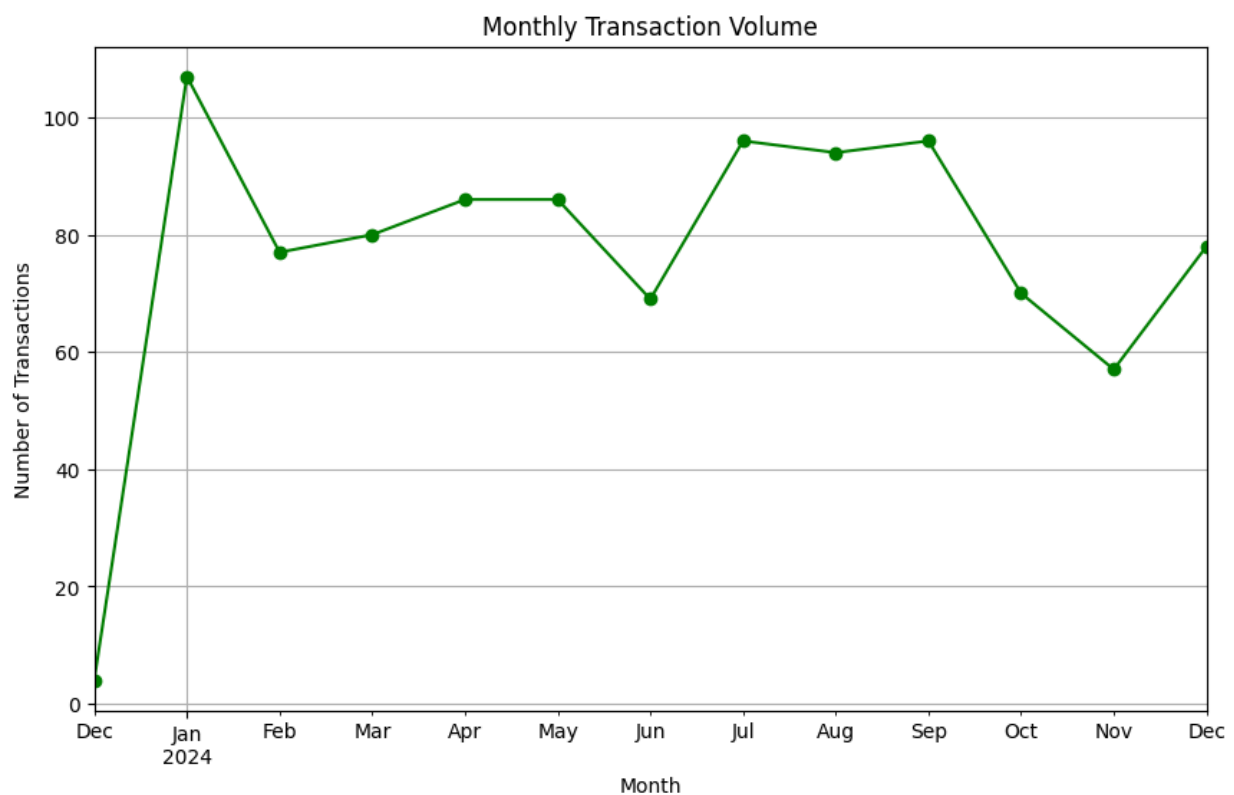


# EDA Analysis of Datasets

## 1. Transaction Trends :

- The highest transaction volume occurred in January 2024, with over 100 transactions.
- There is a consistent transaction range between February and September, fluctuating between 80 and 90 transactions.
- A decline is noticeable in October and November, followed by a slight recovery in December.



