

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

Given Data:

1. Customers.csv

- CustomerID: Unique identifier for each customer.
- CustomerName: Name of the customer.
- Region: Continent where the customer resides.
- SignupDate: Date when the customer signed up.

2. Products.csv

- ProductID: Unique identifier for each product.
- ProductName: Name of the product.
- Category: Product category.
- Price: Product price in USD.

3. Transactions.csv

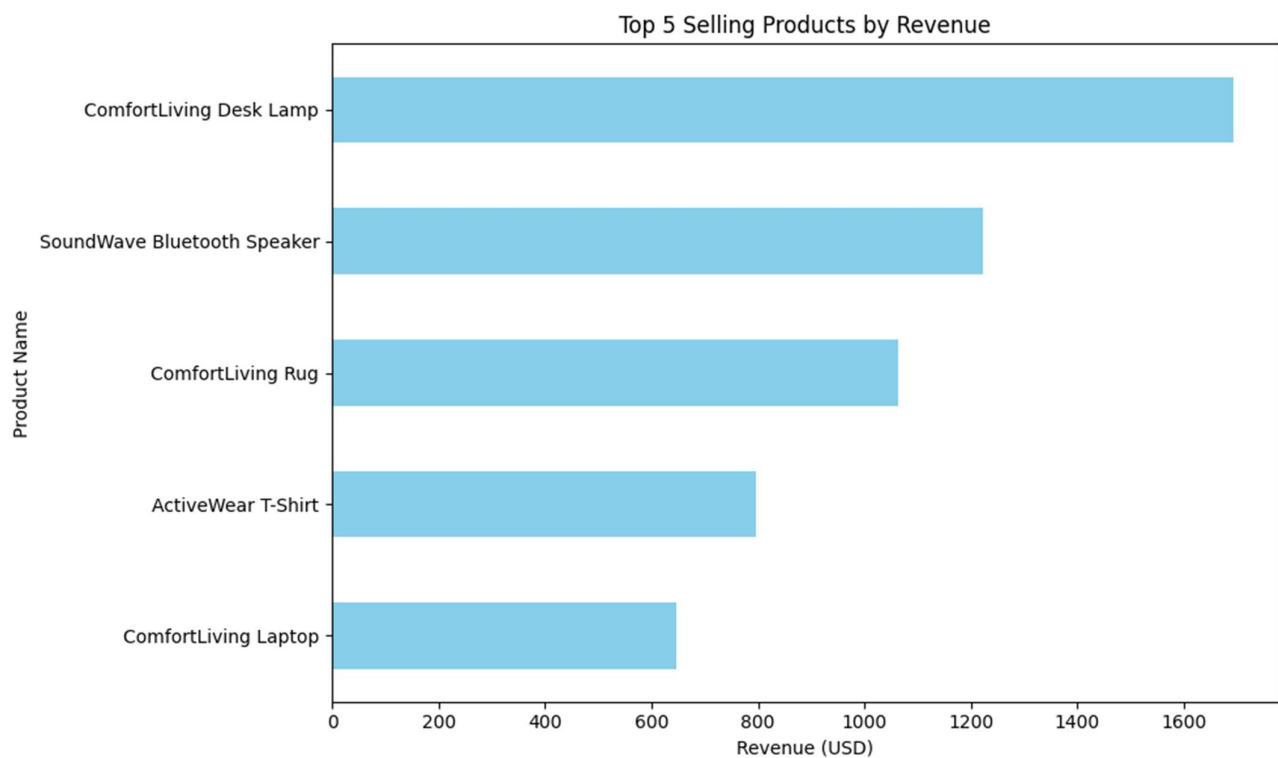
- TransactionID: Unique identifier for each transaction.
- CustomerID: ID of the customer who made the transaction.
- ProductID: ID of the product sold.
- TransactionDate: Date of the transaction.
- Quantity: Quantity of the product purchased.
- TotalValue: Total value of the transaction.
- Price: Price of the product sold.

