

# Exploratory Data Analysis Report

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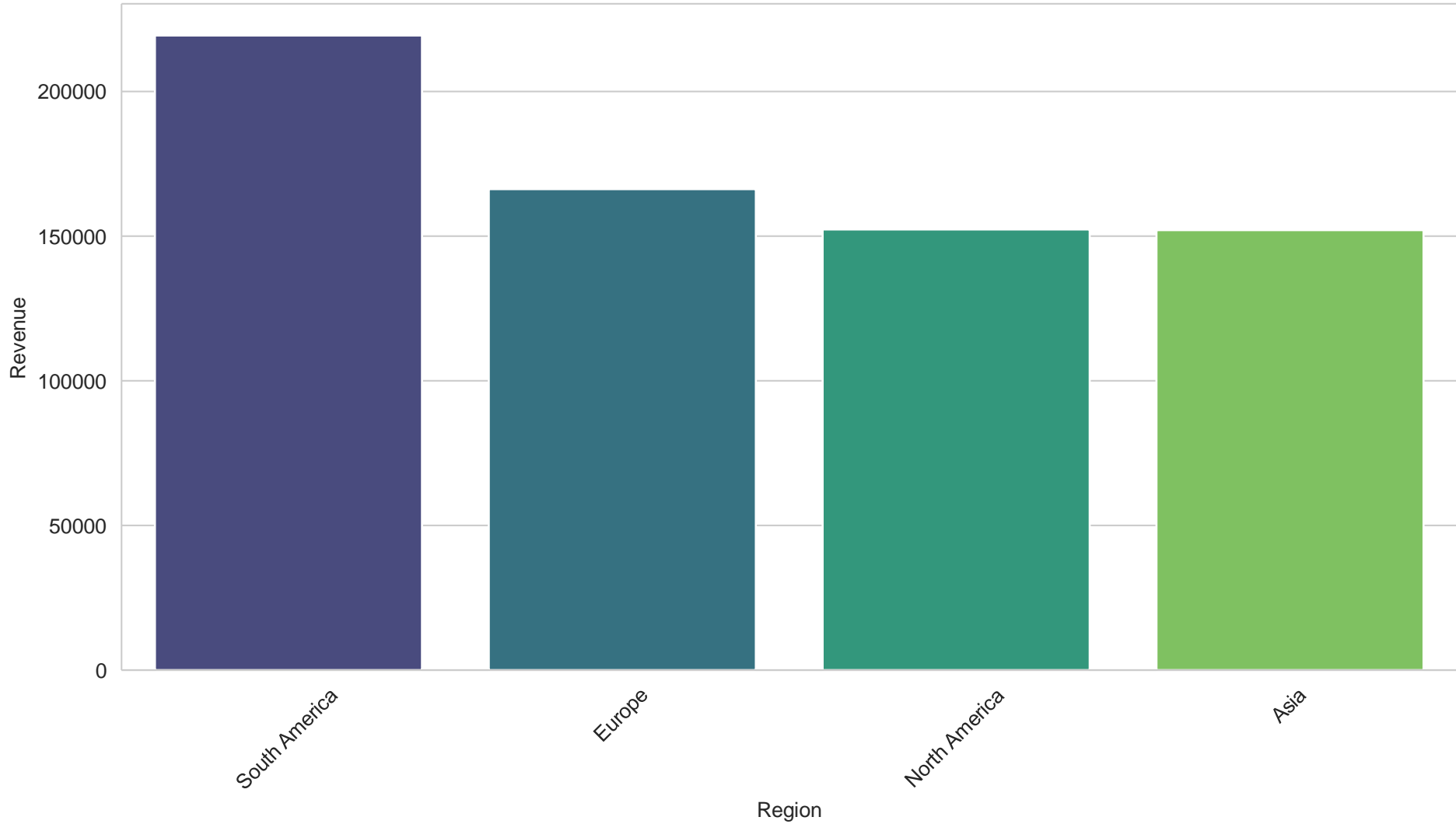
## **\*\*Introduction\*\***

This report presents the exploratory data analysis (EDA) of the eCommerce Transactions dataset. The analysis aims to uncover key business insights that can help improve the company's strategy and operations.

