

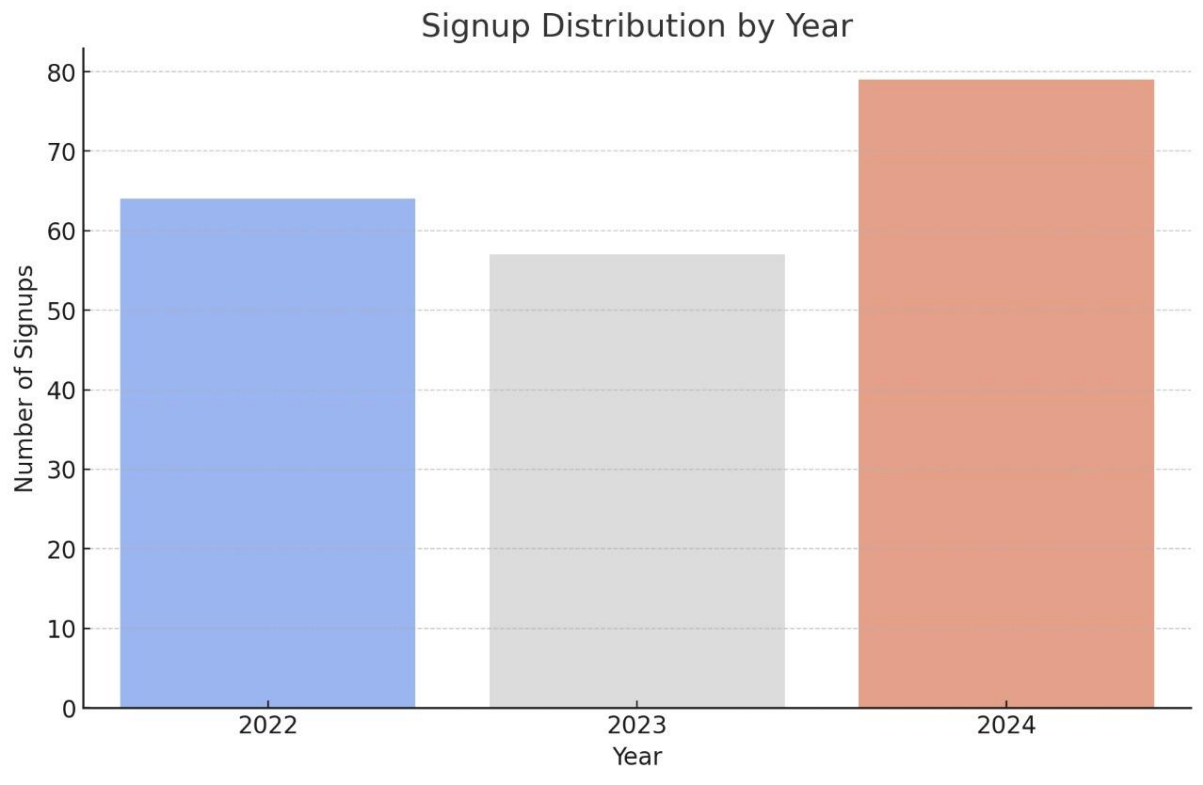
Task 1: Exploratory Data Analysis (EDA) and Business Insights



GRAPH 1 : Price Distribution of Products

Insights:

