Retail Business Performance & Profitability Analysis

Introduction

This project analyzes retail business data to uncover profit-draining categories, optimize inventory turnover, and identify seasonal product behavior. The insights derived aim to enhance strategic decision-making in sales, purchasing, and stock management.

Abstract

The dataset includes transaction-level data with purchase amount, profit, inventory days, product categories, and date. The analysis uses SQL, Python (Pandas), and Power BI to deliver business insights. Profit margins, inventory turnover, seasonal trends, and category performance were key areas analyzed.

Tools Used

- MySQL Workbench (SQL Queries)
- Python (Pandas, Seaborn)
- Power BI (Data Visualization)

Steps Involved in Building the Project

1. Loaded and cleaned retail dataset.
2. Created SQL database and executed profitability & inventory turnover queries.
3. Used Python for data cleaning, feature engineering, and basic visual validation.
4. Built Power BI dashboard with KPI cards, filters, profit trends, category insights, and turnover metrics.
5. Derived strategic insights and slow-moving stock recommendations.

Conclusion

This project enabled a full-stack retail data analysis pipeline using SQL, Python, and Power BI. By identifying high-performing and underperforming product segments and regions, the project offers direct value to inventory planning and sales strategies.