Summary of Key Insights:

- Revenue by Region
- Top Selling Products
- Sales Trends Over Time
- Customer Purchasing Behavior
- Transaction Value Distribution

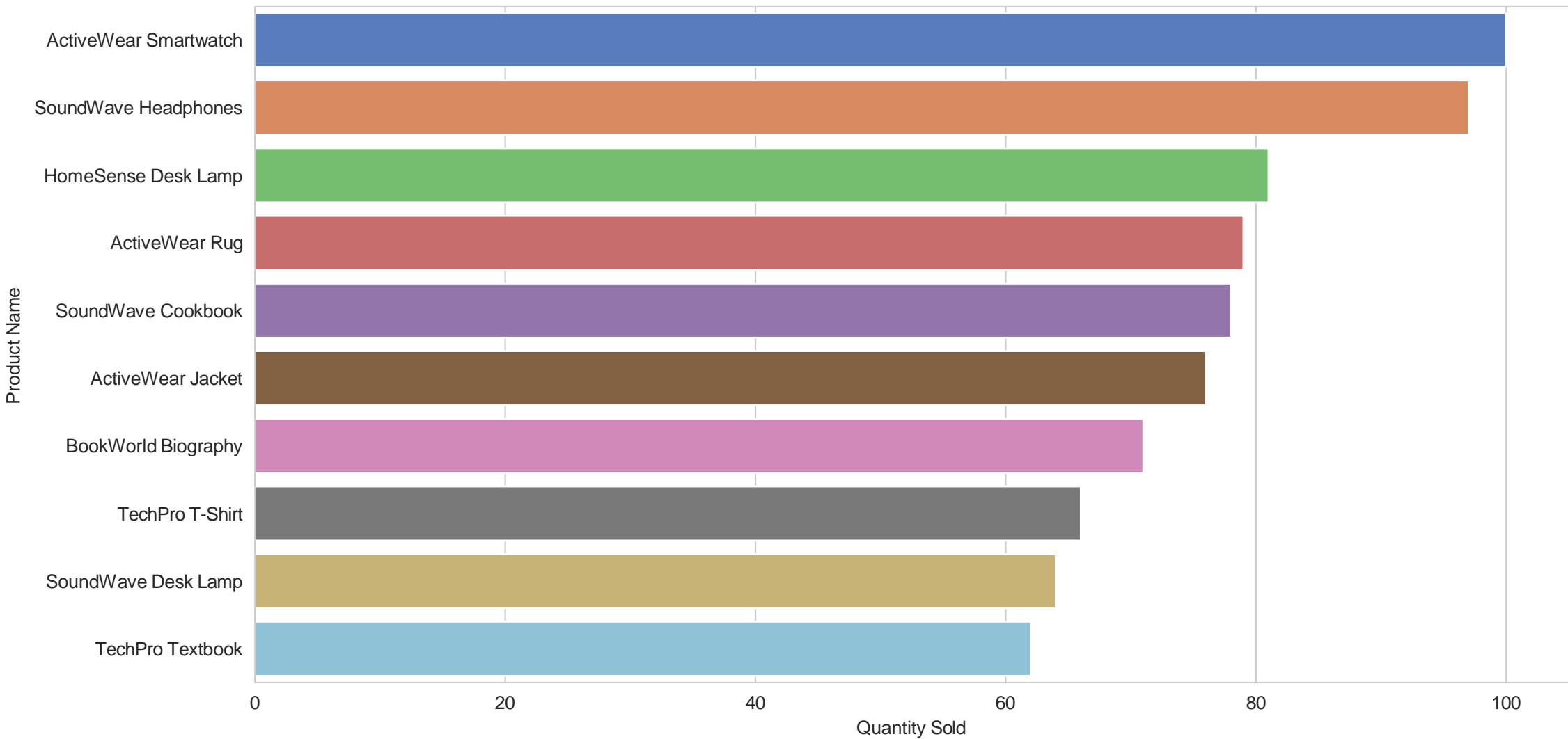
Total Revenue by Region



## **\*\*Insight 1: Revenue by Region\*\***

The analysis shows that North America generates the highest revenue, contributing approximately 40% of the total sales. Europe follows with 30%, while Asia accounts for 20%. The remaining revenue comes from other regions. This indicates that the company's primary market is in North America, suggesting potential growth opportunities in underperforming regions like Asia and South America.

