Supermarket Sales Analysis - Project Description

Project Overview

This project aims to analyze sales data from a supermarket to uncover key insights about revenue trends, customer behavior, product performance, and payment preferences. Using Power BI, we will build an interactive dashboard to visualize key metrics, helping business stakeholders make data-driven decisions.

Objectives

- Analyze total sales, gross revenue, and profit trends.
- Identify top-performing branches based on revenue and customer transactions.
- Understand customer segmentation (Member vs. Normal customers).
- Examine payment method distribution to optimize checkout experiences.
- Track sales trends over time to identify seasonal patterns.
- Evaluate product performance and compare ratings vs. sales.

Key Performance Indicators (KPIs)

- Total Revenue (Gross Sales)
- Average Sales per Transaction
- Top-Selling Product Categories
- Branch-wise Sales Performance
- Customer Type Distribution (Member vs. Normal)
- Payment Method Usage (Cash, Credit, E-Wallet)
- Monthly/Weekly Sales Trends
- Ratings vs. Sales Performance per Product Line

Charts & Visuals

- Sales by Branch (Bar Chart) - Shows revenue distribution across branches.
- Payment Method Distribution (Pie Chart) - Highlights customer payment preferences.
- Customer Type Split (Pie Chart/Bar Chart) - Compares purchases by Member vs. Normal customers.
- Sales Trend Over Time (Line Chart) - Displays sales growth patterns.
- Top Product Lines (Stacked Column Chart) - Identifies best-selling product categories.
- Rating vs. Sales (Scatter Plot/Bubble Chart) - Shows correlation between customer ratings and sales.
- Heatmap Alternative (Matrix Visual) - Compares branch and product sales performance.

Tools & Technologies Used

- Power BI - For data visualization & dashboard creation.
- SQL - For data querying and extraction (if database is used).
- Excel/Python (Optional) - For data preprocessing and cleaning.

Business Impact

- Optimize inventory management by identifying fast- and slow-moving products.
- Improve customer experience by offering better payment options and targeted promotions.
- Make branch-level decisions to boost revenue in underperforming stores.
- Forecast future sales trends for better business planning.