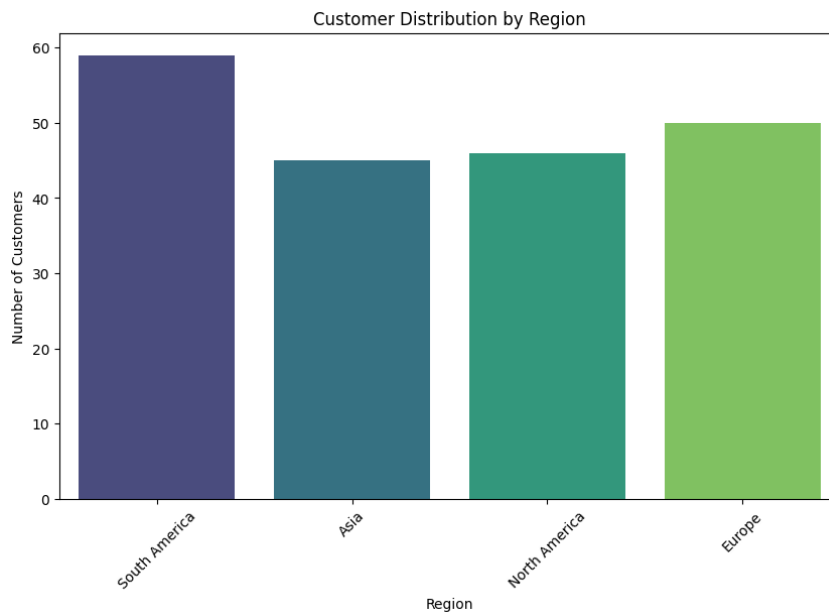


Task 1: Exploratory data Analysis:

Exploratory Data Analysis (EDA) is the process of analyzing and visualizing datasets to uncover patterns, trends, relationships, and anomalies. It helps in understanding the data's structure and informing further preprocessing or modeling decisions.

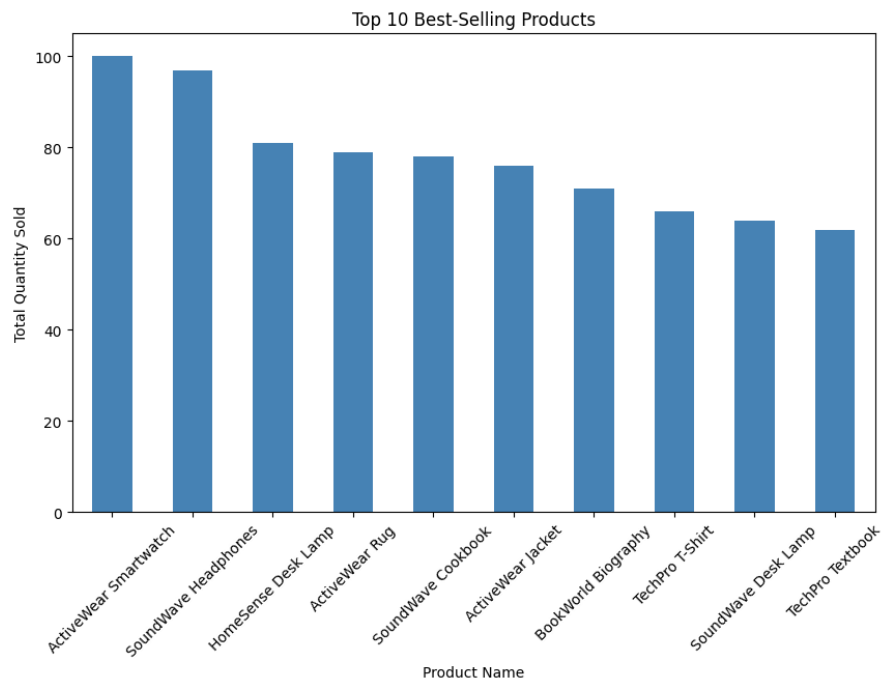
Business Insights:

1.Customer Distribution by Region:



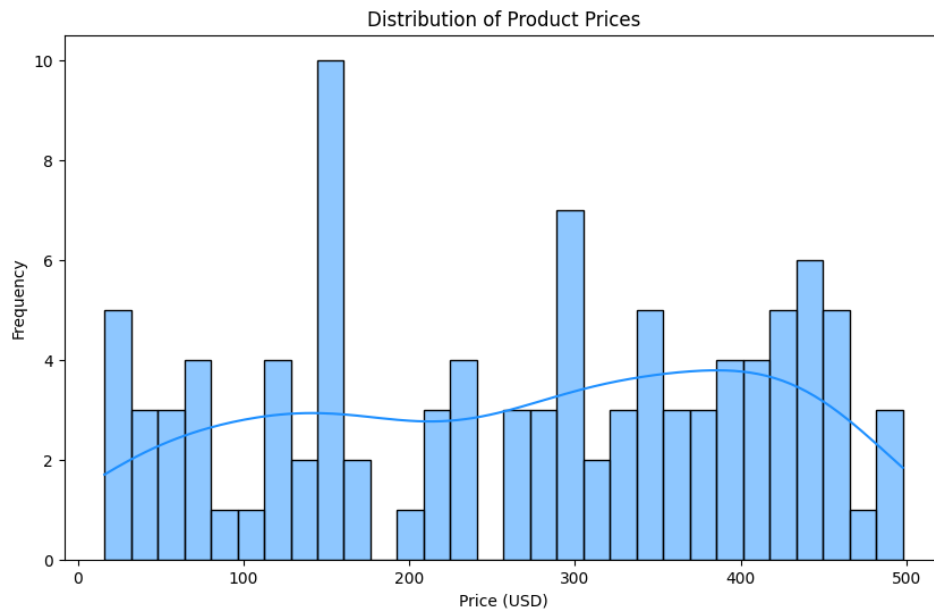
The bar chart reveals that South America has the largest number of customers, indicating a strong market presence in this region. Europe, North America, and Asia have comparable but slightly lower customer counts. This insight suggests an opportunity to focus on expanding the customer base in Asia and North America through region-specific marketing campaigns or partnerships. Additionally, customer retention strategies should be prioritized in South America to maintain its dominant position.

