** for real-time tracking.

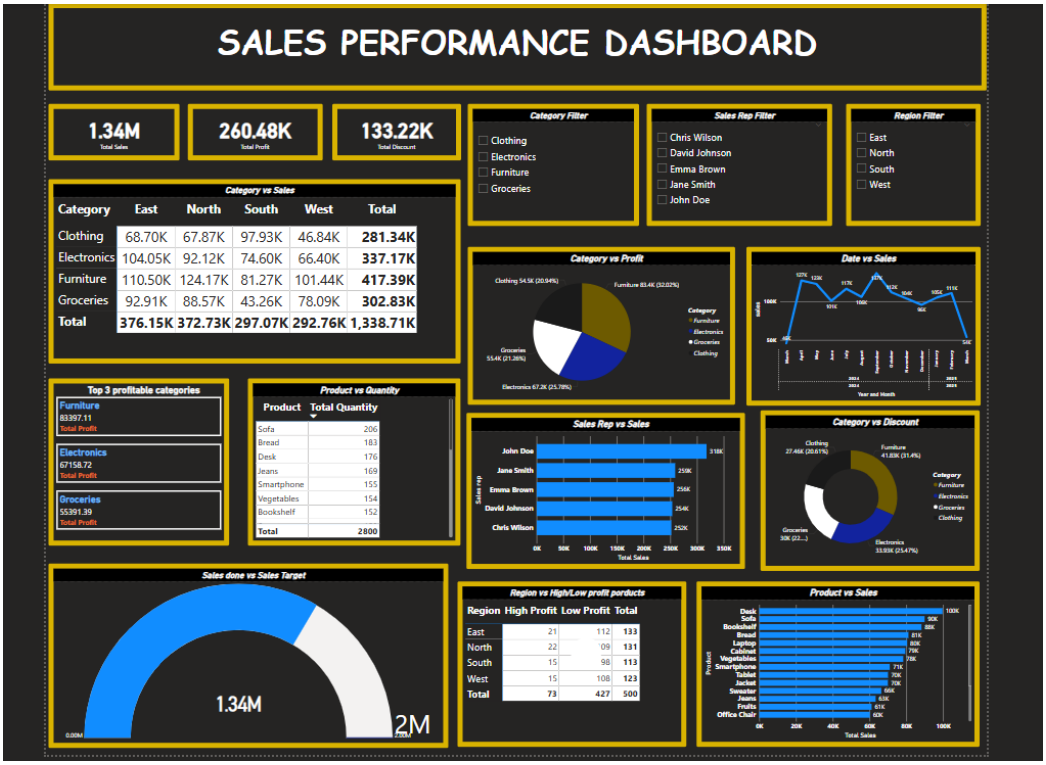


Fig.4 – Power BI Report

Data Analysis & Querying in SQL:

SQL Queries Executed:

- Identify **Top 5 Best-Selling Products**.
- Analyze **Sales by Region**.
- Calculate **Sales by Category**.
- Compute **Profit Margins**.
- Identify **Top 3 Most Profitable Products** based on Total Profit.
- Calculate **Total Sales & Total Profit per Sales Representative**.
- Determine **Total Purchase Amount per Customer**, sorted by highest purchases.
- Compute **Total Discount Given per Product Category**.
- Identify **Top 3 Highest Revenue-Generating Sales Representatives**.
- Determine **Region with the Highest Total Discount Given**.
- Calculate **Average Sales Amount per Category**.
- Identify **Top 5 Customers with Highest Purchases**.
- Compute **Total Profit for Each Month in 2024**.
- Count **Total Number of Orders per Month (All Years)**.
- Identify **Least Sold Product based on Quantity**.
- Calculate **Total Sales and Total Profit per Sales Representative**.
- Identify **Top 3 Regions contributing the most to Total Sales**.
- Find **Customers who received the highest Total Discount**.
- Determine **Best-Selling Category based on Total Quantity Sold**.
- Calculate **Percentage Contribution of Each Product to Total Sales**.

Data Processing & Insights Using Python (Pandas):

Steps Performed in Python:

- Loaded the **Sales Table** from CSV.
- Cleaned the dataset (handled missing values, formatted columns).
- Computed:
    - **Total Sales, Profit, and Discount**.
    - **Top-Selling Products & Categories**.
    - **Monthly Sales Trends**.
    - **Discount Impact on Profit**.
    - **Statistical Analysis on Sales & Profit**.
    - **Identification of High-Profit Transactions**.
- Saved the processed data in to a CSV file for further analysis.

Conclusion:

This project successfully demonstrated the use of **Power Query, Excel, Power BI, SQL, and Python** to analyze sales data, clean raw datasets, generate interactive reports, and extract key business insights. The **Sales Performance Dashboard** provides valuable metrics and visualizations, aiding data-driven decision-making for improved sales strategy and performance tracking.

GitHub Repository: **Sales Performance Project**
(Includes Excel files, Power BI reports, SQL scripts, Python code, and project documentation.)