

Retail Business Performance Analysis

Summary:

This project focuses on evaluating retail business performance using real-world transactional data. By analyzing product-wise profitability and inventory movement, it identifies key areas where the business loses revenue due to inefficient stock management or low-margin products. The analysis helps uncover insights such as which product categories drain profit, how inventory turnover affects margins and how trends vary across regions and seasons.

The dataset used is the Superstore sample retail dataset, containing information on sales, profit, product categories, shipping details and regional performance. Using Python for data processing and visualization and Tableau for dashboard creation, the project delivers actionable insights and recommendations to improve business efficiency and profitability.

Key Insights:

- Tables and Bookcases show negative or low margin
- Profit margins vary drastically across sub-categories
- High inventory days are typically linked to lower profitability
- Most of the profit came from Technology products, especially Phones and Accessories

Recommendations:

- Reduce procurement of low-margin, slow-moving items
- Run promotions on high-profit fast-selling products
- Monitor monthly inventory-profit trends to optimise stock rotation
- Customize inventory strategies by region and season

Tools Used:

- Python: Pandas for aggregation, Seaborn for visualization
- Tableau: For dashboard creation with filters (region, category, date)
- SQL (conceptual): Suggested queries for margin and trend analysis

Attachments:

- **category_profit.csv** (for profit by main category)
- **subcat_profit.csv** (for detailed sub-category margin analysis)
- **profit_inventory_plot.png** (for visual of profit vs inventory days)
- **tableau_dashboard.png** (for dashboard screenshot)