

# Business Insights from EDA

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## Introduction

This report presents five key business insights derived from the exploratory data analysis (EDA) of the eCommerce transactions dataset.

## Insight 1: Regional Focus

South America stands out with the highest customer count and total sales, highlighting it as a crucial market. This region's strong customer base and purchasing power suggest opportunities for targeted marketing and promotions. Focusing efforts here can enhance engagement and drive growth. It will be easier to match product offerings and inventory strategies to efficiently fulfill demand and maximize income potential if one is aware of South American customer preferences.

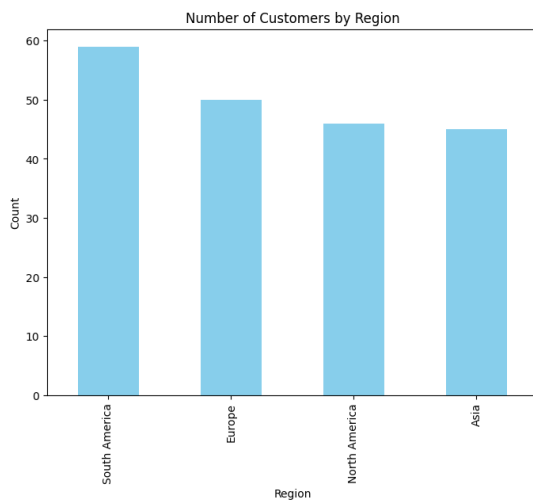


Figure 1: Number of Customers by Region

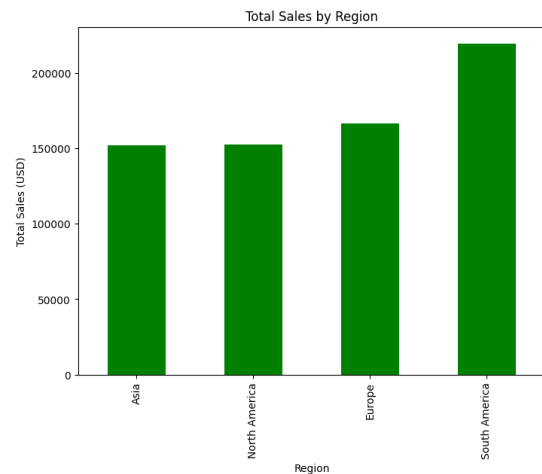


Figure 2: Total sales by Region

## Insight 2: Product pricing strategy

The price distribution across categories shows significant variability, particularly in Books and Clothing. This suggests a diverse range of products within these categories, catering to different customer segments. Businesses can leverage this by focusing on premium products to capture higher margins while maintaining a variety of options to appeal to budget-conscious customers. Understanding the price sensitivity within each category can also inform pricing strategies, ensuring competitiveness while maximizing profitability. Additionally, bundling products or offering discounts on higher-priced items can encourage purchases and increase average transaction value.

