📊 Retail Sales Dashboard - Documentation

🧭 Project Objective

To create an interactive, insightful Power BI dashboard that tells a compelling story through data visualization. This project focuses on understanding sales performance, customer segmentation, discount impact, and regional performance using clean and minimal visual elements.

🎯 Aim of the Dashboard

- ✅ Choose the right chart for the data

- ✅ Avoid clutter and overuse of colors

- ✅ Highlight key takeaways

- ✅ Add contextual meaning to each visual

- ✅ Focus on business insights, not just visuals

- ✅ Create a summary slide that drives decisions

📂 Dashboard Pages Overview

- **Executive Summary – Sales & Profit Overview**

- **Sales & Profit by Category and Sub-Category**

- **Profit Heatmap – Category vs Region**

- **Customer Segmentation & Sales**

- **Discount Analysis – Impact on Sales & Profit**

- **Insights & Recommendations**

1. Executive Summary – Sales & Profit Overview

Objective: Provide a high-level snapshot of business performance.

Charts Used:

- KPIs: Total Sales, Total Profit, Avg. Discount, Total Quantity Sold

- Line Chart: Sales & Profit Over Time

- Pie Chart: Segment Contribution

- Bar Chart: Sales by Region

📊 **KPI Cards**

- **Total Sales / Profit / Discount / Quantity:**
  Offer a quick glance at overall performance. Total Sales is ₹229.86K; Profit margin is relatively low, suggesting high operating or discount costs.

📈 **Sales & Profit Over Time (Line Chart)**

- Reveals seasonal trends.

- Noticeable peaks suggest strong months for promotions or campaigns.

🥧 **Sales Contribution by Segment (Pie Chart)**

- Corporate and Consumer segments contribute the most to sales.

- Home Office segment underperforms.

📊 **Sales by Region (Bar Chart)**

- West region leads in sales.

- Central and South need improvement.

Insights:

- The Corporate segment dominates total sales.

- Sales and profits peak in specific months, indicating seasonality.

- The West region shows the highest sales performance.

Executive Summary – Sales & Profit Overview

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2. Sales & Profit by Category and Sub-Category

Objective: Understand product performance at both category and sub-category levels.

Charts Used:

- Bar Charts:
    - Sub-category-wise Sales vs Profit
    - Category-wise Sales vs Profit
- Matrix Table: Sales by Category & Region

📊 **Sales & Profit by Sub-Category (Bar Chart)**

- Phones and Copiers are high-performing.

- Tables and Bookcases yield negative profits – likely due to high discounting or low demand.

📊 Sales vs Profit by Category (Bar Chart)

- Technology has the highest profitability.

- Office Supplies sell in volume but with lower profits.

📋 Matrix Table – Sales by Region & Category

- West and East dominate in sales across categories.

- Central region underperforms, especially in Furniture.

Insights:

- Technology outperforms other categories in profit.

- Copiers and Phones generate the most sales and profits.

- Furniture in the Central region incurs losses.

Sales & Profit by Category and Sub-Category

Category	Central	East	South	West	Total
Furniture	-2,871.05	3,046.17	6,771.21	11,504.95	18,451.27
Office Supplies	8,879.98	41,014.58	19,986.39	52,609.85	122,490.80
Technology	33,697.43	47,462.04	19,991.83	44,303.65	145,454.95
Total	39,706.36	91,522.78	46,749.43	108,418.45	286,397.02

3. Profit Heatmap – Category vs Region

Objective: Detect underperforming and outperforming areas.

Charts Used:

- Heatmap Bar Chart: Sub-category sales by region

- KPI Card: Total Sales

- Slicer: Country and Region

📊 **Top Sub-Category by Sales (Heatmap)**

- Very few sub-categories drive the majority of revenue.

- Clear Pareto effect – small input, large output.

