E-Commerce Sales Dashboard Report

Data Cleaning & Exploration (Jupyter Notebook):

To ensure the dataset was clean, accurate, and ready for analysis, I began by exploring it thoroughly in Jupyter using Python and pandas.

The first step was identifying and removing all cancelled transactions. These were easily recognizable because their InvoiceNo began with a "C" (e.g., "C536381"). Since these represented orders that were not completed, I excluded them from the analysis.

Next, I examined the StockCode column and found no missing values. However, I noticed the presence of sample items, which consistently had negative quantities.

For the Description column, I came across rows with missing or unclear values—some simply contained a question mark (?). I decided to keep these rows as long as the other essential details such as Quantity and UnitPrice were valid.

I also filtered out any rows with non-positive quantities and removed all rows where the unit price was zero or missing. These entries wouldn't contribute meaningful insights to the business and were not considered in KPI calculations.

Regarding customer information, I chose to keep rows with missing CustomerID values. The same logic was applied to entries with unspecified or missing countries—they were kept in the dataset but ignored when analyzing sales by region.

To prevent skewed results, I removed all fully duplicated rows while keeping one original instance of each.

Finally, I added a TotalPrice column by multiplying Quantity by UnitPrice. This allowed me to calculate several important business KPIs, including total revenue, number of orders, average order value, and total quantity sold. I also used seaborn and matplotlib to generate charts and visualize some of the trends.

Dashboard Creation (Excel)

Once the data was cleaned, I exported it to Excel to build a clean, interactive dashboard for the client.

To enable time-based filtering, I added two new columns: Year and Month, extracted from the invoice date. These allowed me to build dynamic slicers for time navigation in the dashboard.

For regional analysis, I added a slicer based on the Country column, making it easy to explore performance across different markets.

The dashboard includes several visual components designed to help stakeholders understand key business insights at a glance. A line chart was used to show the monthly revenue trend, making it easy to spot seasonality or performance shifts over time. I also included a pie chart that visualizes revenue by country, and a bar chart highlighting revenue by product. Additionally, a second bar chart showcases the top-selling products by quantity.