

Business Insights from EDA

1. Regional Revenue Distribution:

South America leads in revenue with \$219,352.56, followed by Europe at \$166,254.63. North America and Asia have similar contributions, with \$152,313.40 and \$152,074.97, respectively. The close competition between North America and Asia highlights growth opportunities in these regions. South America's strong performance may be driven by a higher number of transactions or premium-priced products. Focusing marketing efforts on Europe and Asia could further boost sales. Additionally, analyzing customer preferences in these regions could help tailor product offerings and campaigns to maximize revenue potential.

2. Product Popularity:

The "ActiveWear Smartwatch" emerged as the most sold product with 100 units, highlighting its popularity among customers. SoundWave products, including Headphones and Cookbooks, also feature prominently in the top-sold items, indicating a strong preference for electronics. The presence of products like the "ActiveWear Rug" and "ActiveWear Jacket" suggests that apparel and home decor are also key categories. Offering bundled deals or discounts on these popular items can further drive sales. This insight suggests a demand for both utility and lifestyle-oriented products, which can guide future inventory planning.

3. Seasonal Sales Trends:

Sales peaked in January (\$66,376.39), July (\$71,366.39), and September (\$70,603.75), indicating strong seasonal demand during these months. The spike in January may be tied to New Year promotions or post-holiday shopping, while July and September could correspond to mid-year sales or back-to-school promotions. Conversely, sales were relatively lower in November (\$38,224.37) and October (\$47,063.22), suggesting an opportunity to introduce targeted campaigns or discounts during these months to balance revenue. Understanding these trends helps optimize promotional strategies and inventory planning across the year.

4. Customer Loyalty:

With a customer retention rate of 93.97%, the business demonstrates exceptional loyalty among its user base. This high retention rate indicates customer satisfaction and a strong connection with the brand. Engaging existing customers through loyalty programs, personalized offers, and exclusive discounts can further enhance this loyalty. Additionally, converting first-time buyers into repeat customers remains an area of opportunity. Analyzing the preferences and purchasing behavior of returning customers can provide valuable insights for improving customer acquisition strategies and maintaining long-term relationships.

5. Price Sensitivity:

A weak correlation (-0.01) between price and quantity sold suggests that price changes do not significantly impact the quantity of products sold. This indicates

customers may prioritize product value, brand reputation, or quality over cost. While overall sales remain unaffected, specific segments or product categories may exhibit different sensitivity levels. Conducting deeper analysis by region or demographic can help identify patterns. This insight allows the business to confidently explore premium pricing strategies for high-demand products while maintaining competitive pricing for more price-sensitive categories.