

Exploratory Data Analysis (EDA) Report

Retention Rate

Customer retention remained consistently high, with several months achieving 100%. This reflects strong customer loyalty and effective engagement strategies.

Revenue by Product Category

Books and Electronics were the top contributors to revenue, highlighting their popularity among customers. Clothing and Home Decor also contributed significantly.

Seasonal Trends by Category

Electronics experienced seasonal spikes, particularly mid-year, while Home Decor showed steady performance. This indicates opportunities for targeted marketing during peak seasons.

High-Value Customers

The top 10% of customers accounted for a significant portion of the revenue. These high-value customers should be prioritized for personalized retention and engagement strategies.

Revenue Concentration

The top 10% of transactions contributed 24.05% of total revenue, indicating a significant reliance on high-value transactions.

Signup Conversion Rate

A signup-to-purchase conversion rate of 99.5% showcases an efficient process for converting new signups into active buyers.

Top Regions by Category

South America generated the highest revenue across multiple product categories, particularly Electronics and Home Decor. Europe and Asia followed as strong performers, with North America showing strong contributions in Electronics.

Monthly Average Order Value (AOV)

AOV was consistently high during peak sales months, suggesting that promotional strategies were successful in driving customer spending.

Customer Frequency Segments

Most customers fell into the 2-5 purchase range, suggesting opportunities to increase engagement and transition customers into higher frequency segments.

Signup-Revenue Correlation

A strong positive correlation (0.91) was observed between the number of signups and total revenue, underscoring the importance of acquiring new customers for revenue growth.

Conclusion

The EDA provided key insights into customer behavior, retention, and revenue patterns. Targeted strategies to engage high-value customers, optimize promotional efforts, and leverage regional strengths can significantly enhance business outcomes.