KPI'S(Key Performance indicators):Region,ProductName,Category,Price,Quantity

List of figures:

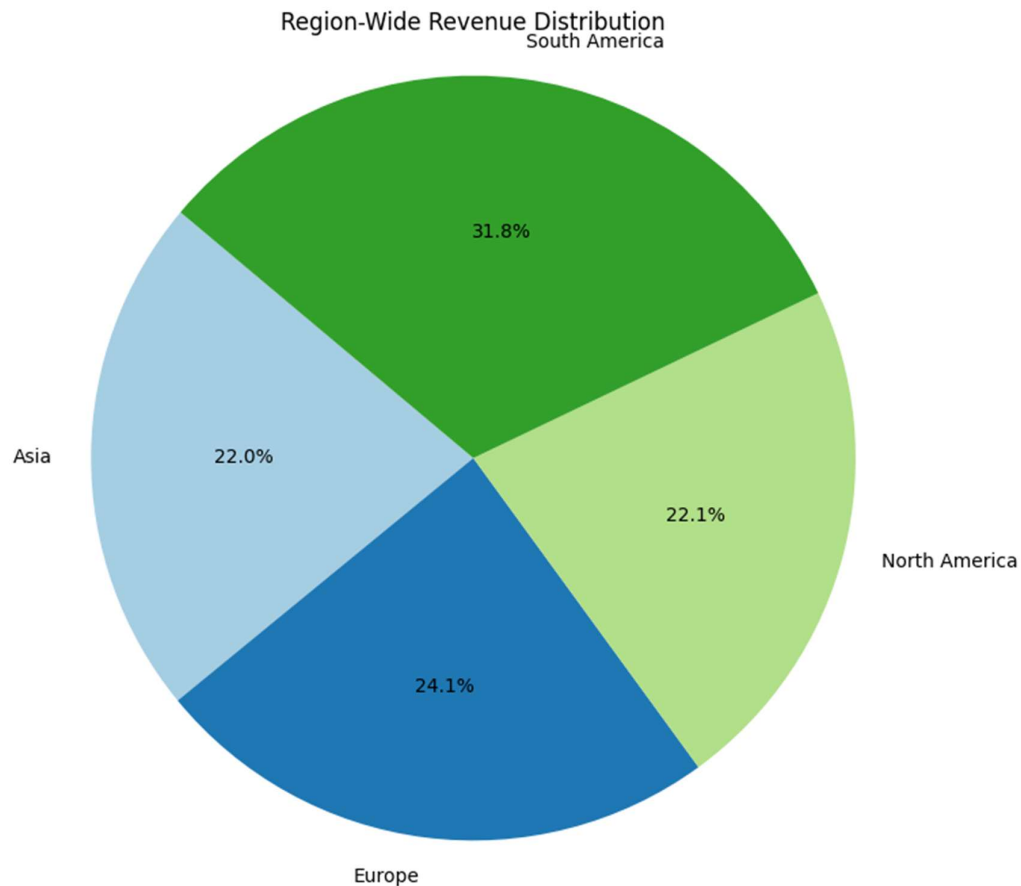
- 1. Top 5 Selling Products by Revenue**
- 2. Region-Wide Revenue Distribution**
- 3. Yearly Signups Over Regions**
- 4. Revenue by Top 5 Products Across Years**
- 5. Number of Customers per Region**

1.Top 5 Selling Products by Revenue:



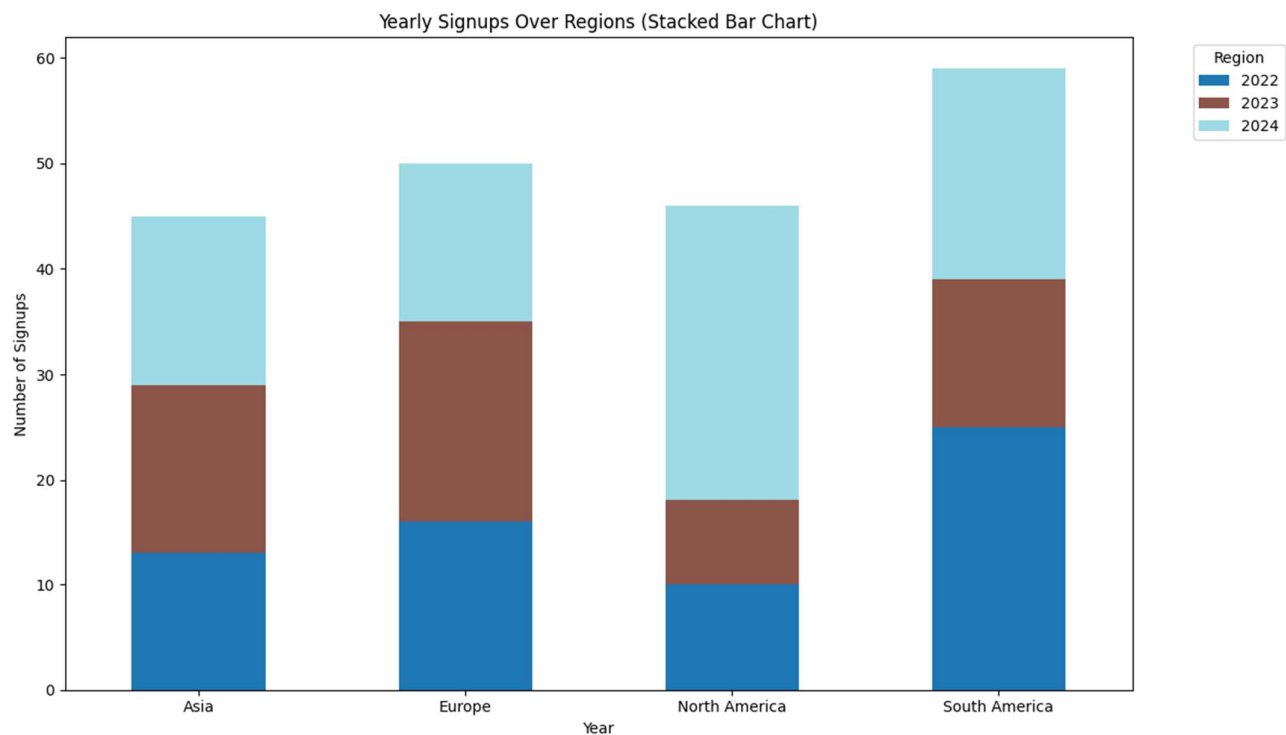
This bar chart indicates the top 5 products generating the highest revenue, giving a clear picture of the most profitable items in the market. By displaying the revenue for each product, it identifies high performers and strategic products for focused sales and inventory planning. The horizontal bar chart facilitates easy visualization to enable fast decision-making.

2. Region-Wide Revenue Distribution:



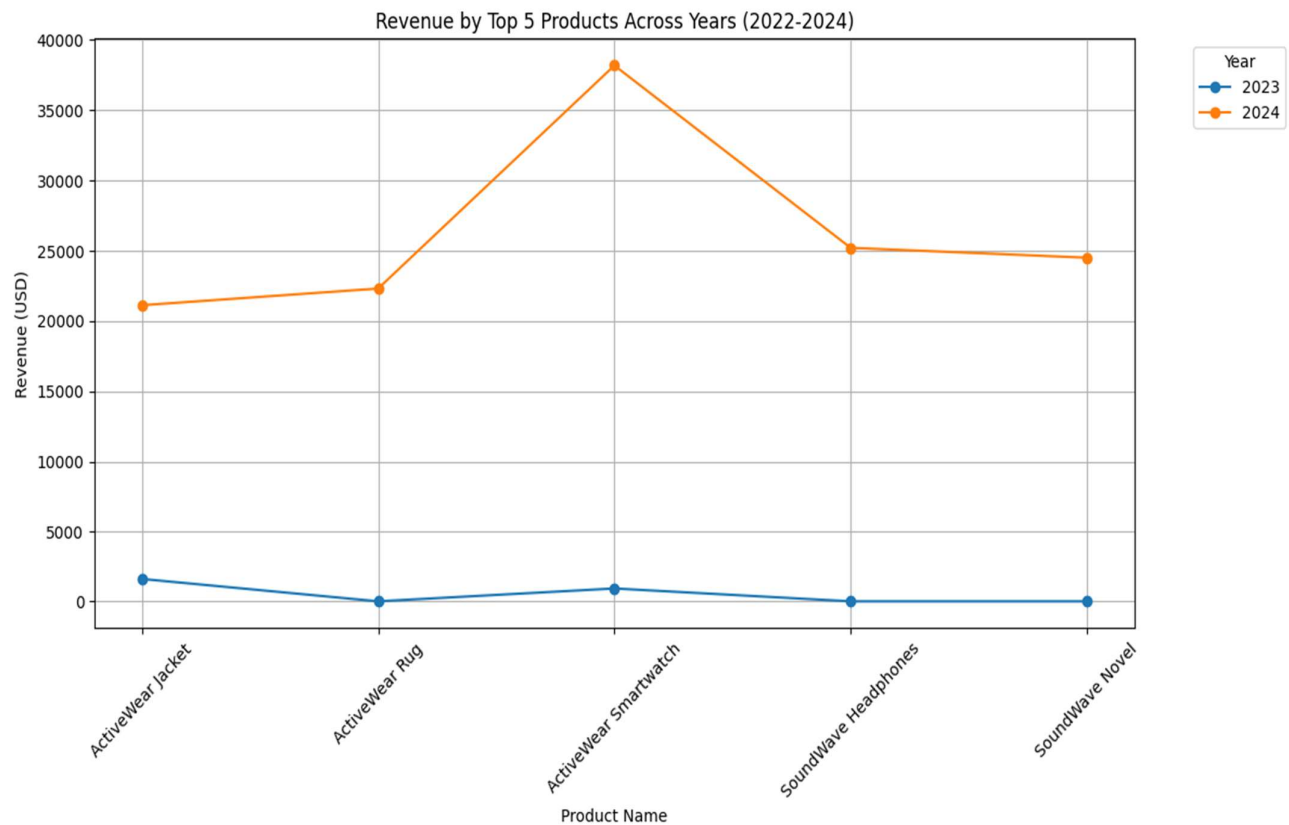
This pie chart shows which regions make the largest contributions to total sales by graphically displaying the revenue breakdown in different regions. The ratio-based slices of the chart enable the recognition of key markets and permit data-driven decisions on resource allocation and focused marketing. Regional performance evaluation is enhanced with power and readability by the dynamic visualization.