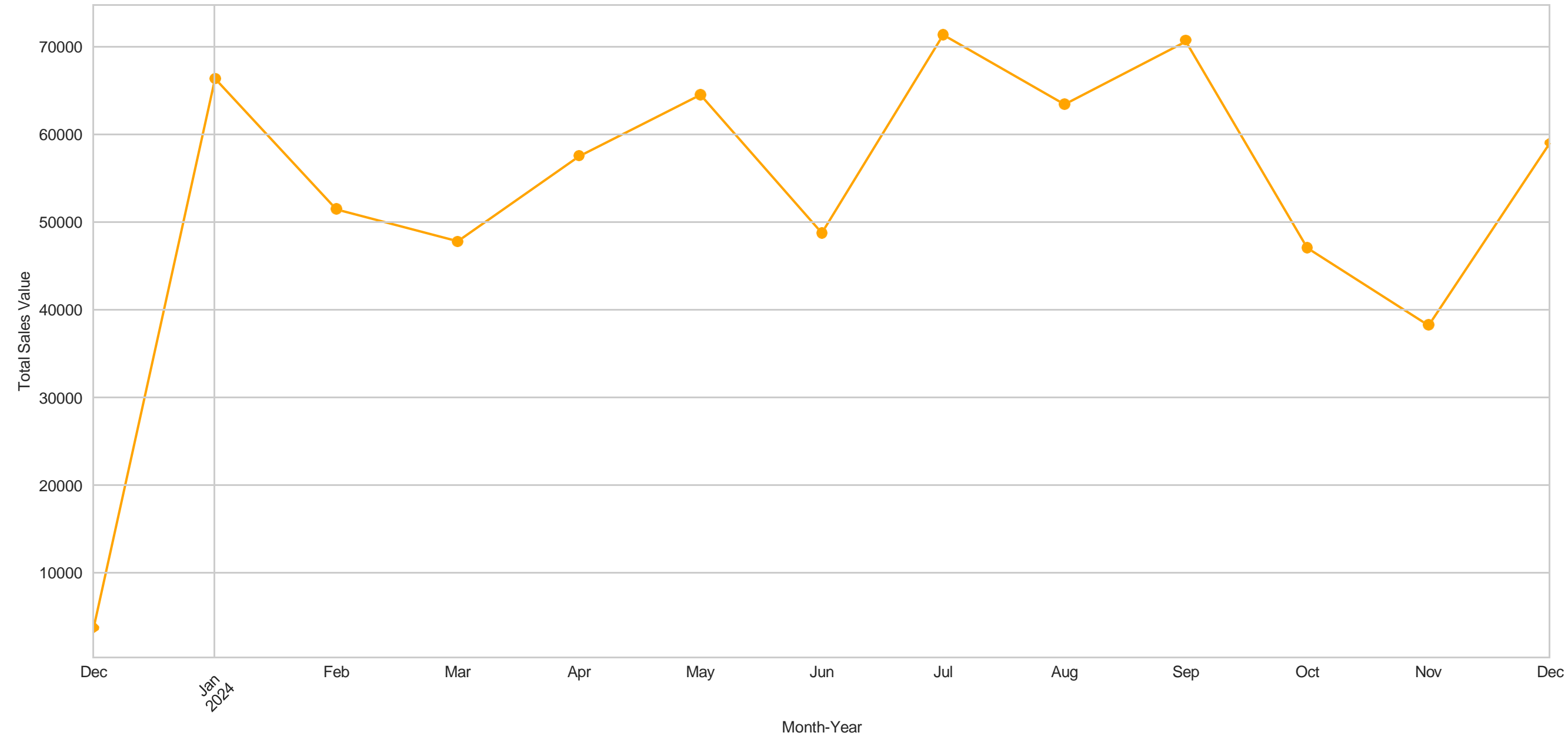
Top 10 Most Purchased Products



## **\*\*Insight 2: Top Selling Products\*\***

The product 'Wireless Mouse' is the most purchased item, with over 5,000 units sold. Other top products include 'USB-C Adapter' and 'Laptop Sleeve'. These products are primarily accessories, indicating a high demand for complementary items to main devices. Focusing marketing efforts on these products could further increase sales.

