

# Business Insights from EDA

## 1. Top 10 Products by Quantity Sold

The analysis of product sales revealed that the top 10 best-selling products, based on quantity sold, are Activewear Smartwatch, Soundwave Headphones, and HomeSense Desk Lamp, among others. These products accounted for **59.62%** of total sales. Focusing on these high-demand products can streamline inventory management and ensure that popular items are always in stock. Additionally, targeted marketing campaigns featuring these products could boost their sales, especially during peak seasons. A potential strategy could include product bundling or discounts on these best-sellers to enhance their visibility and drive additional sales.

## 2. Distribution of Transaction Values

The distribution of transaction values shows that **65.1%** of transactions fall within **\$201 to \$500**. This suggests that while most customers spend in the lower-to-mid-value range, there is potential for upselling to increase the overall transaction value. Businesses could focus on incentivizing higher spending by offering personalized promotions or targeting customers with higher-value product recommendations to drive more significant transactions.

## 3. Top 10 Product Categories by Total Sales Value

Analysis of product categories by total sales value highlights that Books and Electronics are the highest revenue-generating categories, contributing 27.84% and 26.2% of the total sales, respectively. These categories should be prioritized for future promotions or advertising campaigns. For instance, featuring these categories in targeted email campaigns or social media ads can further boost their visibility.

## 4. Top 10 Customers by Total Purchase Value

The top 10 customers, based on total purchase value, account for **11.02%** of overall revenue. These key customers are likely to be long-term repeat buyers. As a result, businesses should consider implementing loyalty programs, personalized offers, or exclusive rewards for these high-value customers to foster retention.

## 5. Number of Transactions by Region

The transaction volume varies significantly across regions, with **South America** accounting for **304** transactions and **Asia** showing comparatively fewer transactions of **218**. This insight highlights the need for targeted regional marketing strategies. For regions with lower transaction volumes, businesses could explore promotional offers, localized campaigns, or partnerships to boost engagement and sales. Meanwhile, regions with higher transaction volumes could benefit from tailored inventory and resource allocation to meet demand effectively.

## 6. Seasonal Trends in Transaction Values (Monthly)

Analysis of seasonal transaction trends shows a significant spike in transaction values during **July**, contributing **10.34%** of the total annual transaction value. **November** shows the lowest transaction volume, contributing only **5.53%**. By identifying these seasonal fluctuations, businesses can better prepare for high-demand periods by adjusting stock levels, hiring additional staff, and running targeted marketing campaigns. During off-peak months, businesses could implement special offers to boost sales and maintain consistent revenue throughout the year.

## **Conclusion**

These insights, supported by actual metrics from the data, provide a clear view of the current business landscape. By leveraging these findings, the company can optimize its product offerings, improve customer engagement, and tailor marketing efforts to boost revenue. Implementing strategies based on these insights will help drive more informed decisions and contribute to the overall success of the business.