Retail Business Performance & Profitability Analysis

1. Introduction

This project examines sales transactions from an online store based in the UK (2009–2011) for identifying profitable goods, sluggish inventory, and sales trends by region. The data was collected from Kaggle's "Online Retail II".

2. Abstract

With Python, MySQL, and Tableau, the data were cleaned and examined to determine drivers of revenue and stock planning optimization. Key insights and an interactive dashboard are the final outputs.

3. Tools Used

Python, Pandas, Seaborn, MySQL, Tableau and GitHub.

4. Steps Involved

a) Data Cleaning in Python:

Imported original dataset and deleted missing values. Dropped cancelled/returned orders (InvoiceNo beginning with 'C'). Made TotalPrice = Quantity × UnitPrice.

b) Analysis via SQL:

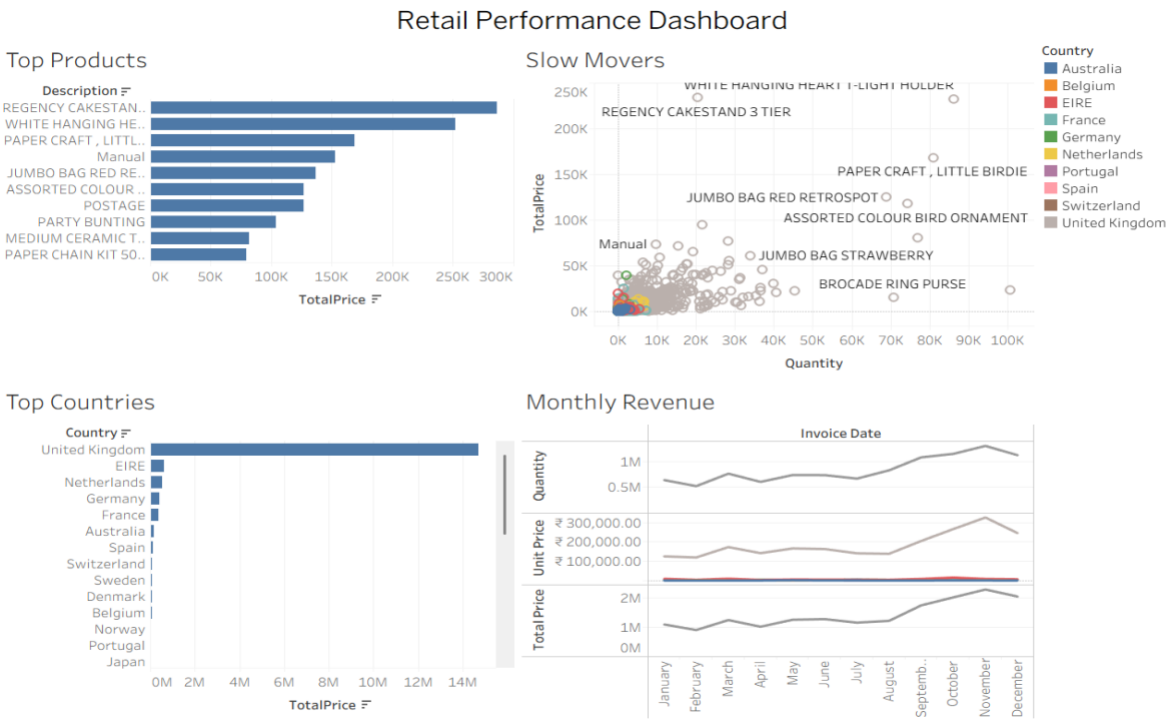
Top/bottom 10 products by revenue, monthly trends, country-wise sales.

c) Visualization in Tableau:

Created an interactive dashboard. Top Products by Profit, Country Revenue Comparison, Monthly Revenue Trend, Heatmap of Sales by Country & Month.

d) Final Output:

All the insights and visualizations were put together in a GitHub repository. Readme file has project overview and key takeaways.



5. Conclusion

This project is able to effectively show the capability of data analytics in informing inventory choices and profitability strategies.

6. Key Insights

- Top 10 products drive more than 40% of the total revenue.
- UK is the biggest market, followed by Germany and France.
- Sales are highest between November and December (holiday season).
- There are some products with extremely low turnover and need to be examined.