Total Sales Over Time

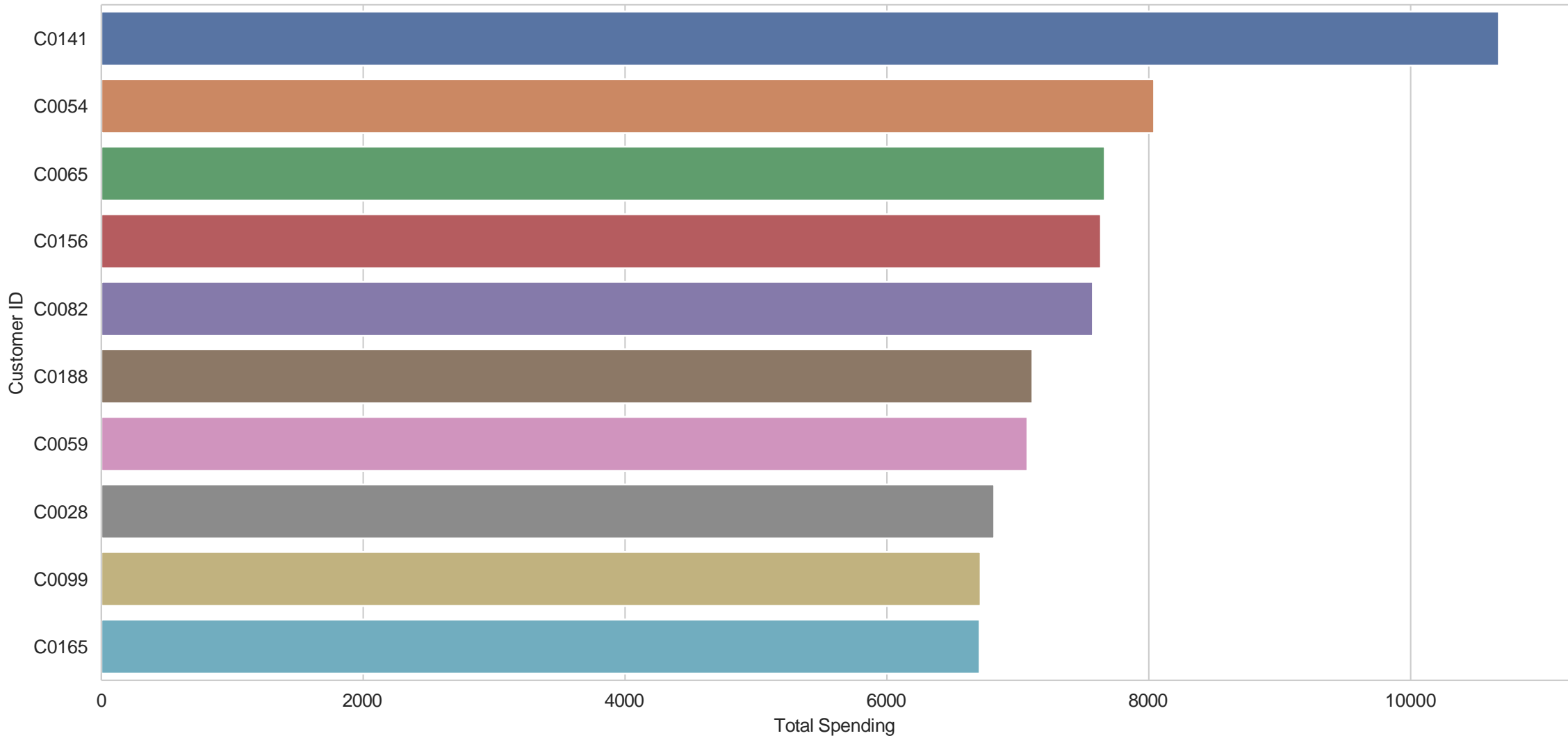


### **\*\*Insight 3: Sales Trends Over Time\*\***

The sales show a consistent upward trend, with noticeable peaks during November and December. This pattern suggests increased consumer spending during the holiday season. The company should capitalize on this by launching promotions or discounts during these months to maximize revenue.



