

Report on Exploratory Data Analysis (EDA)

Customer Demographics Analysis

The analysis of customer demographics shows that the customer base is quite diverse. The largest percentage of customers, about 59%, are located in South America. This is followed by 50% in Europe, 46% in North America, and 45% in Asia. This distribution suggests that marketing strategies should focus more on regions where the customer base is larger, particularly South America, to drive higher engagement and sales.

Most Popular Products

The analysis of products reveals that certain categories perform much better than others. The Electronics category, especially the ActiveWear Smartwatch, emerged as the most popular product. On the other hand, the Home Decor category performed relatively poorly. This indicates that there is an opportunity to focus marketing efforts on the underperforming categories, potentially through promotions that could boost their visibility and sales.

Monthly Sales Trends

The monthly sales trends show consistent fluctuations, which suggests a stable market behavior. Sales tend to peak during specific months, likely due to seasonal demand or promotional activities. Understanding these trends can help in better managing inventory and executing targeted marketing campaigns during peak periods to maximize sales.

Total Sales by Product Category

The analysis of total sales by product category shows that the Books category generates the highest revenue, while the Home Decor category generates the least. This suggests that it may be beneficial to concentrate marketing efforts on high-revenue categories, while exploring strategies such as product bundling or targeted promotions to boost sales in lower-performing categories.

Customer Signup Trends Over Time

The trends in customer signups show that the number of registrations tends to be lower in the middle of the month but increases significantly towards the end. This cyclical pattern implies that strategic timing of promotional activities and marketing campaigns could help enhance customer acquisition during slower periods.

Conclusion

The Exploratory Data Analysis (EDA) has provided important insights into various aspects of the business, including customer demographics, product performance, sales trends, and customer engagement patterns. By leveraging these insights, businesses can make informed decisions on marketing strategies, inventory management, and product promotions, ultimately improving overall performance and driving growth.