📃 **KPI Card – Total Sales**

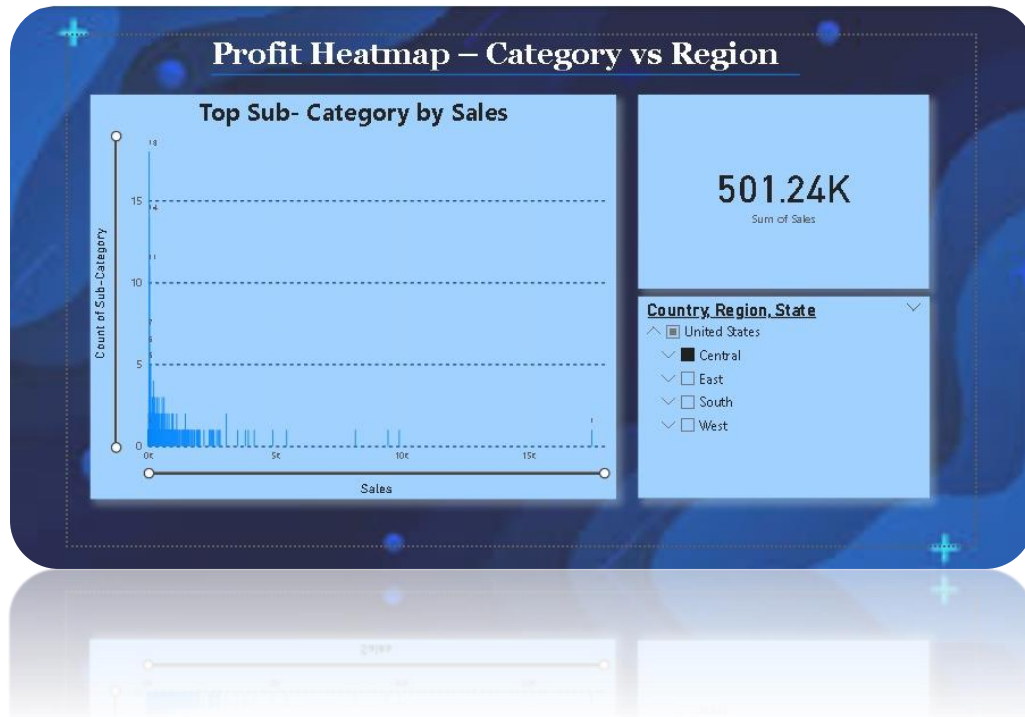- Reinforces that the dataset includes ₹501.24K worth of total sales.

📁 **Region Filter (Slicer)**

- Enables focused analysis per region (West/East/Central/South).

Insights:

- Few sub-categories dominate sales volume.

- East and West show higher overall sales; Central lags.

Profit Heatmap – Category vs Region

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4. Customer Segmentation & Sales

Objective: Analyze customer behavior based on segment classification.

Charts Used:

- Scatter Plot: Sales vs Profit

- Donut Chart: Segment Share

📈 **Sales vs Profit (Scatter Plot)**

- High variance in profitability at similar sales levels.

- Suggests inefficiencies in pricing or discount strategies for certain segments.

🥟 **Customer Segmentation (Donut Chart)**

- Corporate (39.45%) and Consumer (47.27%) dominate customer base.

- Home Office (13.27%) is a smaller, potentially niche market.

Insights:

- High-profit customers are mostly from Corporate and Consumer segments.

- Home Office contributes the least in both sales and profit.

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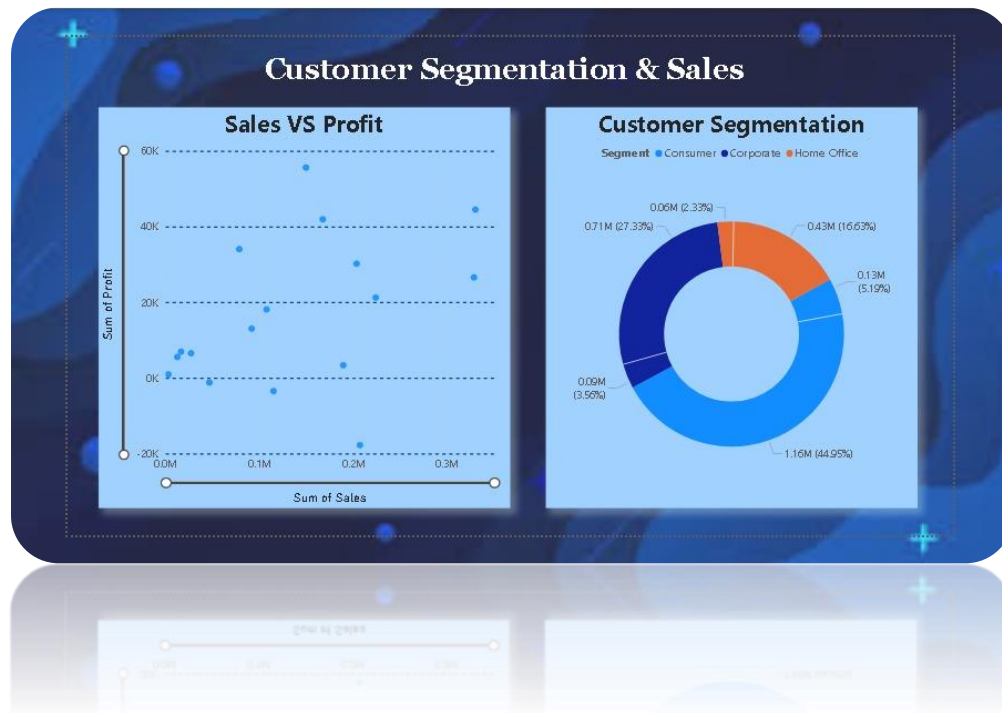
5. Discount Analysis – Impact on Sales & Profit

Objective: Understand how discounts affect business metrics.