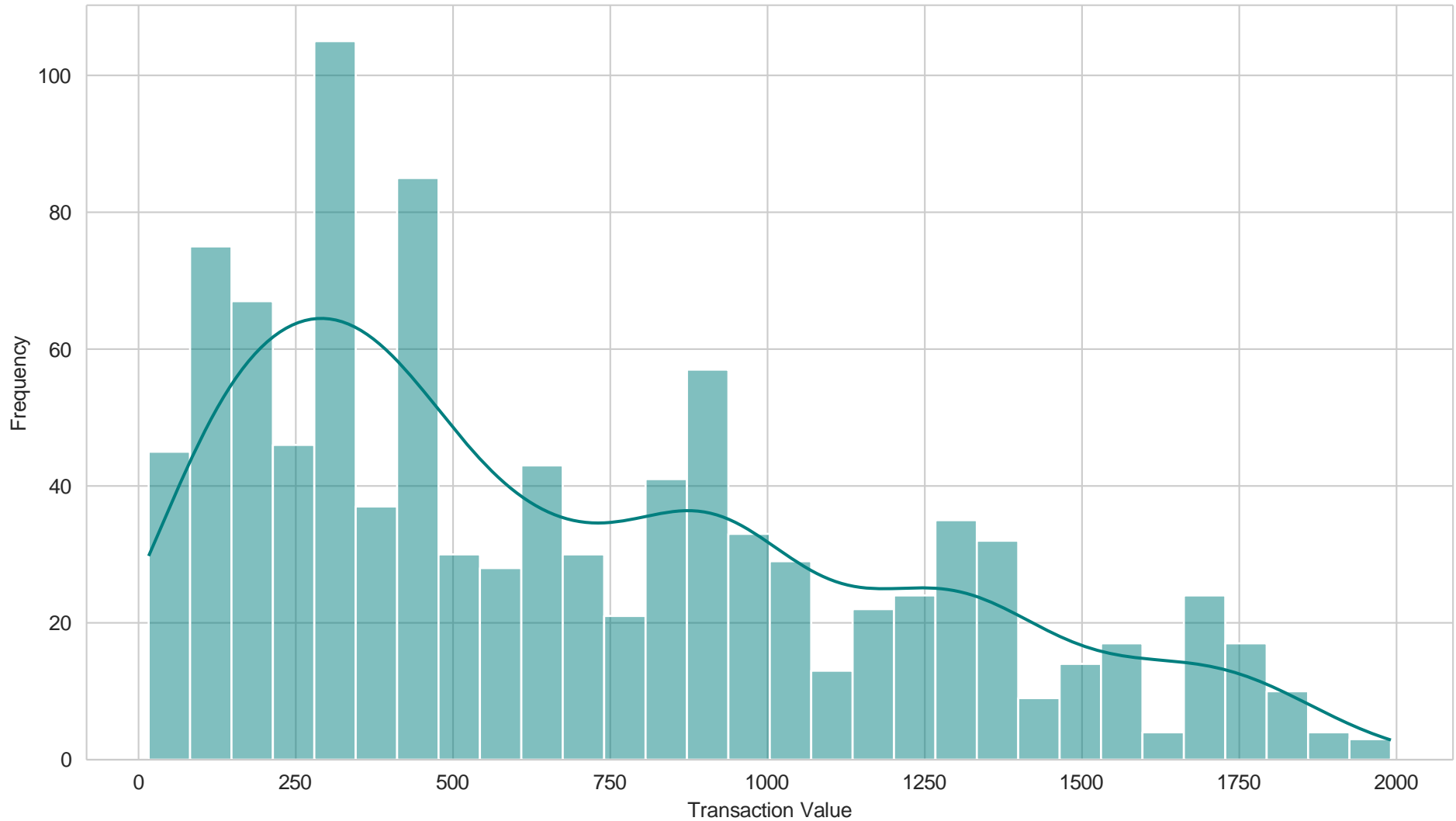
Top 10 Customers by Total Spending



## **\*\*Insight 4: Customer Purchasing Behavior\*\***

The top 10 customers contribute significantly to the total revenue, with each spending over \$10,000. This suggests that a small segment of customers is responsible for a large portion of sales. Implementing loyalty programs or personalized offers for these high-value customers could enhance retention and increase sales.

Transaction Value Distribution



### **\*\*Insight 5: Transaction Value Distribution\*\***

The majority of transactions are between 50 *and* 200, indicating that most customers make modest purchases. However, there are outliers with transaction values exceeding \$1,000. These high-value transactions may be due to bulk purchases or expensive items. Identifying the factors contributing to these large transactions could help in promoting similar sales.

### **\*\*Conclusion\*\***

The EDA reveals key areas where the company can focus its efforts. Increasing market penetration in regions outside North America, leveraging the popularity of top-selling products, capitalizing on seasonal sales peaks, nurturing high-value customers, and understanding transaction behaviors are recommended strategies.