3. Yearly Signups Over Regions:



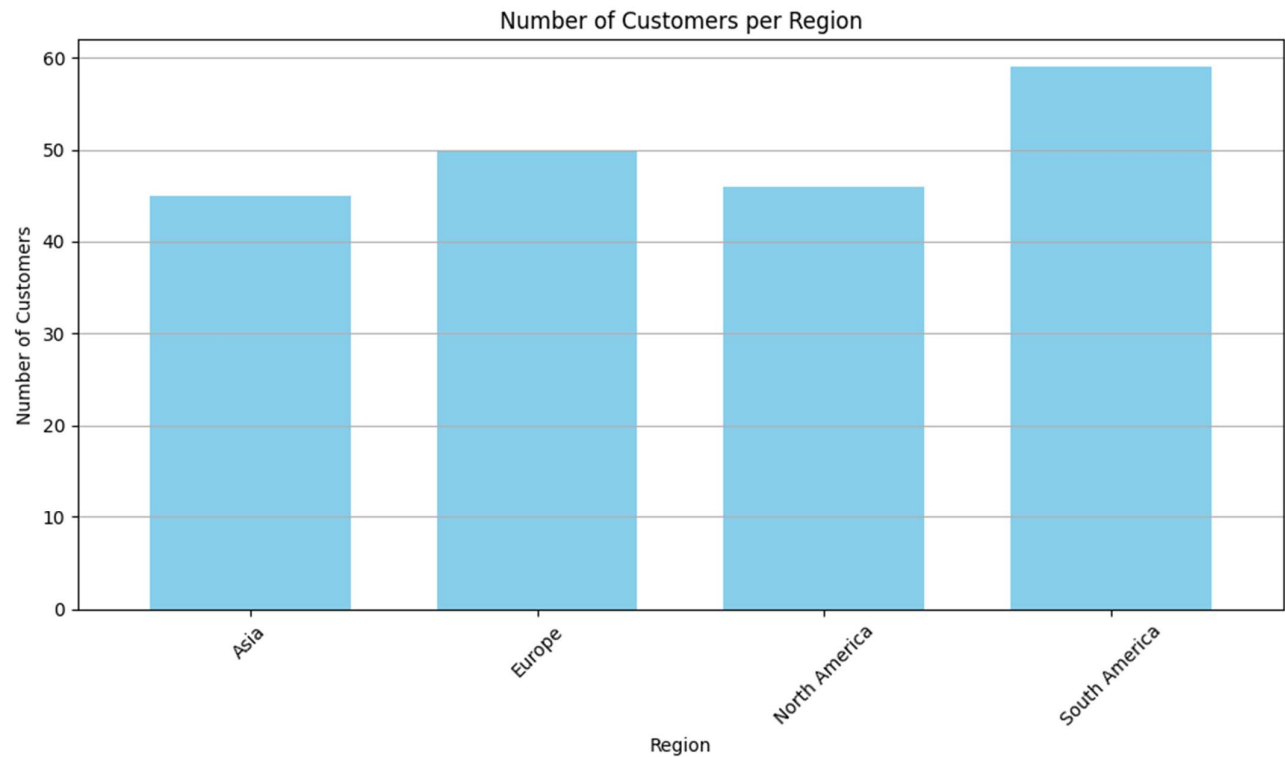
This stacked bar chart provides information on regional growth trends by displaying the yearly signups across different regions. By clearly visualizing the distribution of new signups annually, it enables companies to pinpoint the areas that are expanding the fastest and modify their marketing strategies accordingly. An efficient way to compare different regions over a number of years is with the stacked format.

