Superstore Dataset Analysis - Key Insights Report

Introduction

This project focuses on analysing retail data to uncover insights related to sales, profit margins, and inventory performance. It aims to support strategic business decisions using data-driven approaches.

Abstract

We explored a superstore dataset to calculate profit margins, assess inventory efficiency, and visualize key KPIs. The project integrates SQL, Python, and Power BI to derive actionable insights.

Tools Used

- **SQL Workbench** – for data cleaning and profit margin calculation
- **Python (Pandas)** – for correlation analysis and data preprocessing
- **Power BI** – for dashboard creation and interactive visualization

Steps Involved in Building the project

- There are no null and duplicate values present in dataset.
- The Inconsistent data handled by the MySQL workbench using trim (), lower () functions.
- After examining the data, I find date columns are not in a “date” datatype.
- So changed the dataset with cleaned and formatted datatypes that are suitable.
- Performed a profit margin by category and sub-category.
- To run correlation between inventory days and profitability.
- To visualize the data, used Power BI.
- Sum of profit Margin by Category used Bar chart.
- Sum of Sales by Year used Area chart.
- Sum of Sales by Segment used Tree map.
- Sum of Sales by City used filled map.
- Sum of Sales by Region Pie chart.
- Slicers used are Category, Region.

Conclusion

The analysis revealed patterns in sales and profitability across categories and regions. By leveraging BI tools, we derived insights to manage inventory effectively and enhance business performance.