Retail Business Performance & Profitability Analysis

Introduction

The project focuses on analyzing transactional retail data from the Online Retail dataset to uncover profit-draining categories, optimize inventory turnover, and identify seasonal trends.

Abstract

This study utilizes SQL, Python, and Tableau to clean, process, and visualize the Online Retail dataset. SQL was used to clean data and calculate revenue & profit margins, Python for simulating inventory days, and Tableau to create interactive dashboards showcasing sales performance, profit trends, and country-wise analysis.

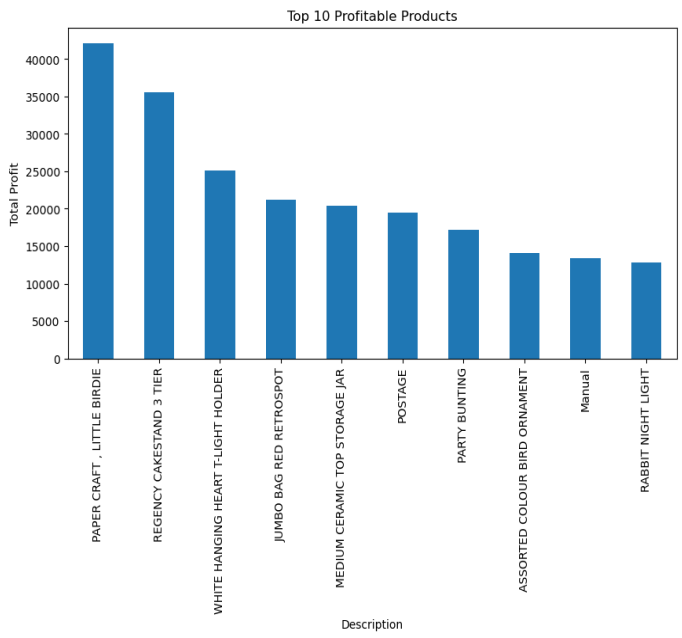
Tools Used

SQL (MySQL Workbench), Python (Pandas, NumPy), Tableau Public

Steps Involved in Building the Project

1. Imported and cleaned data in MySQL using SQL queries.
2. Calculated Revenue and Estimated Profit (assumed 25% margin) per product.
3. Used Python to preprocess and simulate Inventory Days.
4. Built multiple Tableau sheets: Total Profit Trend (Monthly), Top 10 Products (by Profit), Revenue by Country, Total Revenue & Profit by Country, Profitability by Product.
5. Designed a Tableau Dashboard with filters for Country, Product, and Season.

Key Insights(Extracted using python)