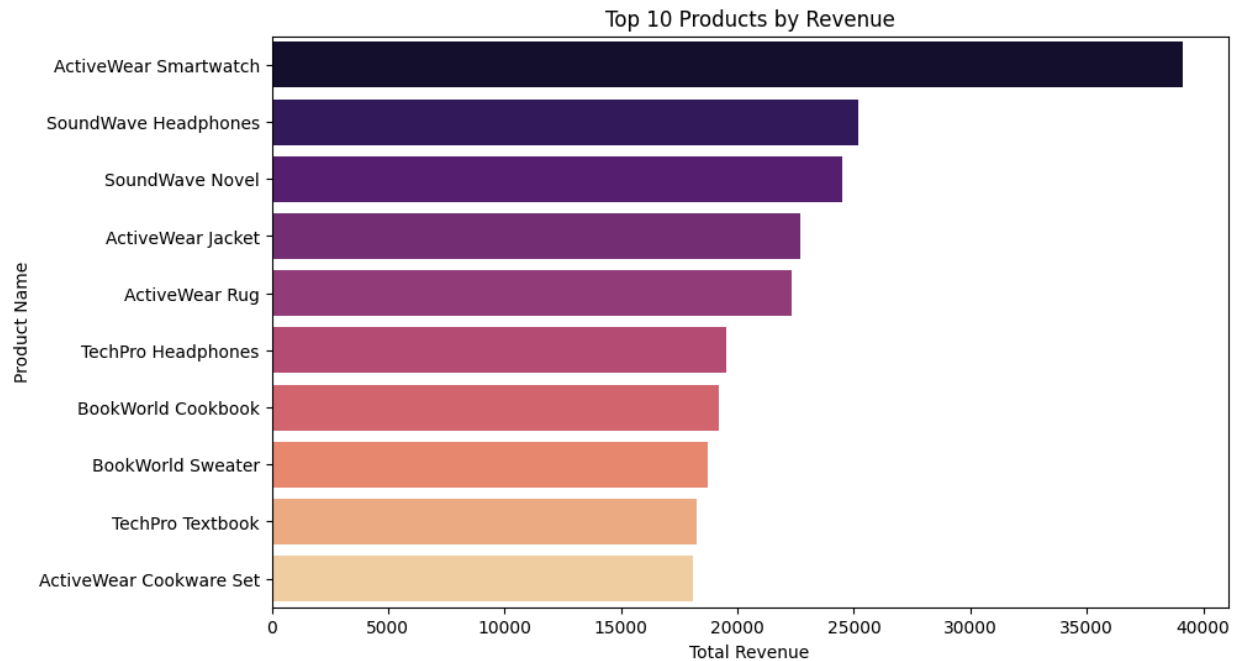
## 2. Customer Distribution by Region :

- South America leads in the number of customers, with nearly 60 customers.
- Europe, North America, and Asia have a relatively even distribution, each having around 40–50 customers.



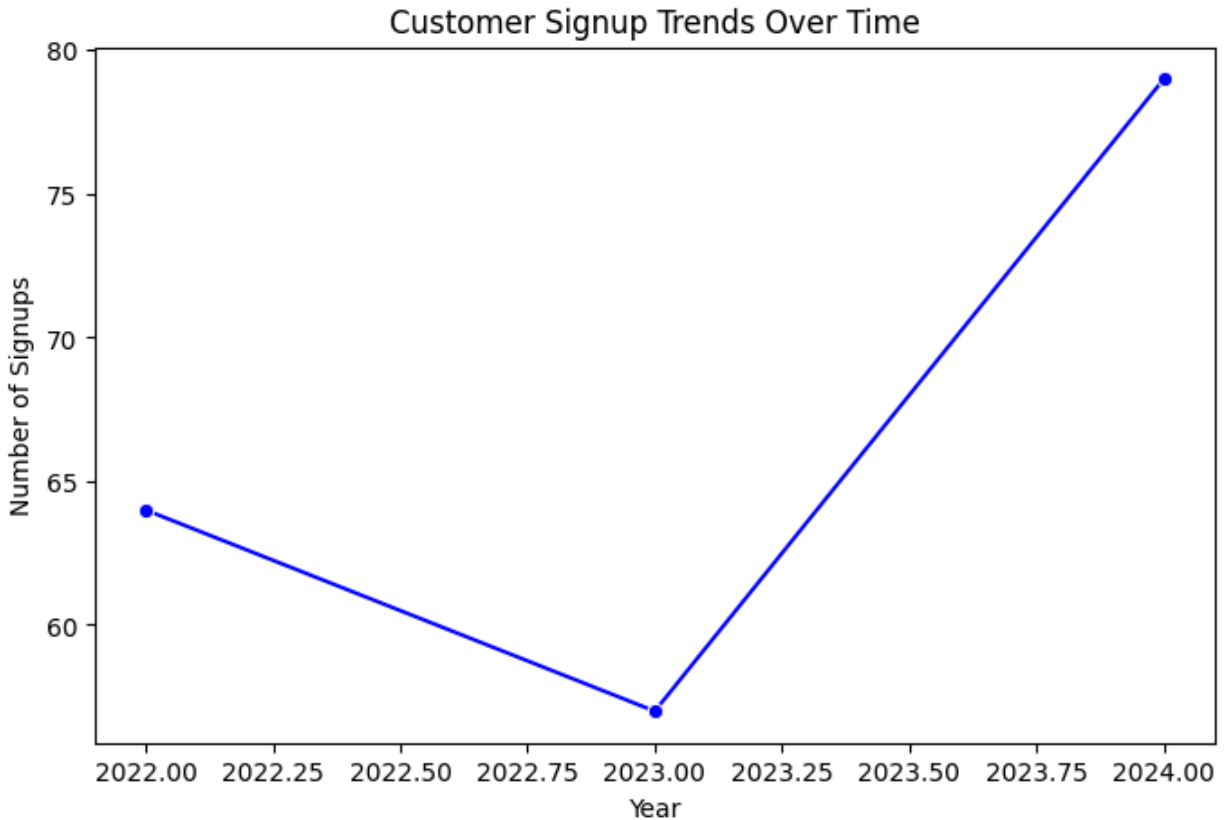
### 3. Top 10 Products by Revenue :

