Retail Business Performance & Profitability Analysis

Introduction

The goal of this project is to analyze retail transaction data to uncover profit-draining categories, optimize inventory turnover, and identify seasonal behavior of products. This helps decision-makers improve profitability and manage stock efficiently.

Abstract

The analysis is based on 50 transactional records containing information such as region, product category, inventory days, and profit. Key performance indicators were derived to identify low-performing products, seasonal trends, and inefficient inventory. Visualizations were developed using Tableau to communicate insights clearly.

Tools Used

SQL, Python (Pandas, Seaborn), Tableau

Steps Involved in Building the Project

1. Data Cleaning: Removed missing/null records in SQL and ensured data consistency.
2. SQL Analysis: Aggregated profit by category and sub-category.
3. Python Correlation: Analyzed relationships between inventory days and profit.
4. Tableau Dashboard: Built interactive visuals filtered by region, season, and category.
5. Insight Derivation: Identified slow-moving, overstocked, and loss-making products.

Conclusion

This analysis enabled the identification of unprofitable product lines and slow-moving inventory. Strategic recommendations include optimizing inventory cycles, discontinuing low-margin items, and planning seasonal promotions for high-demand periods. The dashboard provides a dynamic interface for ongoing insights.