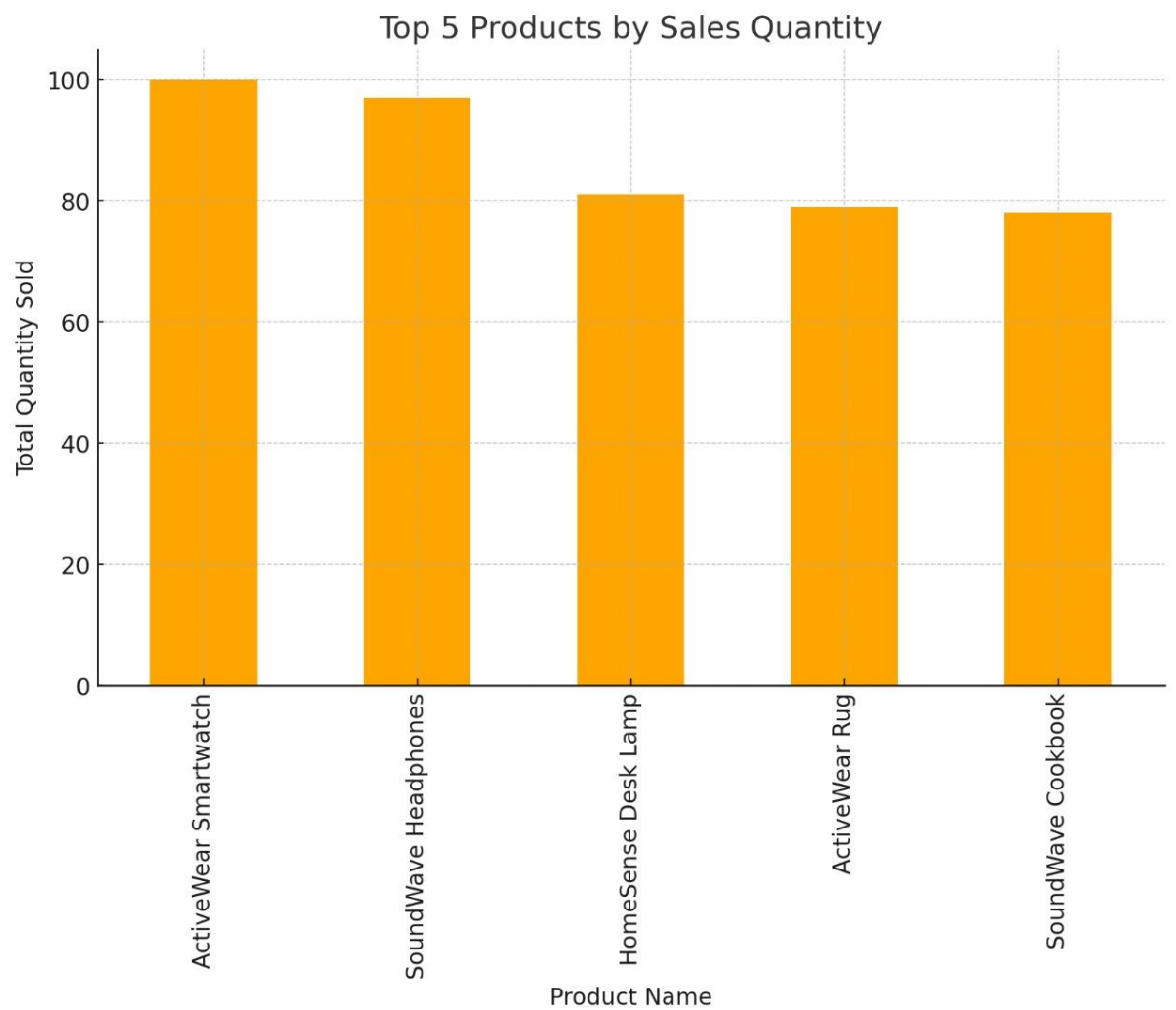
- The price distribution ranges from 0 to 500 units with varying frequencies across intervals.
- Higher frequencies are observed in the 100-200 and 400-500 price ranges.
- The mid-range (~200-300) shows a noticeable dip in product frequency.
- The fitted curve highlights clusters in pricing, suggesting diverse product categories or pricing strategies.



GRAPH 2 : SignUp Distribution by Year

Insights:

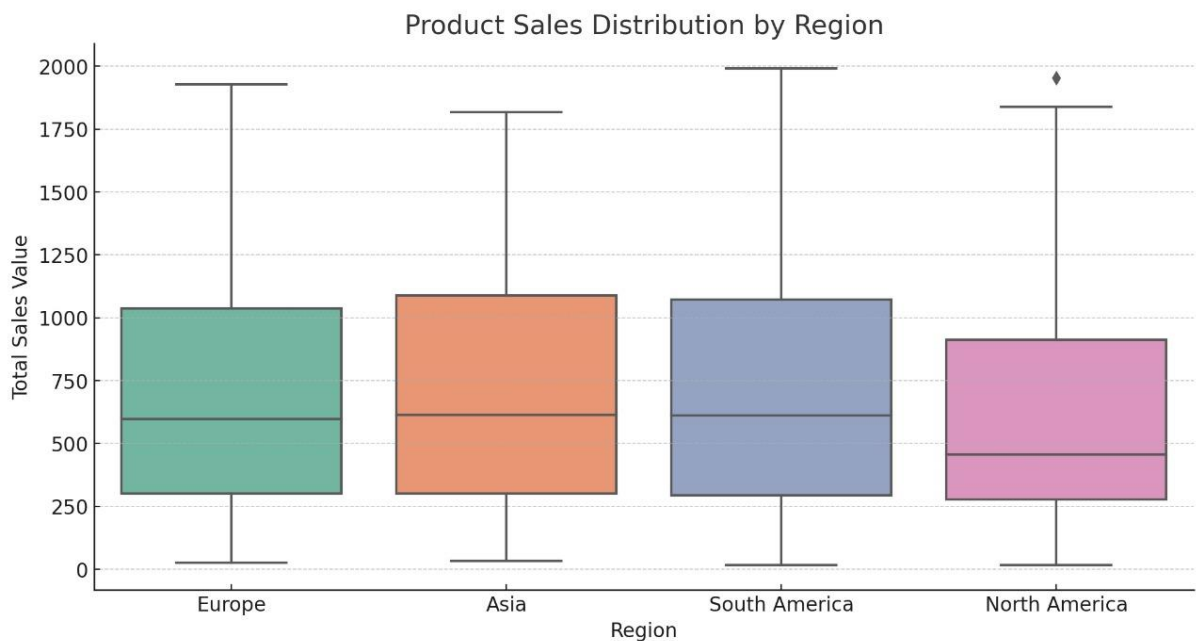
- The number of signups has shown a significant increase from 2022 (60) to 2024 (80).
- There was a notable drop in 2023, with signups falling to around 40, indicating a dip in user acquisition or activity.
- The growth from 2023 to 2024 highlights a strong recovery and improved performance in signups.
- This trend suggests possible impacts of external factors in 2023 and the success of measures or campaigns implemented in 2024.