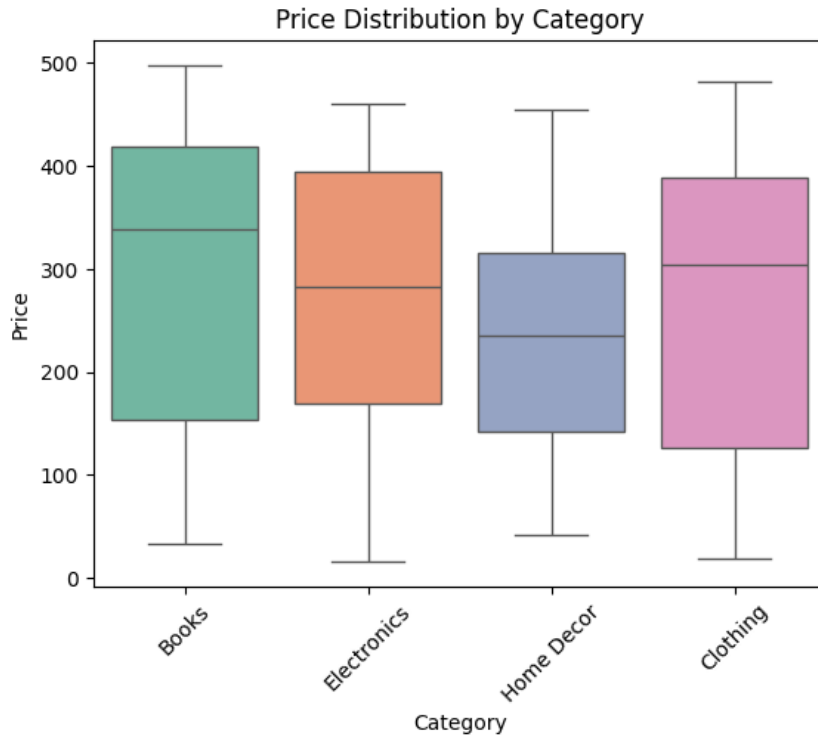


Figure 3: Price Distribution by Category

### Insight 3: Top 10 Highest Purchased Products

Products like "SoundWave Jeans" and "SoundWave Cookbook" are regularly well-liked by consumers, according to an analysis of the top ten most purchased items. By giving priority to these products in marketing campaigns and inventory management, firms can capitalize on the high brand or product loyalty indicated by this information. These goods can continue to be successful and increase sales if they are made easily accessible and properly advertised. Additionally, investigating bundles or related products can boost overall sales and improve customer happiness. Future product creation can also be guided by an understanding of the elements that contributed to its success.

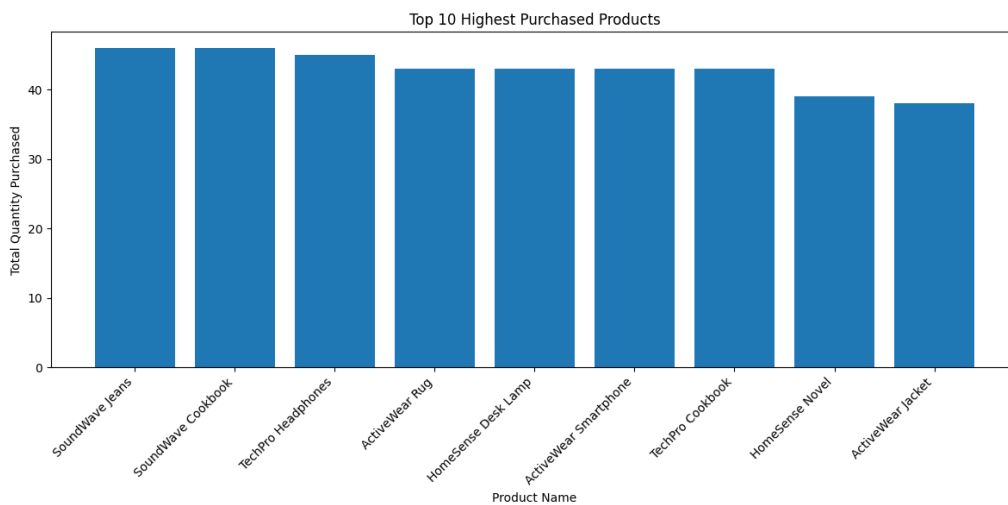


Figure 4: Highest Purchased Products

## Insight 4: Regional Sales Distribution by Product Category

The regional analysis of quantity sold across categories highlights South America as a leading market, particularly in Books and Electronics. This suggests a strong customer base and demand in this region, presenting opportunities for tailored marketing strategies and product offerings. By understanding regional preferences and cultural influences, businesses can better align their products to meet local needs. Additionally, focusing on logistics and distribution in South America can ensure timely delivery and enhance customer satisfaction. Leveraging this regional strength can drive further growth and establish a competitive advantage in the market.

