

## **Business Insights in EDA**

**1)Regional and Product Sales Analysis:**The graph illustrates the distribution of product sales across Asia, Europe, North America, and South America for various product categories. Sales are fairly consistent across regions, indicating balanced market penetration. Popular categories like ActiveWear and SoundWave products show higher sales, suggesting potential areas for increased focus and promotion. However, some products exhibit consistently low sales, highlighting opportunities for improvement or discontinuation. The extensive variety of products may overwhelm customers, and streamlining the catalog could enhance clarity and profitability. Tailored regional marketing strategies could further boost performance by addressing specific market preferences and optimizing underperforming product categories.

**2)Regional Distribution of Customers and Key Insights:**This analysis compares the number of customers across four regions: South America, Europe, North America, and Asia. South America leads with approximately 60 customers, followed by Europe with around 50, while North America and Asia trail closely behind with similar figures just under 50. The data indicates South America has the largest customer base, suggesting strong regional engagement or market penetration. Europe also shows a robust presence, while North America and Asia present opportunities for growth. These insights may guide efforts to expand customer reach or allocate resources, focusing on boosting numbers in regions with lower customer counts.

**3)Analysis of Top-Selling Products:**The top three best-selling products are the **Active Wear Smartwatch**, **Sound Wave Headphones**, and **HomeSense Desk Lamp**, with approximately 95, 85, and 75 units sold, respectively. The **ActiveWear Smartwatch** leads the chart, indicating a significant consumer demand for wearable technology, likely due to its multifunctional appeal and health-focused features. **SoundWave Headphones**, ranking second, highlight the strong market for quality audio equipment, suggesting opportunities for expanding this product line. The **HomeSense Desk Lamp**, a home utility product, reflects growing interest in functional yet stylish home accessories. These insights emphasize the potential in technology-driven products and home decor to boost overall sales.

**4)Monthly Sales Trends and Insights for 2024:**The analysis depicts monthly sales trends in USD for 2024, showing fluctuations throughout the year. Sales started low in December 2023 but surged significantly in January, peaking at over \$70,000. A decline followed in February and March, with sales stabilizing around \$50,000. Mid-year (June), sales improved before another peak in September. A sharp drop occurred in October and November, but December showed recovery. The chart highlights strong performance in January and September, suggesting effective strategies or seasonal demand during these months. Conversely, October and November indicate areas for improvement, potentially due to market downturns or reduced engagement.

#### **5)Insights on Customer Purchasing Behavior:**

The analysis illustrates customer's purchasing patterns, showing a positive correlation between the number of transactions and the total amount spent. Customers with fewer transactions typically spent less, whereas those with 8-10 transactions often spent over \$6,000, with some exceeding \$10,000. This suggests that frequent customers contribute significantly to total revenue, indicating the importance of customer retention strategies. High-value customers, represented by larger and lighter-colored markers, demonstrate substantial spending behavior, underscoring the value of personalized offers or loyalty programs. Businesses should focus on encouraging repeat purchases and rewarding high-spending customers to maximize profitability.