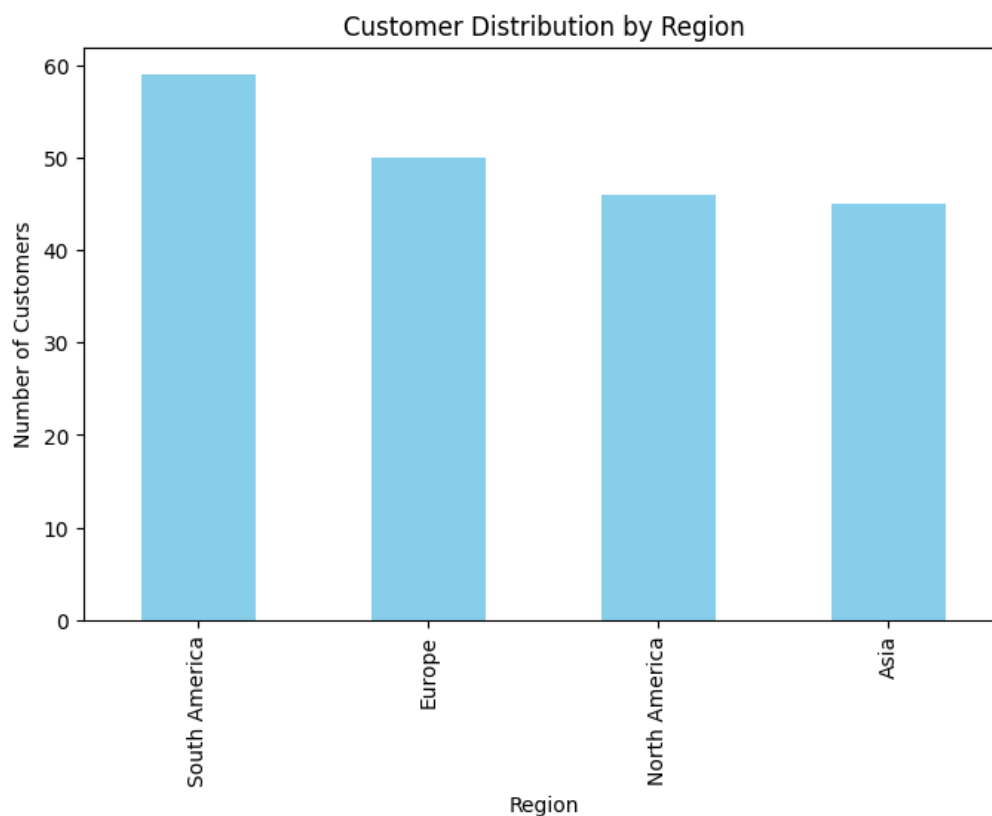


Business Insights Report on Customer, Product and Transaction data

This report provides an exploratory data analysis (EDA) of customer, product, and transaction data, with insights drawn from the datasets related to customer behaviour, product preferences, and sales performance. The datasets used include Customers.csv, Products.csv, and Transactions.csv, which were analyzed to uncover key trends and patterns.

