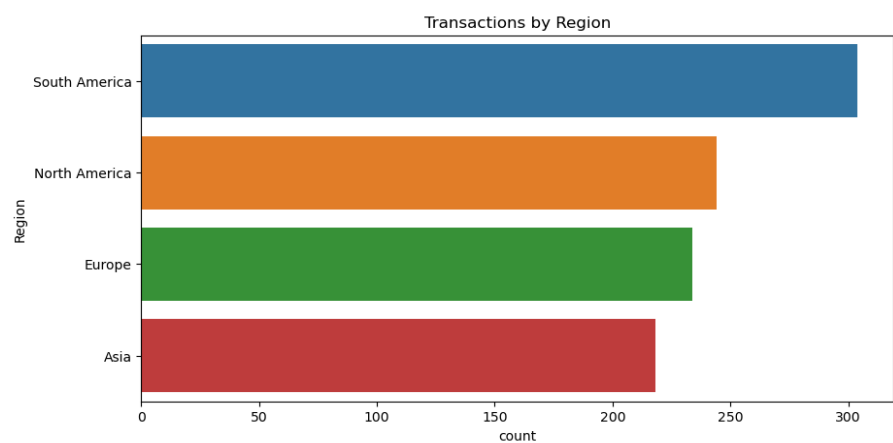
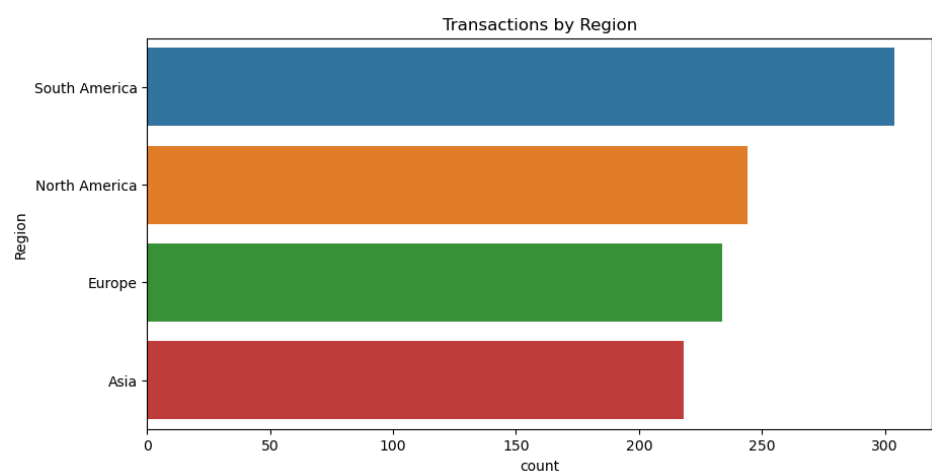


1. Peak Sales Season: November & December



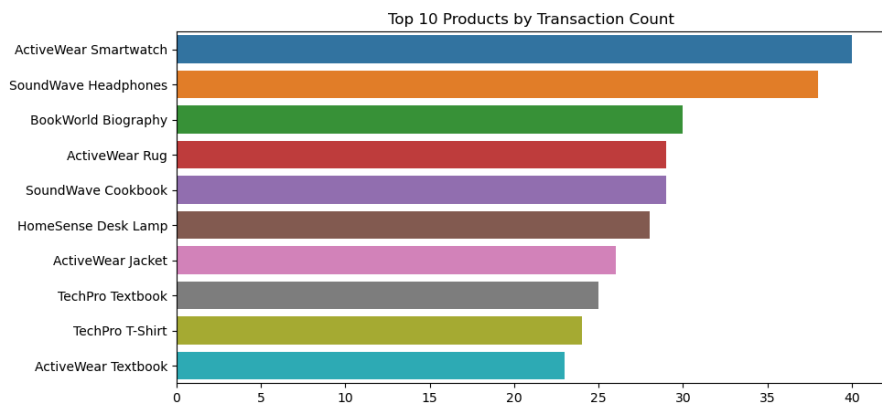
Analysis of transaction volume over time reveals a pronounced seasonal pattern. Transaction counts exhibit a clear peak during November and December, indicating that the majority of sales are concentrated within the holiday shopping season. This suggests a strong influence of seasonal events on customer purchasing behavior, with a significant drop in transaction frequency in other months.