Charts Used:

- Stacked Column: Region-wise Sales by Category

- Combo Chart: Discount vs Profit over time

📊 **Region-wise Sales by Category (Stacked Column Chart)**

- Technology consistently performs well across regions.

- Furniture sales are strong in the West but weak in Central.

📊 Discount vs Profit (Combo Chart)

- As discounts increase, profit does not necessarily rise.

- Some months show declining profit despite higher sales – discounting must be re-evaluated.

Insights:

- Profit margins fluctuate with increased discounting.

- Discounting in specific months doesn't always lead to profit gain.

6. Insights & Recommendations

Objective: Conclude with actionable insights to support decision-making.

Charts Used:

- Combo Chart: Discount vs Sales by Category over time

📊 **Discount vs Sales (Combo Chart by Category)**

- Technology benefits the most from discounts.

- Furniture and Office Supplies don't respond well to discounts in terms of profit.

📌 **Recommendations Box**

- Suggests targeted discounting and optimization of underperforming categories.

📑 **Summary Text**

- Wraps up insights with clarity: technology, regional performance, and discount efficiency are key business levers.

Recommendations:

- 📌 Focus seasonal discount campaigns in October–March.

- 📌 Reduce discounting for loss-making categories (e.g., Tables).

- 📌 Improve inventory & marketing for high-margin items (e.g., Copiers, Phones).
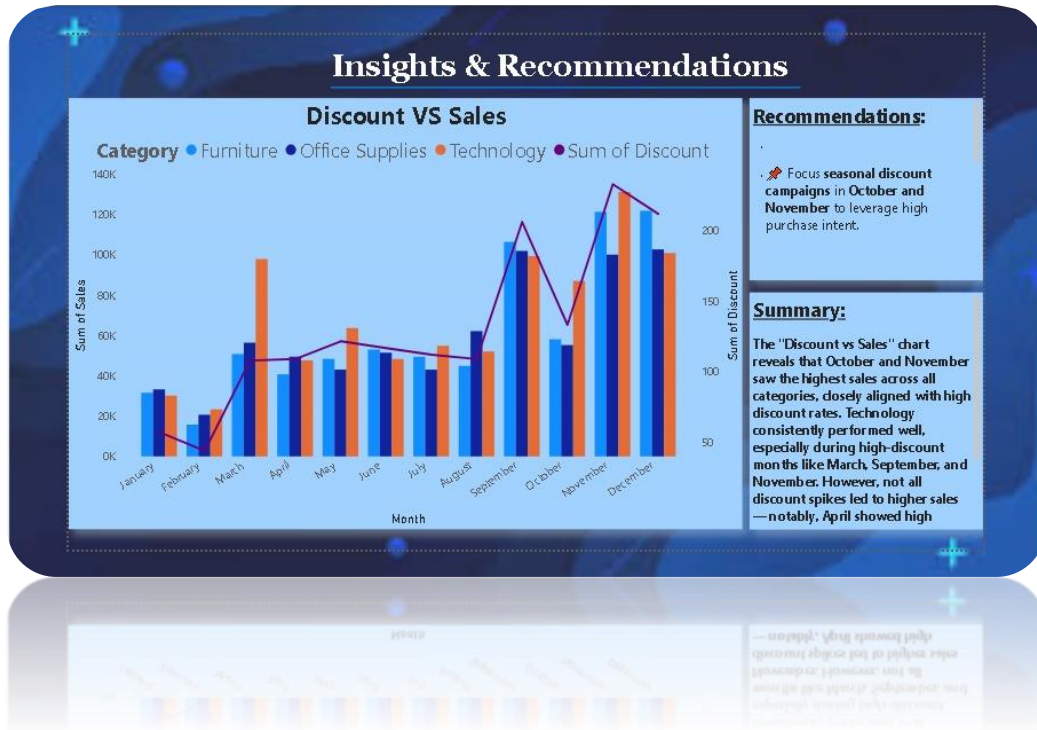
Summary:

The dashboard effectively communicates key performance indicators and reveals actionable business insights with clarity and purpose.

🧰 Tools & Techniques Used

- **Tool:** Power BI Desktop

- **Data Source:** Retail Sales Dataset

- **Techniques:**

  - Data Cleaning and Modeling

  - Dynamic Visualizations using filters and slicers

  - KPI Cards, DAX Measures

  - Chart Selection Best Practices