Exploratory Data Analysis and Business Insights Report

EDA and Business Insights for eCommerce Dataset

This report presents insights derived from an exploratory data analysis (EDA) of an eCommerce dataset. The analysis aims to identify revenue trends, regional customer behavior, seasonal patterns, and product performance to provide actionable business insights.
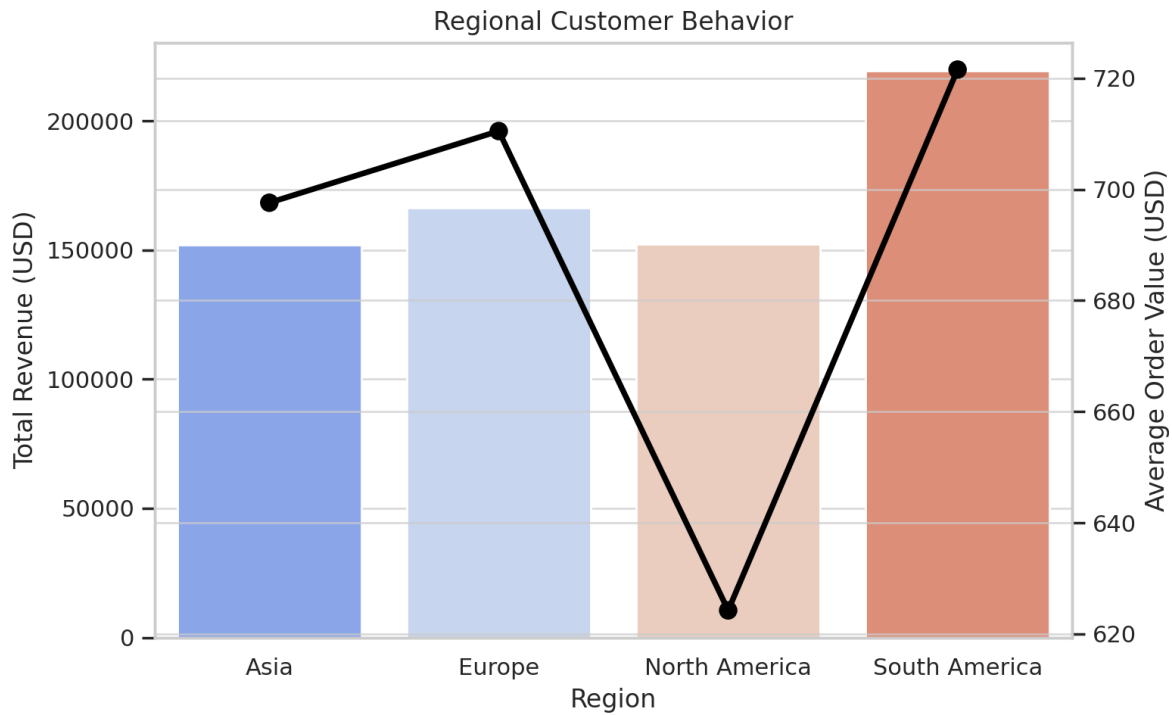
Insights:

1. Revenue by Category:

Books generated the highest revenue ($192,147.47), followed by Electronics ($180,783.50). Home Decor shows potential for growth with targeted promotions.
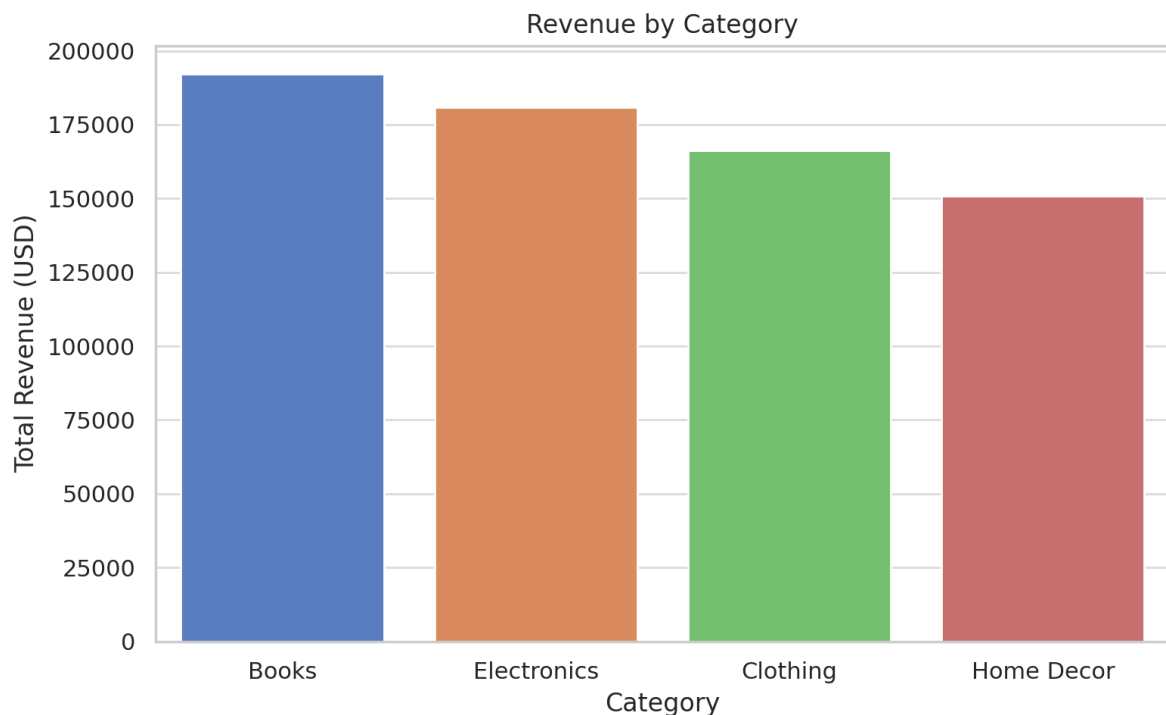

