**🛒 Supermart Grocery Sales Analysis – Power BI Project Report**

**1. Project Title:**

**Retail Sales Performance Analysis for Supermart Using Power BI**

**2. Executive Summary:**

This Power BI project focuses on analyzing retail performance data from Supermart, a grocery chain operating across multiple cities. The dashboard provides a data-driven view of sales, profit, customer segmentation, and geographical performance. Key insights assist stakeholders in strategic planning, inventory optimization, and customer targeting.

**3. Objective:**

* Visualize and understand sales and profit trends.
* Identify high-performing products, segments, and regions.
* Discover customer buying behavior and patterns.
* Recommend business strategies for growth and efficiency.

**4. Dataset Overview:**

* **Source:** Supermart Grocery Sales Dataset
* **Records:** ~10,000 transactions
* **Fields:**
  + Order Date, Ship Date, Region, City, Product Category, Sub-Category
  + Sales, Profit, Quantity, Discount
  + Customer Name, Segment, Shipping Mode

**5. Data Modeling:**

* **Fact Table:** Sales Transactions
* **Dimension Tables:**
  + Customers
  + Products
  + Dates
  + Geographies (Region, City)
* **Key Measures (DAX):**
  + Total Sales = SUM(Sales)
  + Total Profit = SUM(Profit)
  + Profit Margin = DIVIDE([Total Profit], [Total Sales])
  + Sales YoY Growth, Cumulative Sales, Average Discount

**6. Dashboard Features & Visuals:**

**📊 Sales Overview:**

* Line chart for sales over time (monthly/quarterly)
* KPI Cards: Total Sales, Profit, Orders

**🛍️ Product Performance:**

* Bar chart of top-selling and most profitable sub-categories
* Heat map of product performance by category and discount

**🌍 Geographic Analysis:**

* Map showing sales by city and region
* Filterable by shipping mode and customer segment

**👥 Customer Insights:**

* Pie chart of customer segments (Consumer, Corporate, Home Office)
* Tree map for sales contribution by customer names

**⏱️ Shipping Analysis:**

* Clustered bar chart showing profit vs. shipping mode
* Order vs. Ship Date duration analysis

**7. Key Insights:**

* **Top-Selling Categories:** Office Supplies and Technology outperform Furniture in both sales and profit.
* **City-Level Performance:** Cities like New York and Los Angeles consistently generate high revenue.
* **Segment Comparison:** Corporate customers yield higher average sales per transaction.
* **Discount Impact:** High discounts often correlate with negative profits—requires pricing strategy review.
* **Shipping Efficiency:** Standard Class is most used; however, Same Day shipping shows growing demand in urban zones.

**8. Business Recommendations:**

1. **Optimize Discounts** to improve profitability, especially for loss-making categories.
2. **Focus Marketing Efforts** on high-performing cities and segments like Corporate customers.
3. **Refine Inventory Planning** for high-velocity products in top cities to avoid stockouts.
4. **Improve Shipping Strategy** by analyzing delivery efficiency and cost per shipping mode.
5. **Expand High-Margin Products** in regions showing increasing profit margins.

**9. Conclusion:**

The Power BI dashboard delivers a powerful, real-time analytical view of Supermart’s performance. With insights into sales trends, customer behavior, and regional effectiveness, management is empowered to make strategic, data-driven decisions for retail growth.