

Retail Business Sales and Profit Performance Dashboard

Abstract

This project focuses on analyzing retail business sales data to identify key factors affecting profitability. Using SQL, Python, and Power BI, the analysis explores sales trends, category-wise profits, regional performance, and seasonal patterns. The final dashboard offers business-critical insights for strategic decision-making.

Problem Statement

The retail business experiences inconsistent profitability across categories and regions. The goal of this project is to perform a comprehensive analysis to:

- Identify high and low-performing product categories.
- Analyze regional profit distribution.
- Explore seasonal trends influencing profit and sales.
- Support data-driven business strategies.

Tools and Technologies Used

- MySQL Workbench: SQL Queries for data extraction and aggregation.
- Python (Jupyter Notebook): Exploratory Data Analysis and Visualization.
- Power BI Desktop: Interactive dashboard development.

Approach

1. Data Cleaning: Superstore dataset cleaned for missing and invalid entries.
2. SQL Analysis: Summarized key business metrics such as total sales, profit, quantity sold.
3. Python EDA: Visualized sales distribution, profit patterns, category and regional analysis.
4. Power BI Dashboard: Built KPI Cards, Bar Charts, Line Charts, Pie Charts, and Scatter Plots for

insightful visualization.

Key Insights

- Technology category provides maximum profit.
- Tables sub-category results in highest losses.
- West region yields the highest overall profitability.
- Seasonal analysis shows profits peaking during November and December.
- Heavy discounting adversely affects profitability.

Conclusion

The retail business can improve profitability by focusing on high-performing categories, optimizing discount strategies, and leveraging peak sales periods. The developed dashboard ensures continuous monitoring of sales and profit trends, aiding future strategic decisions.