GRAPH 3 : Products By Sales Quantity

Insights:

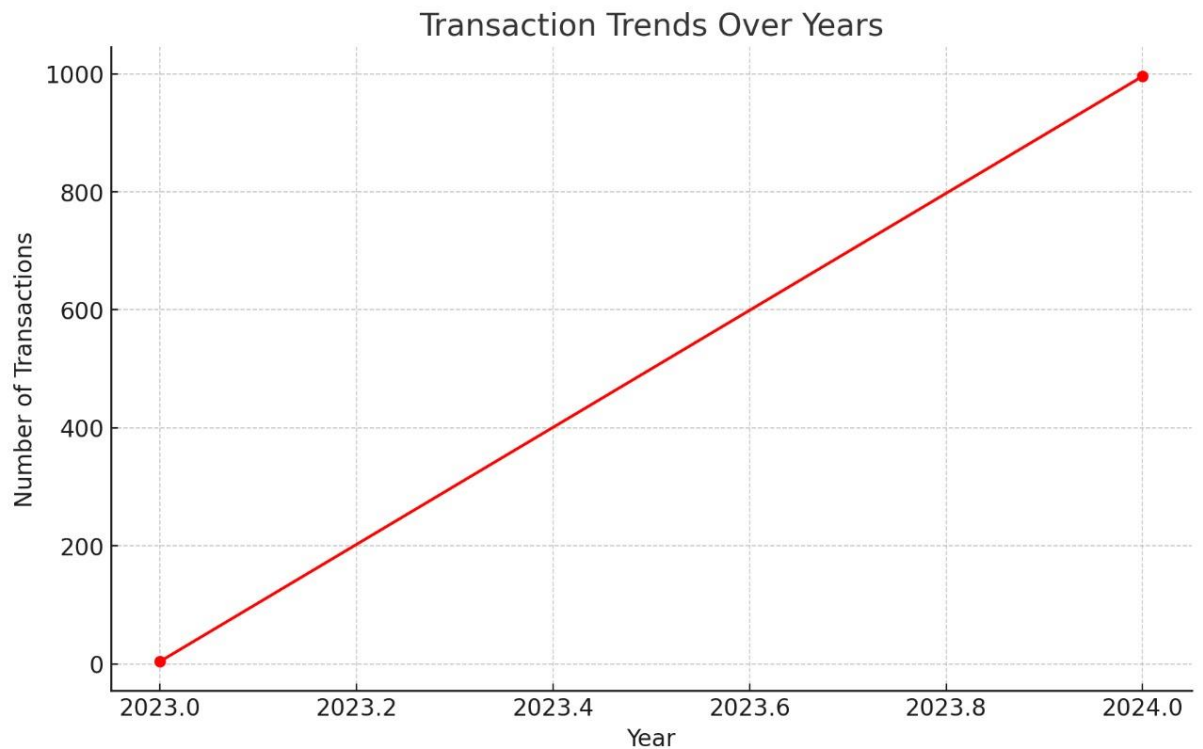
- **ActiveWear** Smartwatch and **SoundWave** Headphones lead in sales, each reaching the highest sales quantity of around 100 units, indicating strong customer demand.
- The other products, including **HomeSense** Desk Lamp, **ActiveWear** Rug, and **SoundWave** Cookbook, follow closely with slightly lower but consistent sales volumes.
- All top 5 products demonstrate **relatively similar sales quantities**, suggesting a well-performing product lineup without drastic differences in popularity



GRAPH 4 : Products Sales Distribution By Region

Insights:

- Median Sales: Europe, Asia, and South America have similar median sales values, while North America has a slightly lower median.
- Sales Spread: South America and Asia show the largest range in sales, while North America exhibits a tighter distribution, suggesting more consistent sales.
- Outliers: North America has a notable outlier indicating an exceptionally high sales value compared to the rest of the data



GRAPH 5 : Transaction Trends Over Years

Insights:

- The number of transactions has shown a steady linear growth from 2023 to 2024, increasing consistently over time.
- Starting from 0 transactions in 2023, the trend reaches approximately 1,000 transactions by 2024, indicating significant adoption or user activity.
- The consistent growth pattern suggests the absence of seasonal fluctuations or interruptions in transactions.
- This trend highlights the success of strategies driving engagement and could indicate a positive market response or system scalability.