

Retail Business Performance & Profitability Analysis

Introduction:

The Superstore Sales dataset contains transactional data from a large retail store, including information on orders, products, customers, regions, and revenue. This analysis aims to uncover sales trends, identify top-performing products and categories, and understand regional performance. The goal is to provide insights that can help make informed business decisions, optimise inventory, and improve marketing strategies.

Abstract:

This project focuses on analysing sales performance at multiple levels: product, category, region, and city. Three visualisations were created: one showing the top 20 products by sales, another breaking down sales by category and sub-category across regions, and a third mapping sales distribution across U.S. cities. Insights from these visualisations reveal which products and categories drive revenue, seasonal trends in sales, and high-performing regions. Recommendations are provided to improve sales strategy and operational efficiency in the python notebook.

Tools Used:

- SQL – For data extraction, aggregation, and preparing summary tables.
- Python (Pandas, NumPy, Matplotlib, Seaborn) – For data cleaning, transformation, and exploratory analysis.
- Tableau – For creating interactive visualisations and dashboards to present insights.

Steps Involved in Building the project:

Data Preparation – Imported the dataset into SQL and cleaned missing/null values where necessary. Aggregated data to create category-level and monthly-level summary tables.

Data Analysis – Used Python for data cleaning, handling null values, and exploring relationships like sales trends over time, top products, and regional performance.

Visualization – Created three main visualizations in Tableau:

1. Top 20 Products by Sales
2. Category and Sub-Category Sales by Region

3. Sales Distribution by City (USA)

Dashboard Creation – Combined the three sheets into an interactive Tableau dashboard. Added filters and color coding to enhance interactivity and insights.

Dashboard Insights:

The dashboard highlights that the East region performs best overall, followed by the West, Central, and South regions. Office Supplies and Technology dominate the sales mix, while Furniture contributes less. Among sub-categories, Phones (Technology), Chairs (Furniture), Storage, and Binders (Office Supplies) show consistently strong performance across regions.

The geographic map shows sales concentrated in major metropolitan areas along the East and West coasts, with medium performance in Central regions and lower activity in the South. The Top 20 products list reinforces that Technology and Office Supplies drive the majority of sales, including items like Apple iPhones, 3D Systems products, Bretford furniture, and office binding equipment. The dashboard's interactive features and color coding make it easy to explore these trends further.

Conclusion:

The analysis confirms that coastal metropolitan areas, particularly in the East, are the main contributors to revenue. Office Supplies and Technology categories lead the product portfolio, while Furniture and the South region show lower performance. These insights can guide better decision-making on inventory management, marketing focus, and regional strategies, helping optimize sales and plan for growth opportunities.