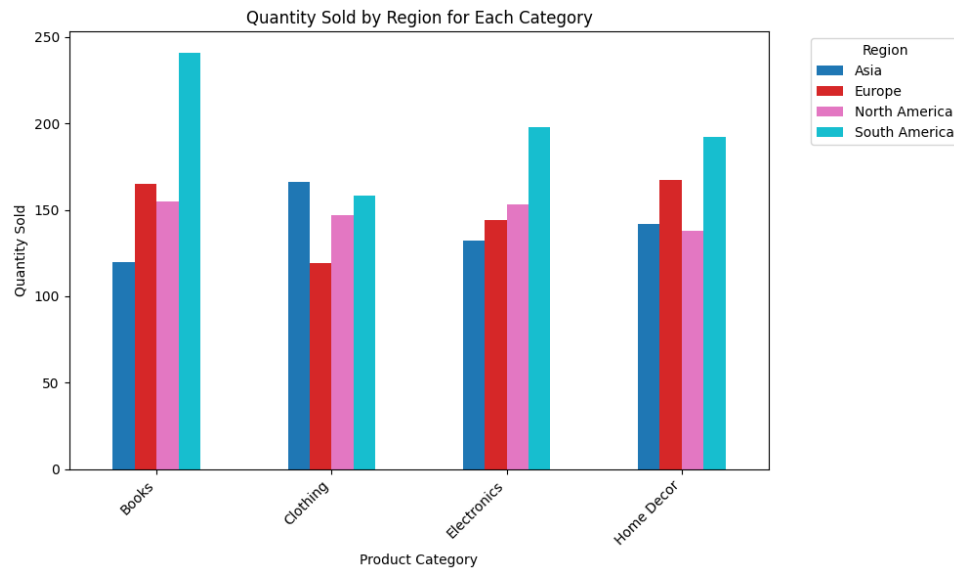


Figure 5: Quantity Sold by Region for Each Category

## Insight 5: Seasonal Sales Trends

The analysis of monthly sales and customer signups reveals significant peaks in January and September, indicating strong seasonal demand and effective customer acquisition during these months. This pattern suggests that holiday promotions and events are driving both sales and new signups. Businesses can capitalize on this by launching targeted marketing campaigns, offering special promotions, and ensuring sufficient inventory to meet increased demand. Understanding the factors contributing to these peaks can help replicate success in other months. Additionally, focusing on customer retention strategies post-signup can convert new customers into loyal clients, maximizing long-term revenue potential.

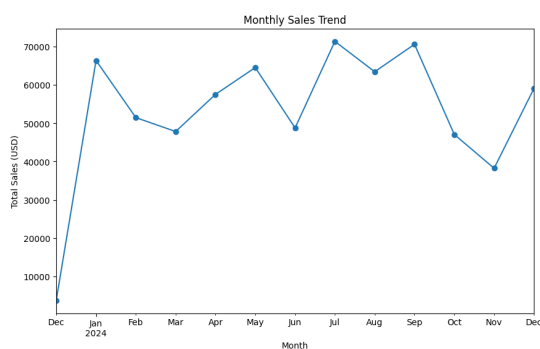


Figure 6: Monthly Sales Trend

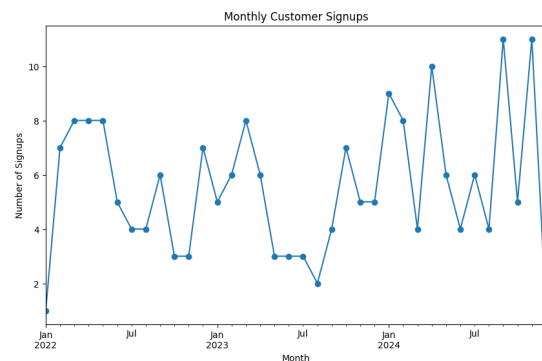


Figure 7: Monthly Customer Signups