- The "ActiveWear Smartwatch" is the top revenue-generating product, significantly outperforming other items.
- "SoundWave Headphones" and "SoundWave Novel" also generate high revenue, showing strong customer interest in electronics and audio-related products.
- Products in the "ActiveWear" category appear multiple times, indicating high demand for this brand.



#### 4. Customer Signup Trends :

- There was a decline in customer signups from 2022 to 2023, hitting the lowest point in 2023.
- A significant surge occurred in 2024, with signups rising to nearly 80, the highest in the observed period.



## 5. General Observations:

- The business sees peak activity early in the year, suggesting a seasonal trend.
- South America appears to be a crucial market, which could be further leveraged with tailored strategies.
- Electronics and activewear products dominate sales, highlighting potential areas for investment and inventory focus.

**Some recommendations to increase business sales based on the insights from the graphs:**

### 1. Capitalize on Seasonal Trends

- **Observation:** January saw the highest transaction volume.
- **Recommendation:**
  - Run **aggressive promotions and discounts** during the year-end and New Year period to maintain the momentum into February and March.
  - Introduce **seasonal bundles or limited-time offers** targeting January shoppers.

## 2. Focus on South American Market

- **Observation:** South America has the highest customer base.
- **Recommendation:**
  - Invest in **localized marketing campaigns** for South America (e.g., region-specific ads or influencer partnerships).
  - Expand **product availability and shipping capabilities** in this region to reduce delivery times.
  - Offer **region-specific incentives**, such as loyalty rewards or regional festivals-based campaigns.

## 3. Promote Top-Performing Products

- **Observation:** "ActiveWear Smartwatch" and "SoundWave Headphones" are the leading revenue generators.
- **Recommendation:**
  - Run **targeted ad campaigns** showcasing these products' unique features and benefits.
  - Bundle top-performing products with complementary items to increase the average order value.
  - Highlight **customer testimonials and reviews** to build trust in these products.

#### 4. Reinvigorate Low-Sales Months

- **Observation:** Transactions dipped significantly in October and November.
- **Recommendation:**
  - Introduce a “**Mid-Year Clearance**” sale during these months to boost sales.
  - Launch **early holiday promotions** to attract early shoppers before December.
  - Organize events or campaigns like “**Free Shipping Month**” or contests to drive engagement.

#### 5. Improve Product Range in Emerging Regions

- **Observation:** Europe, North America, and Asia have fewer customers compared to South America.
- **Recommendation:**
  - Conduct market research to identify product preferences in these regions.
  - Launch **targeted products or campaigns** for these markets, such as tech gadgets for North America or cost-effective solutions for Asia.
  - Offer **referral bonuses** to existing customers to expand the customer base in these regions.

These are some of the recommendations that help the business grow.