4. Revenue by Top 5 Products Across Years:



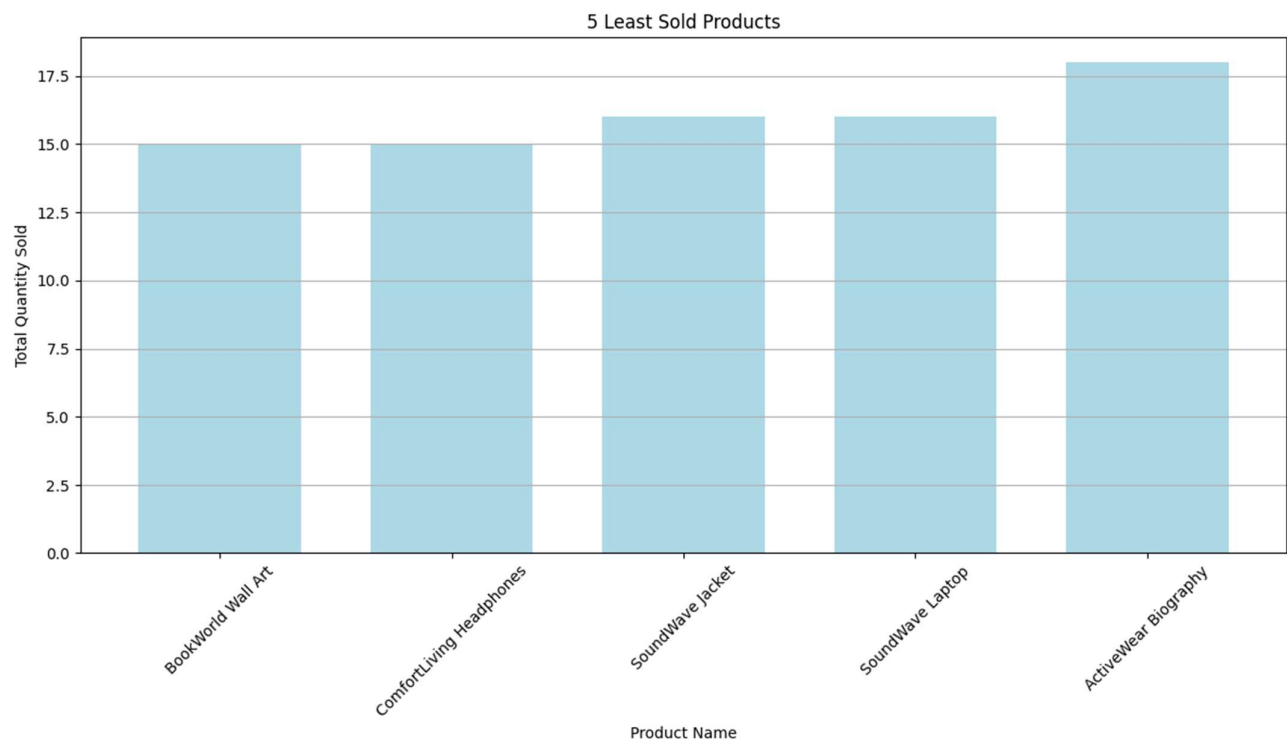
The revenue performance of the top 5 products in 2022, 2023, and 2024 is shown in this line graph. Plotting revenue trends for each product over a number of years gives businesses a clear picture of how these products are doing over time, enabling them to spot trends, expansion, and changes in consumer demand. Comparing and analyzing annual variations in product revenue is made simple by the separate lines for each year.

5. Number of Customers per Region:



This bar chart shows the number of unique customers in each area by displaying the customer distribution across different regions. Businesses can evaluate their customer base and reach in various regions by visualizing this data. The chart's straightforward display of customer numbers can help guide regional marketing plans and identify important areas for focused expansion initiatives.

6. Least Sold Products:



The five least sold products are shown in this bar chart, which makes it easier to find the ones with the lowest sales. Businesses can use it to evaluate underperforming products and make data-driven decisions about marketing, inventory, and possible product enhancements. Finding opportunities for product lineup expansion and optimization is made simple by the visual.