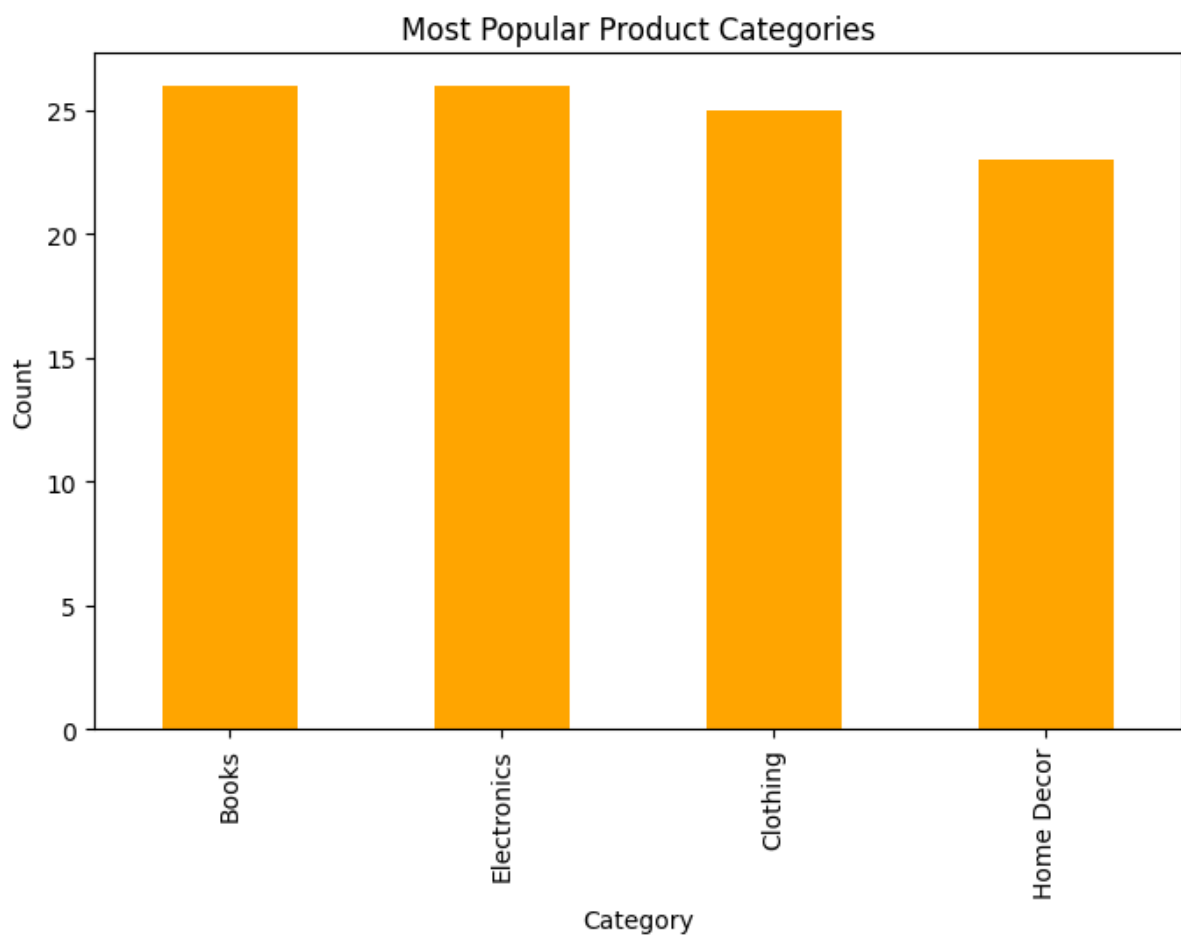
1. Customer Distribution by Region

The customer distribution analysis revealed that the largest customer base is in South America, with 59 customers, followed by other regions like Asia and North America. This geographical information can be useful for targeting marketing efforts and understanding regional preferences. A bar chart was used to visualize the number of customers in each region, with South America leading the chart.



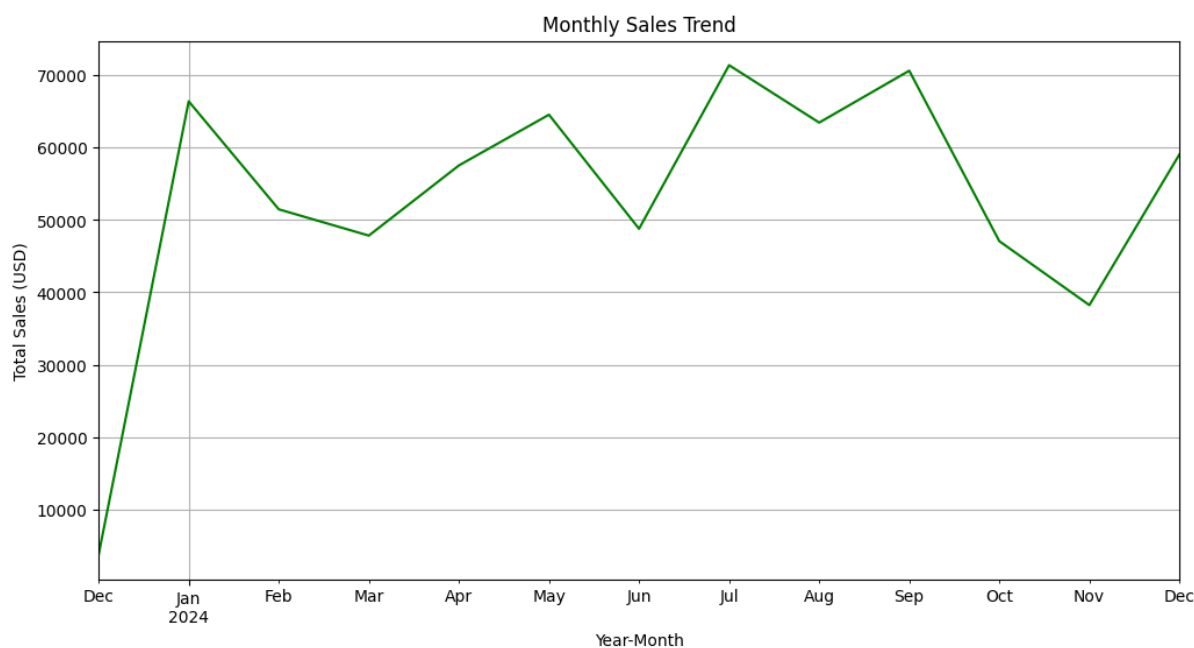
2. Most Popular Product Categories

An analysis of the product categories showed that 'Books' is the most popular category, with 26 products sold. Other categories like 'Clothing' and 'Electronics' also showed significant sales, but Books stood out. The bar chart depicting this data highlights the variety of products offered, helping to gauge which categories attract the most attention from customers.