2. Top 10 Best selling Products:



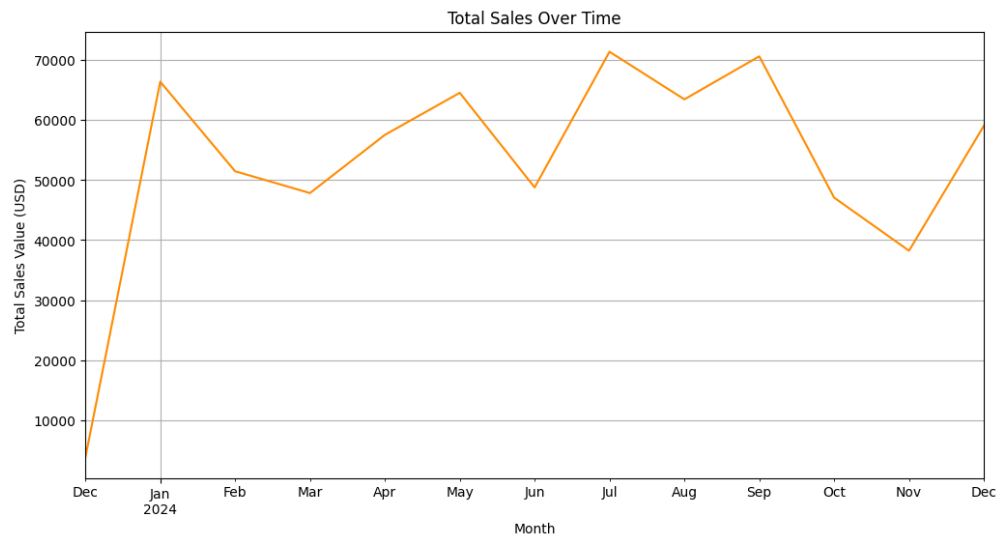
The chart displays the top 10 best-selling products based on total quantity sold. ActiveWear Smartwatch takes the lead with the highest sales, followed closely by SoundWave Headphones. HomeSense Desk Lamp and ActiveWear Rug secure the third and fourth positions respectively. The remaining products, including SoundWave Cookbook, ActiveWear Jacket, BookWorld Biography, TechPro T-Shirt, SoundWave Desk Lamp, and TechPro Textbook, demonstrate progressively lower sales volumes.

3. Distribution of Product Prices:



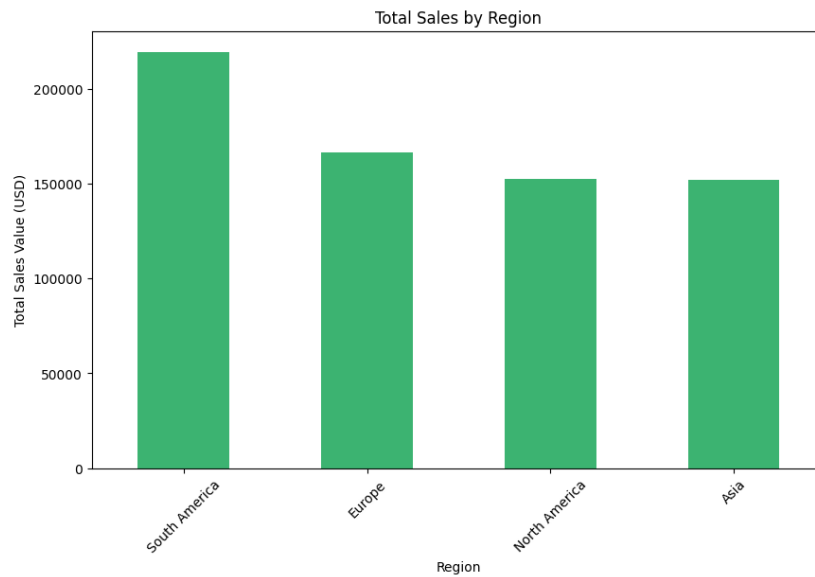
The histogram shows that product prices vary widely, with visible peaks around specific price ranges. These peaks suggest customer preferences for certain price points, which businesses can target by adjusting pricing strategies or expanding product offerings around those ranges. Additionally, the distribution highlights the importance of balancing premium and budget-friendly products to cater to different market segments and maximize sales potential.

4. Total sales over time:



The chart illustrates total sales in USD over a year, starting from December 2023. Sales experienced significant fluctuations. January 2024 saw a sharp peak, followed by a decline in February. A gradual increase occurred from March to May, then a dip in June to August. Sales rebounded from September to December, ending at approximately 55,000 USD.

5. Total Sales by Region:



The chart shows that South America not only has the highest customer base but also leads in total sales value, indicating higher engagement or spending per customer. Europe ranks second, while North America and Asia have similar but lower sales figures. To increase overall revenue, businesses could analyze why sales in North America and Asia are lagging and develop region-specific strategies, such as tailored product offerings or discounts, to boost performance.