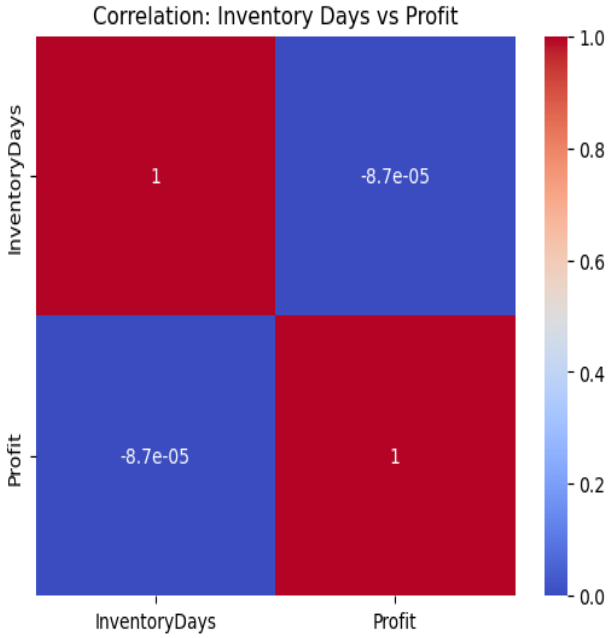
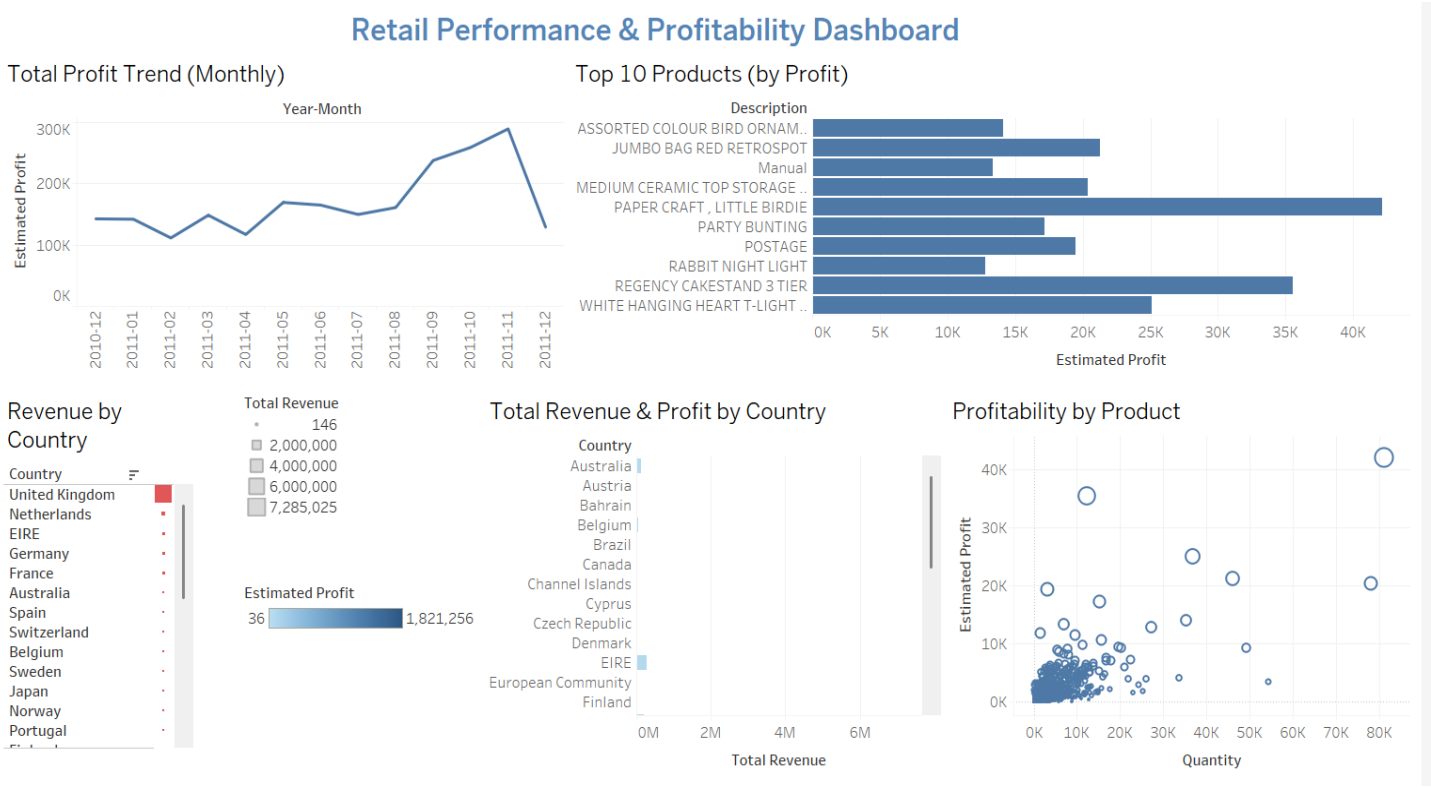


Tableau Dashboard:



Conclusion

The analysis provided actionable insights into profitable products, top customer countries, and inventory movement. The interactive Tableau dashboard enables quick decision-making for business growth and optimization.