2. Regional Customer Behavior:

South America leads in revenue ($219,352.56) and average order value (AOV, $721.55), while North America, despite the highest transaction count, has the lowest AOV ($624.23).

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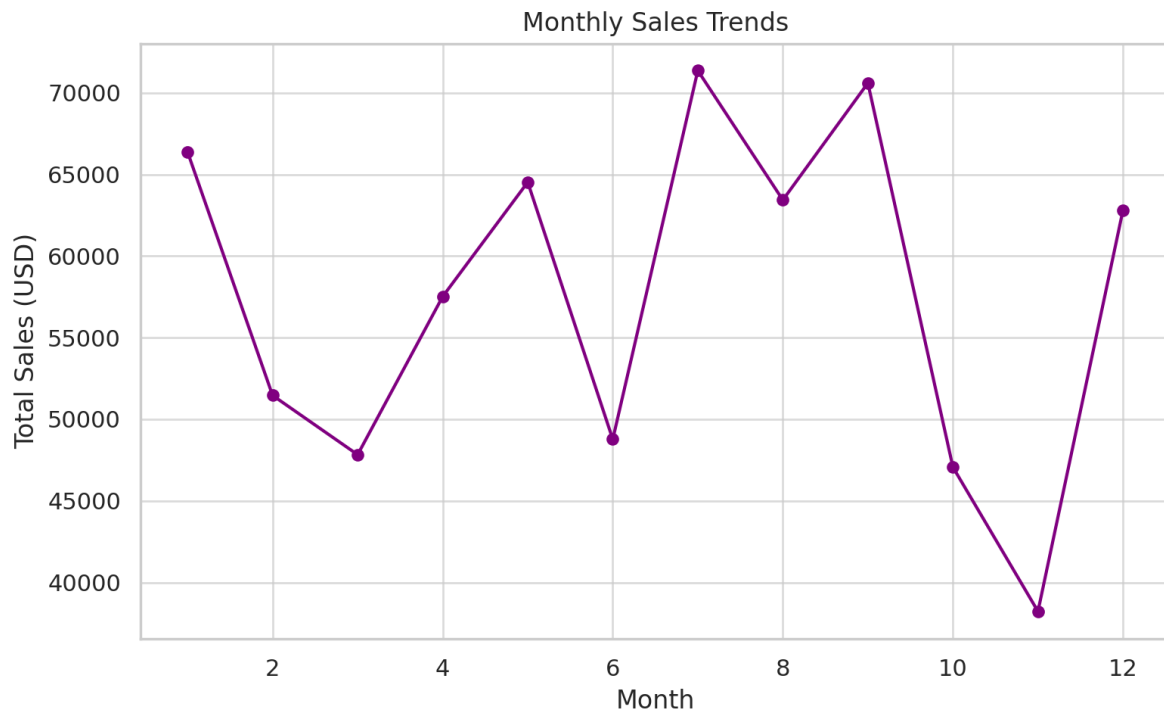
Regional Customer Behavior

