TASK-1
Exploratory Data Analysis (EDA) & Business Insights

Data Preparation:
Merging:
1.) Joined Transaction, Customer and Product Data on Matching ID's to create a single table, ensuring I can analyze by region , product category, etc.

Data Cleaning:
1.) Deduplicated Rows by CustomerID, ProductID, TransactionID
2.) Handled missing/invalid date fields by converting them to datetime format(or setting them to null if invalid).

Business Insights:

Seasonal Revenue Peaks : Revenue jumps significantly in January and again around mid-year, which points to a strong seasonal buying trend. By timing marketing campaigns and stocking popular items before these high-demand periods, we can make the most of customer interest.

Dominant Wearable Tech: ActiveWear Smartwatch hits almost $40,000 in total sales, making it the top-selling product by a noticeable margin. This success suggests more promotional efforts or expansions in the wearable tech category could boost overall revenue.

Top 10 Products by Revenue
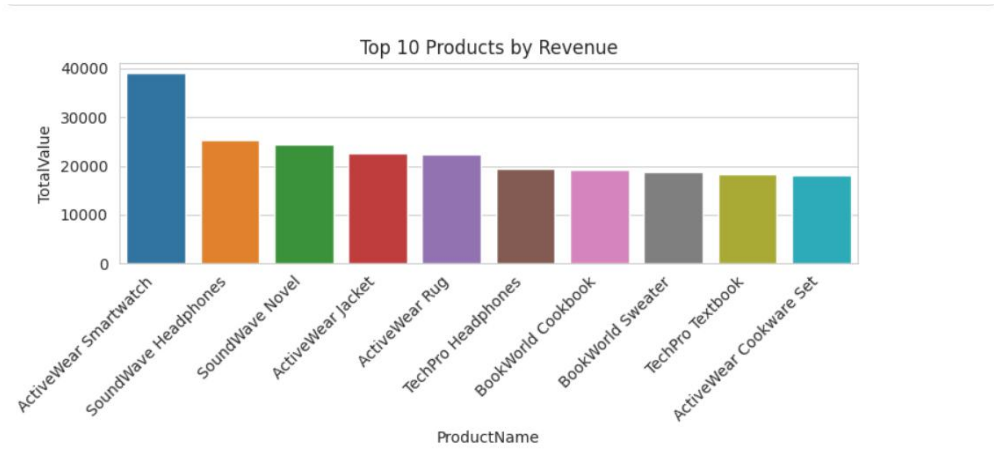
South America's Edge : South America leads all regions in total revenue, showing a large, engaged audience. Improving marketing efforts and payment methods for this region may further increase sales.

Revenue by Region
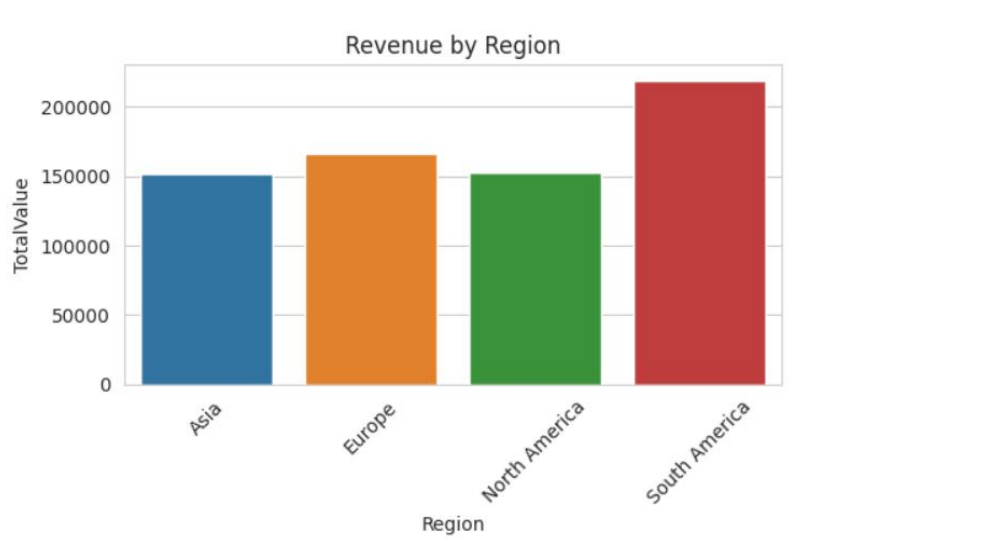
Healthy Average Spend : The average spend per customer stands at $3,467, reflecting solid buyer commitment. Keeping acquisition costs well below this figure can ensure sustained profitability.

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Average spend per customer: 3467.31
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High-Value Customers : Five customers each exceed $7k in total spend, contributing disproportionately to revenue. Special perks or loyalty programs for these "power users" could Encourage them to stay, encourage referrals, and boost long-term profitability.

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Top 5 Customers by total spend:
     CustomerID  TotalSpend
140      C0141     10673.87
53       C0054      8040.39
64       C0065      7663.70
155      C0156      7634.45
81       C0082      7572.91
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