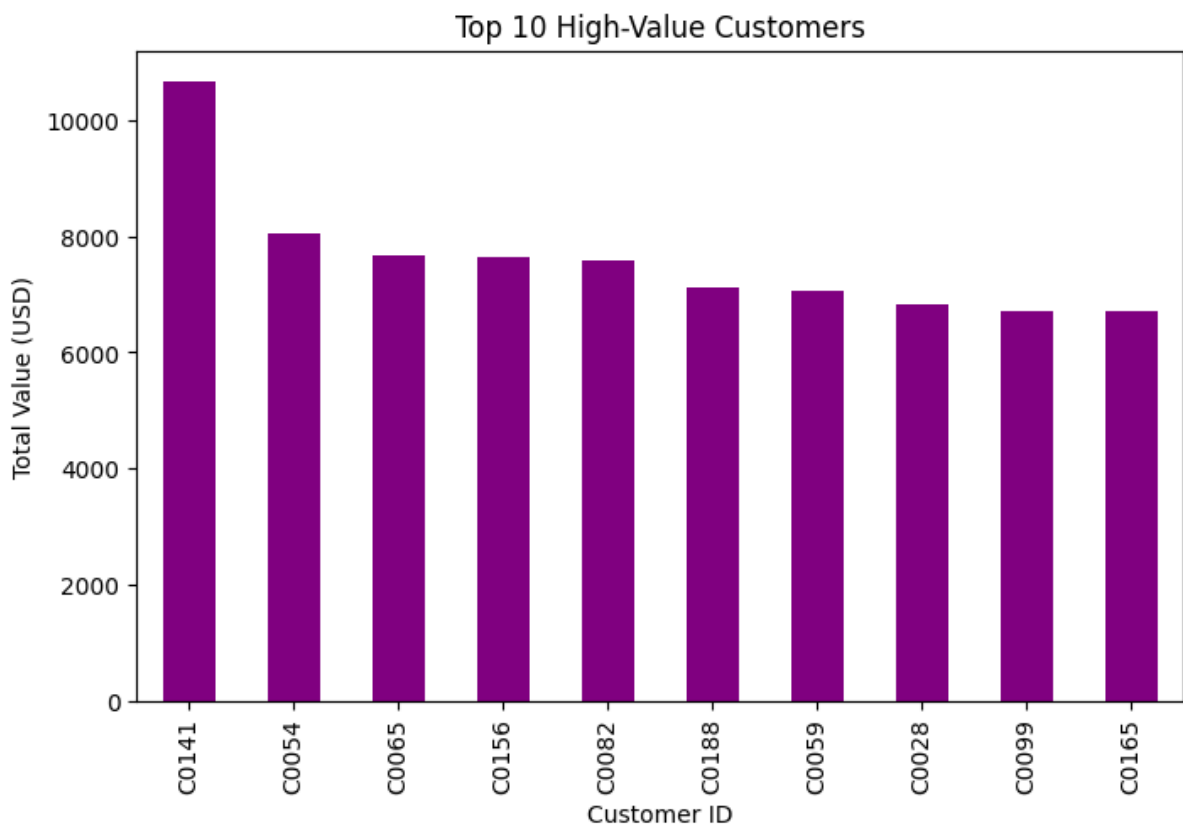
3. Sales Trends Over Time

A critical part of the analysis involved examining sales trends over time. The data revealed that monthly sales peaked in July 2024, with a total sales value of \$71,366.39. The sales trend was plotted over time, showing fluctuations that align with seasonal shopping patterns or promotional periods. This insight can assist in forecasting future sales and planning for high-demand months.



