Insights on Online Retail dataset

Introduction

"Hello, thank you for giving me the opportunity to present my analysis.
The goal of this project was to support the CEO and CMO in identifying trends, customer behaviour, and expansion opportunities using the online retail dataset. My process involved three main steps: cleaning the data, creating the visuals, and then interpreting the insights for decision-making."

Data Cleaning Process

"Before starting the analysis, I made sure the data was accurate and reliable. I noticed there were some records with negative quantities, which usually indicate returns, and also some records with incorrect unit prices, such as values below zero. To ensure the quality of the analysis, I applied checks in Power BI to exclude rows where the quantity was less than one or the unit price was less than zero. I also created a calculated column for revenue by multiplying quantity with unit price. This allowed me to work only with valid sales data and avoid misleading results."

Question 1 – Seasonal Revenue Trends (2011)

"For the first question, the CEO wanted to see revenue trends for 2011. I created a line chart with revenue by month. This revealed clear seasonal patterns, with higher revenue during the holiday months of November and December, and relatively lower revenue in the early months of the year. The CEO can use this information to forecast demand for the next year and make better inventory and staffing decisions."

Question 2 – Top 10 Countries by Revenue (Excluding UK)

"For the second question, the CMO wanted to see the top 10 countries contributing the most revenue, excluding the United Kingdom, and also compare quantity sold. I created a stacked bar chart that shows revenue and quantity together. This made it easy to see not only which countries were generating the most revenue, such as Germany, France, and the Netherlands, but also how much quantity was sold in each country. This insight helps the CMO identify strong-performing markets and plan marketing and logistics strategies for those regions."

Question 3 – Top 10 Customers by Revenue

"For the third question, the CMO was interested in identifying the top 10 customers by revenue. I created a descending bar chart where the highest revenue-generating customer is shown first and then it gradually declines. This revealed that a small group of customers'

accounts for a significant share of revenue. The business implication here is that the company should focus on retaining these top customers through loyalty programs, personalized offers, or premium customer service to ensure they remain satisfied."

Question 4 – Demand by Region (Excluding UK)
"For the fourth question, the CEO wanted to understand product demand by region across all countries, excluding the UK. I used a map chart which shows demand visually by country. This allows the CEO to quickly identify high-demand regions at a glance without needing to scroll or hover over data points. These insights highlight which regions present the greatest opportunities for expansion, so the company can prioritize those areas in its growth strategy."

Conclusion

 "To conclude, the analysis shows that:

- There are clear seasonal peaks in revenue, especially around the holidays.

- Several international markets outside the UK already generate strong revenue.

- A small set of customers are very valuable to the business.

- Certain regions have significantly higher product demand, making them ideal for expansion.

Based on these findings, I recommend that the company strengthen inventory planning during high-demand months, invest more in marketing and logistics in top-performing countries, retain high-value customers through targeted engagement, and prioritize expansion into regions with the greatest demand."

Thankyou