2. Regional Transaction Volume Distribution:



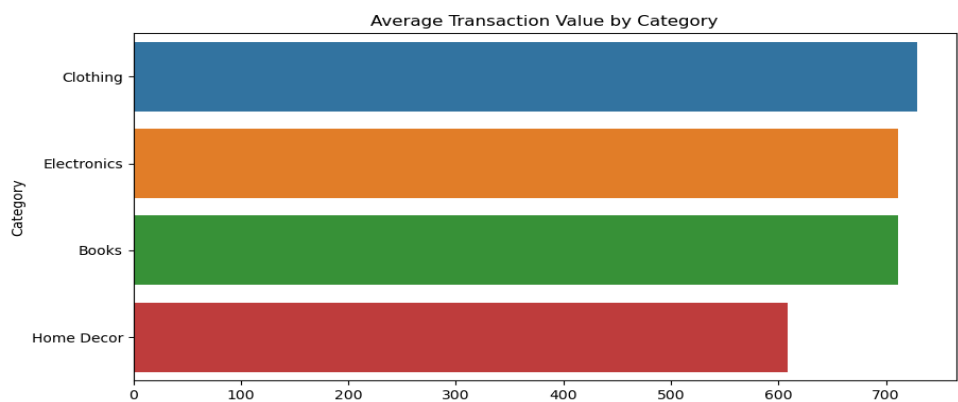
Examining transaction distribution by region highlights Europe and South America as the leading regions in terms of transaction volume. North America and Asia exhibit significantly lower transaction counts. This regional disparity suggests variations in market penetration, customer base size, or regional marketing effectiveness across different continents.

3. Category Revenue Contribution:



An analysis of top-selling products by revenue underscores the dominance of the "ActiveWear Smartwatch" in driving revenue. "SoundWave Headphones" and "SoundWave Novel" also appear as significant revenue contributors. Furthermore, the top revenue-generating products are predominantly concentrated within the Electronics and Clothing categories, with limited representation from Books and Home Decor. This indicates a significant revenue concentration in specific product types and categories.

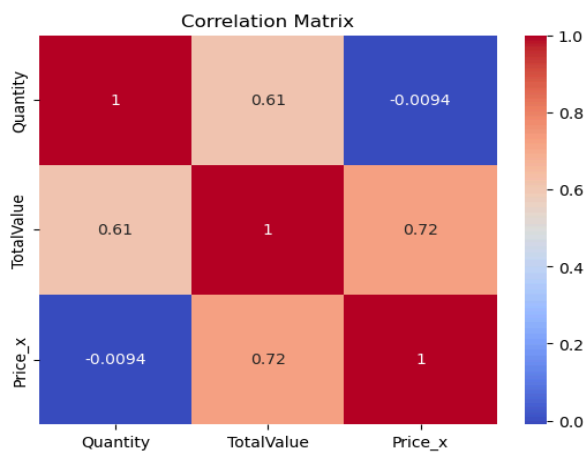
4. Average Transaction Value Across Product Categories:



Examining average transaction value across product categories demonstrates substantial variation. The Clothing category exhibits the highest average transaction value, followed by Electronics, Books, and Home Decor. This disparity suggests that customers spend significantly more per purchase when buying Clothing items compared to other categories. Home Decor, in particular, has a considerably lower average transaction value.

5. Customer Signup Trends by Month:

Analysis of customer signup patterns across different months shows no major seasonality or significant fluctuations in customer acquisition throughout the year. Customer signups remain relatively consistent month-to-month. This implies that customer acquisition is not strongly tied to specific seasons and that signup rates are stable across different periods of the year.



Business Insight: The Correlation Matrix reveals a strong positive relationship (0.72) between 'Price' (Price_x) and 'Total Transaction Value'. This indicates that the price of the products sold is a significant driver of overall transaction value. In contrast, the 'Quantity' of items purchased in a transaction has only a moderate positive correlation (0.61) with 'Total Value', and virtually no linear correlation with 'Price'. This suggests that while purchasing more items increases the total spend to some extent, it's the premium pricing of products that more powerfully influences the revenue generated per transaction.

Conclusion:

EDA reveals revenue concentration in Electronics/Clothing categories and seasonal Nov-Dec peak. Europe/South America drive transaction volume. Average transaction values differ across categories, with Clothing highest. Customer signups show steady trends throughout the year. Key insights point to the need for a shift towards a customer-centric, data-driven strategy focusing on category and regional optimization to enhance revenue.