3. Customer Signup Trends:

Customer signups have steadily increased, with 79 new customers in 2024. Onboarding and engagement strategies can help retain these customers.
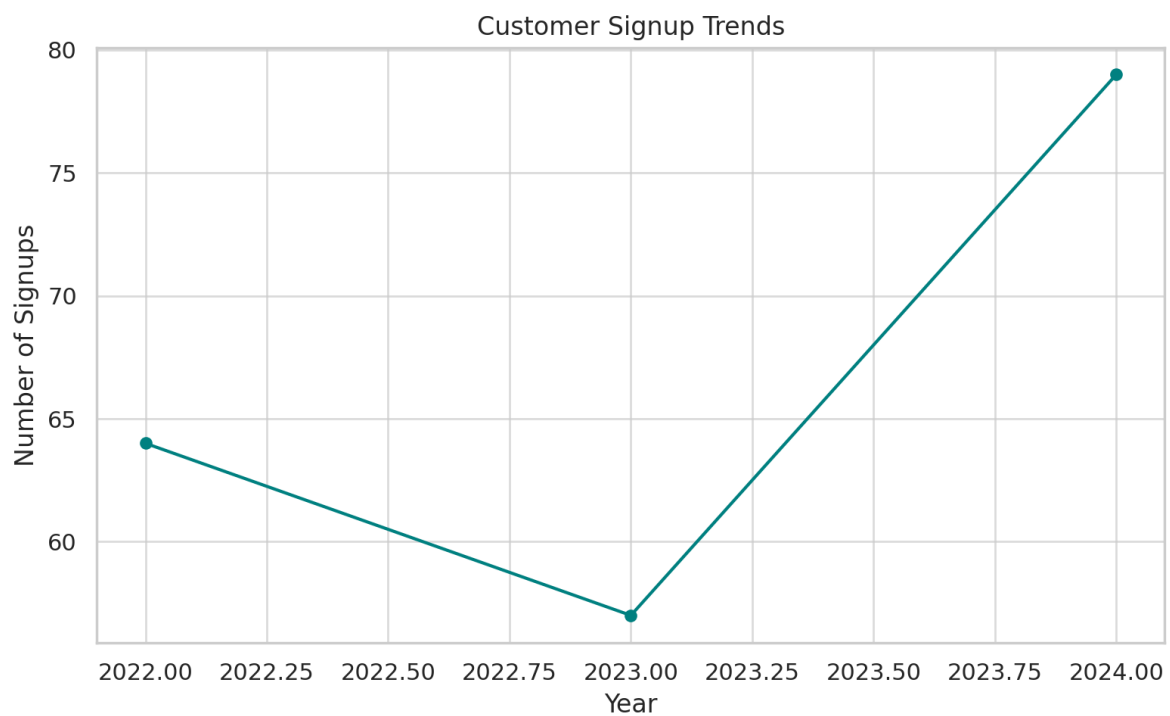
4. Monthly Sales Trends:

Sales peak in January ($66,376.39), likely due to New Year promotions, while November ($38,224.37) sees the lowest revenue.

5. Top Products by Revenue:

The ActiveWear Smartwatch leads revenue generation ($39,096.97), followed by SoundWave Headphones ($25,211.64). Tech and lifestyle products dominate the list.

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Top Products by Revenue
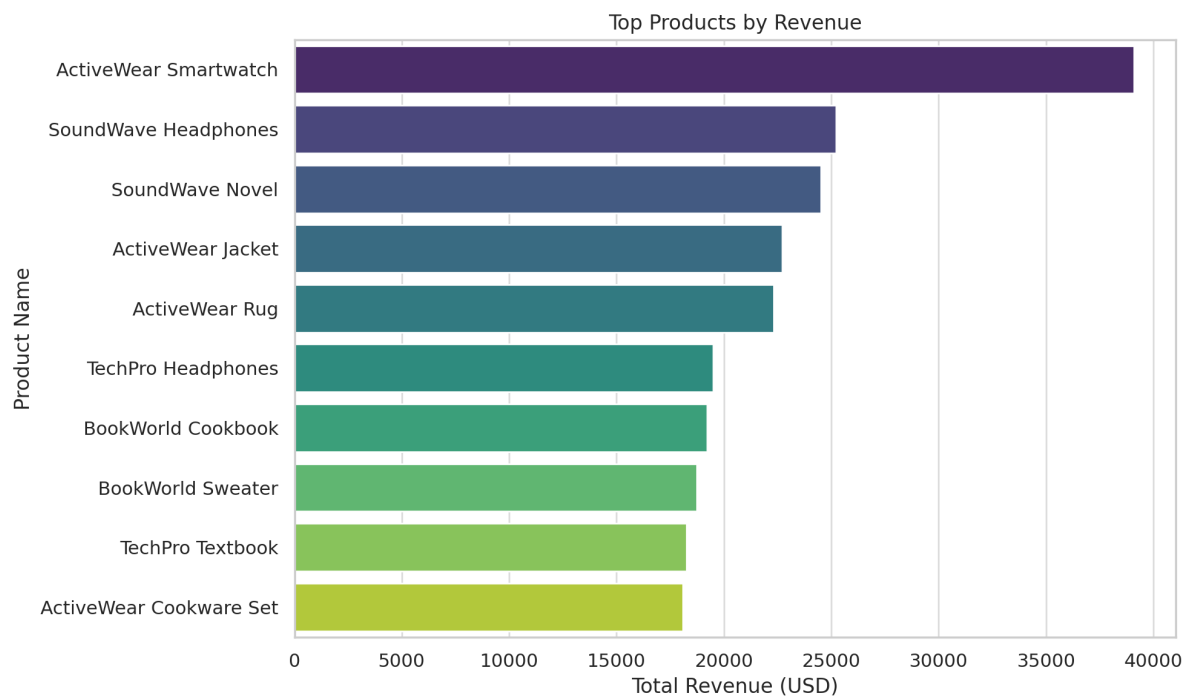
Conclusion:

The analysis highlights critical business opportunities, such as optimizing marketing strategies for high-revenue categories, expanding operations in South America, and leveraging seasonal trends. These insights can guide data-driven decisions to enhance revenue and customer engagement.