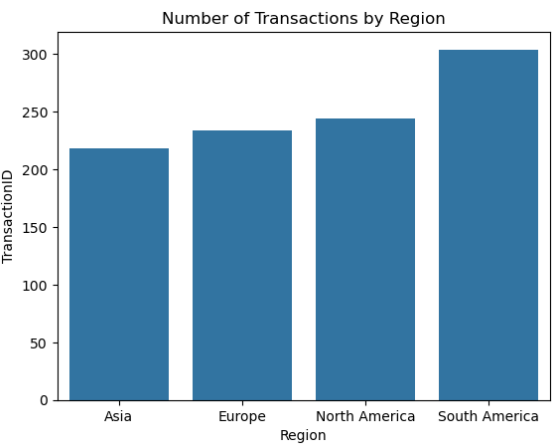
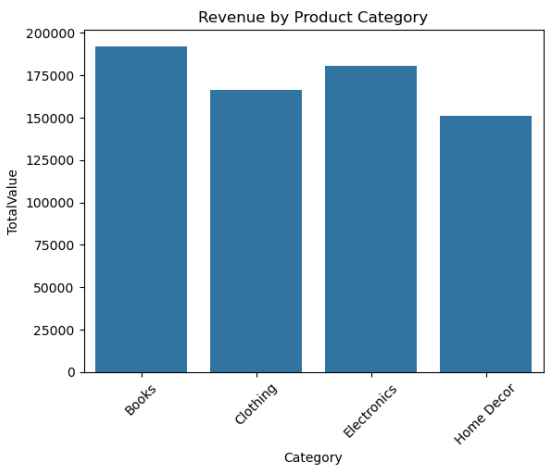


Task 1: Exploratory Data Analysis (EDA) and Business Insights

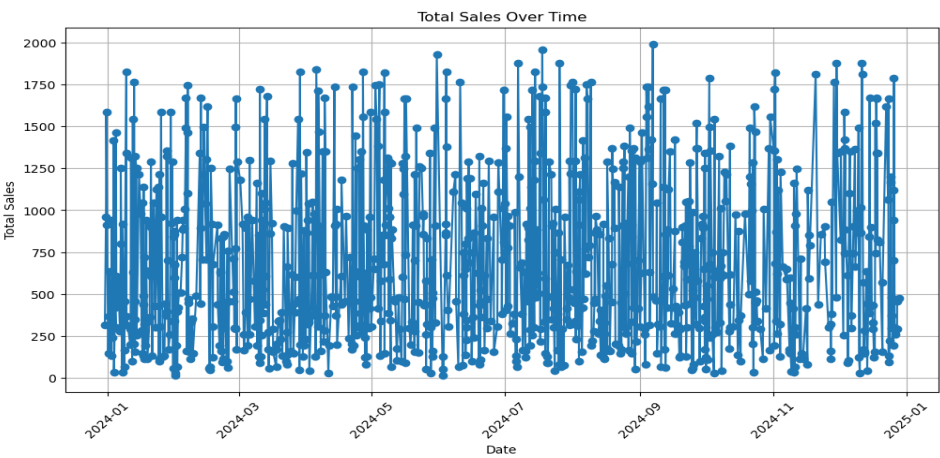
- Exploratory data analysis (EDA)
 - 1.) Regional Transaction Distribution



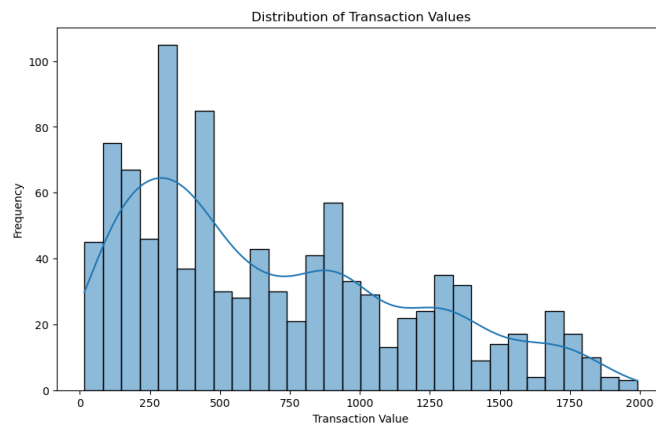
2.) Product Category Performance



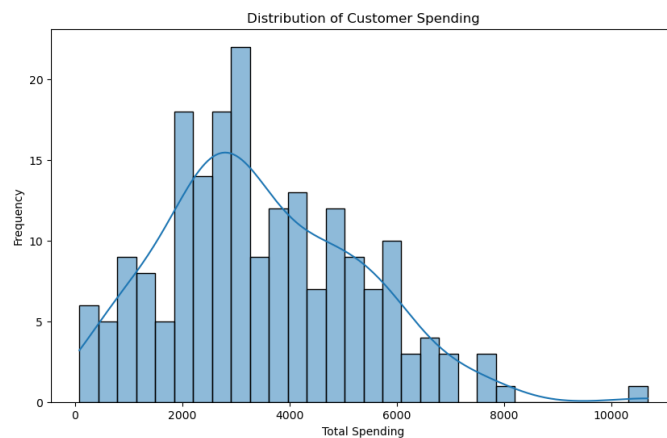
3.) Sales Trends Over Time



4.) Customer Spending Behaviour



5.) Customer Segmentation



Business Insights:

- **Regional Transaction Distribution:** The analysis shows that some regions have much higher transaction volumes than others. This suggests potential market strengths and opportunities for targeted marketing in weaker regions to increase sales.
- **Product Category Performance:** Revenue analysis reveals that certain product categories account for the majority of sales. Focusing on these high-performing categories can improve inventory management and marketing, while also addressing underperforming categories for potential growth.
- **Sales Trends Over Time:** Total sales over time show seasonal trends, with peaks at specific times (e.g., holidays). This insight can guide promotional strategies and inventory planning to maximize sales during high-demand periods.
- **Customer Spending Behaviour:** The distribution of customer spending shows that a small percentage of high-value customers make up a large portion of the total revenue. Loyalty programs or personalized marketing for these customers can improve retention and increase sales.
- **Customer Segmentation:** The analysis of customer spending behaviour reveals varied spending patterns among customers. Segmenting customers based on their spending habits can help create targeted marketing strategies, boosting engagement and conversion rates for different groups.

