RETAIL BUSINESS PERFORMANCE & PROFITABILITY ANALYSIS

Introduction

The Retail Business Performance & Profitability Analysis project aims to provide data-driven insights into a retail company's operations by examining sales patterns, identifying slow-moving and overstocked products, and evaluating product-level performance. The project highlights key metrics to support decision-making and improve business profitability.

Abstract

In a competitive retail environment, understanding sales dynamics and inventory efficiency is crucial. This project uses sales transaction data to analyze revenue trends, detect underperforming products, and pinpoint overstocked inventory. Through interactive dashboards built in Power BI and complementary analysis using SQL, Python, and Excel, the project delivers actionable insights for optimizing inventory management and increasing profitability.

Tools Used

- Power BI: For building interactive dashboards and visualizations
- Excel: For data cleaning and preliminary analysis
- SQL: For querying and aggregating transaction-level data
- Python (Pandas, Seaborn): For advanced data analysis and visual exploration

Steps Involved in Building the Project

1. Data Collection: Gathered order data containing fields such as order date, product ID, and amount.
2. Data Cleaning: Handled missing values, standardized product names, and formatted dates using Excel and Python.
3. Data Analysis:
   - Calculated total revenue from sales transactions.

- Identified top-selling and slow-moving products based on quantity and sales amount.
- Analyzed stock levels to detect overstocked items.

4. Visualization:
- Built bar charts for top/bottom-selling products.
- Created heatmaps for category-wise sales performance.
- Used slicers for time and category filtering in Power BI.

5. Insight Generation: Derived strategic recommendations for inventory optimization and product focus.

Conclusion

The Retail Business Performance & Profitability Analysis project effectively combines data analysis with visualization to support better retail decision-making. By identifying best-sellers, slow-movers, and overstocked inventory, the project helps reduce waste, improve inventory turnover, and enhance overall profitability. These insights empower stakeholders to make informed decisions that align with strategic business goals.