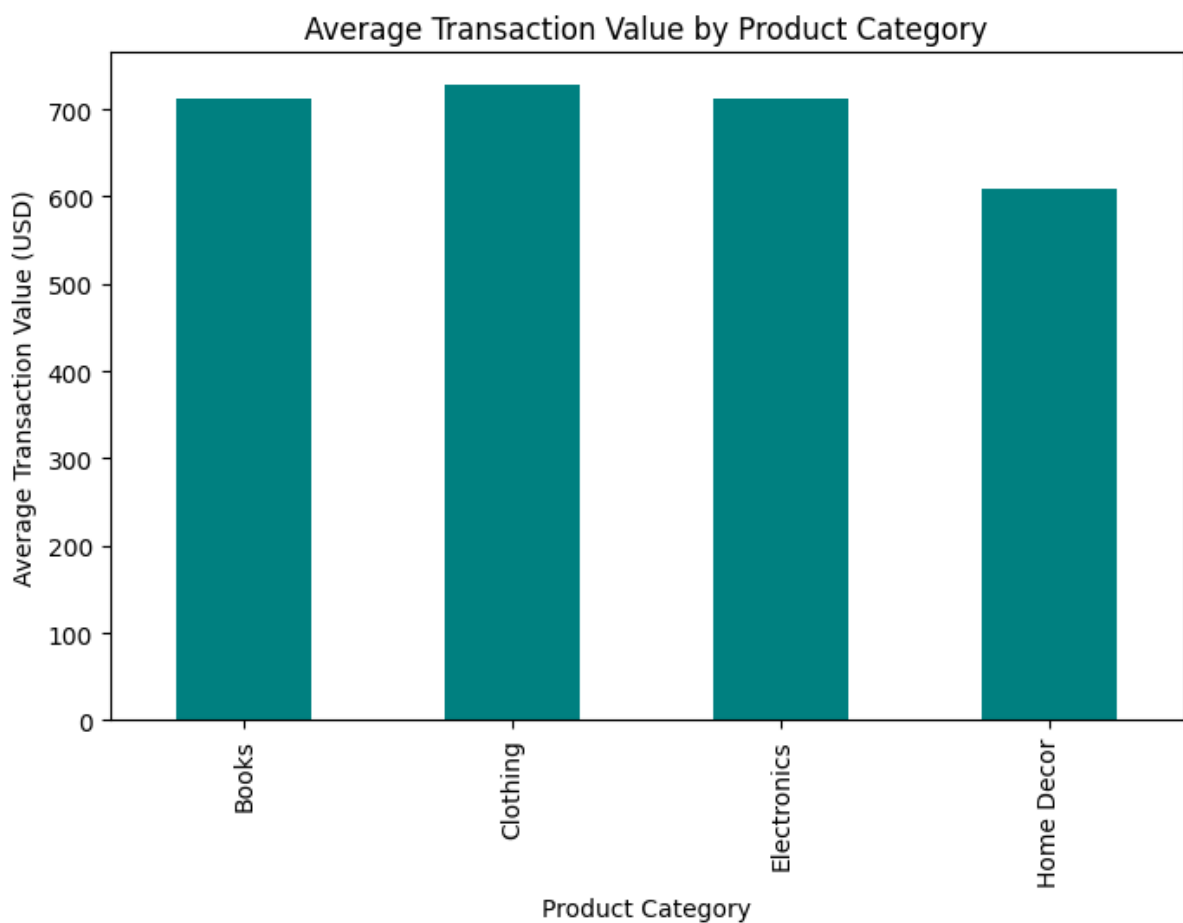
4. Top High-Value Customers

When focusing on customer spending behavior, the analysis identified the top 10 high-value customers. Customer ID 'C0141' contributed the most, with a total spend of \$10,673.87. A bar chart was used to showcase these top customers, helping businesses identify key clients who generate significant revenue. Targeted marketing or loyalty programs could be designed for such high-value customers.



5. Average Transaction Value by Product Category

The analysis of average transaction values by category revealed that 'Clothing' had the highest average transaction value at \$728.82, indicating that customers tend to spend more on clothing items compared to other categories. This insight highlights which product categories generate higher revenue per transaction, valuable for inventory and pricing strategies.



Key Insights:

1. **Customer Base:** South America leads in customer base with 59 customers.
2. **Popular Product Category:** Books are the most popular category, with 26 products sold.
3. **Sales Trends:** Monthly sales peaked in July 2024, reaching a total of \$71,366.39.
4. **High-Value Customers:** The top customer (ID: C0141) spent \$10,673.87, contributing significantly to overall revenue.
5. **Transaction Insights:** The average transaction value is \$690, with 'Clothing' having the highest average transaction value at \$728.82.

Conclusion

The findings from this analysis provide a comprehensive understanding of customer behaviour, product preferences, and sales performance. Businesses can use these insights to optimize marketing strategies, improve product offerings, and focus on high-value customers to increase profitability. Further analysis and monitoring of trends could refine future business decisions.