

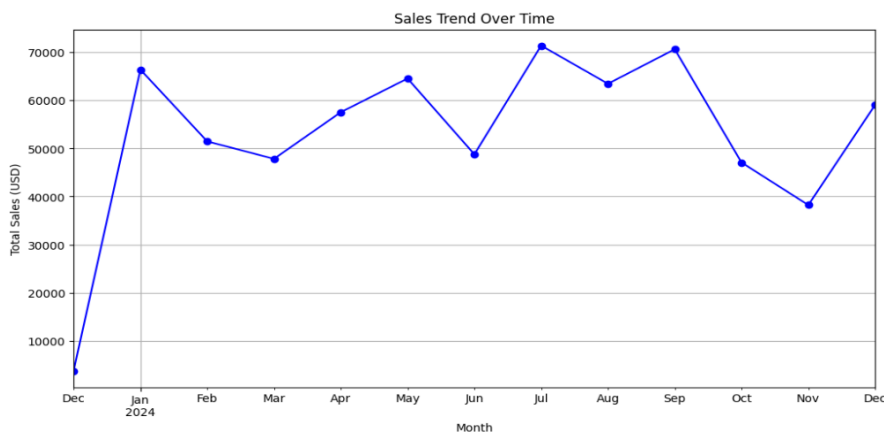
Data Science Intern Assignment | Zeotap

Task1: Exploratory Data Analysis and Insights Derived

1. Sales Trend Over Time

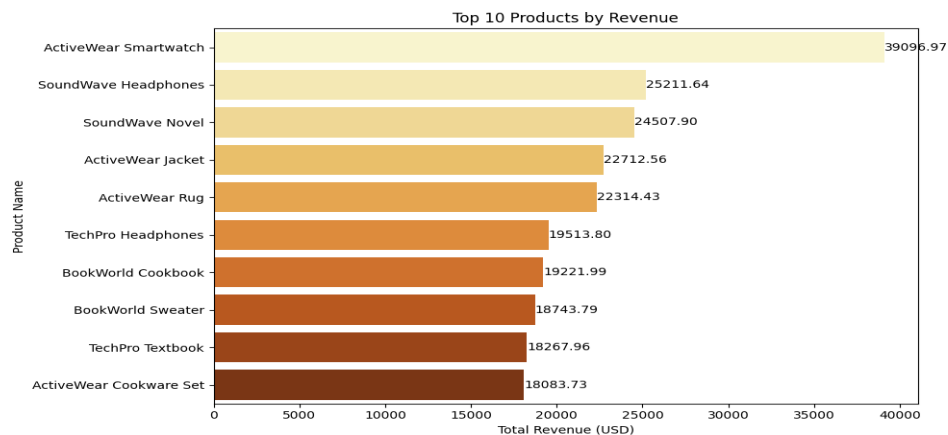
. Sales Trend Over Time

- **Description:** A line graph showing monthly total sales trends.
- **Key Insights:**
 - Sales peaked in **June** and **September**, reaching over 70,000 units.
 - There is a significant drop in sales during **February** and **November**.
 - December shows recovery, indicating possible seasonal sales patterns.



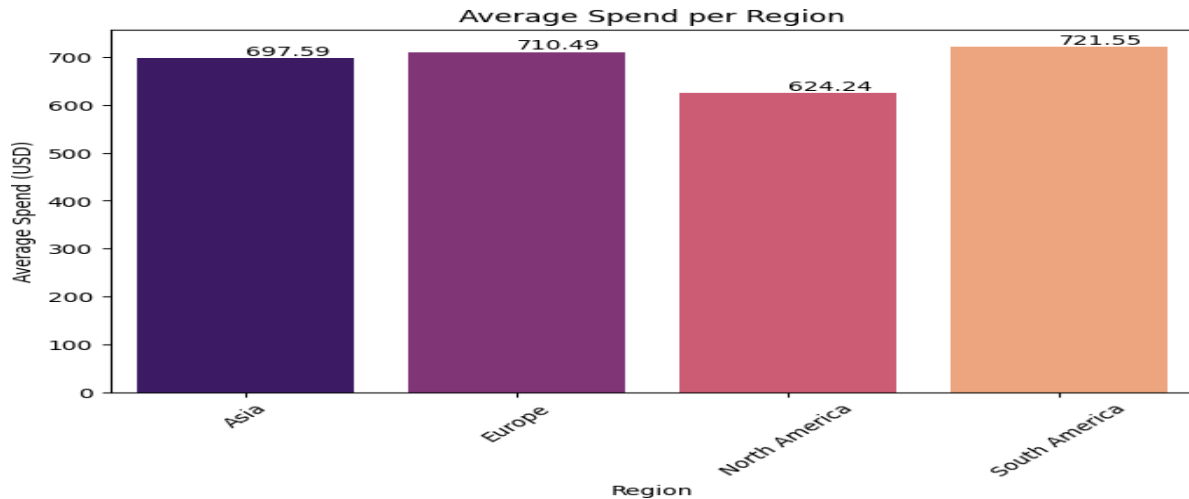
2: Top 10 Product by Revenue:

- **Description:** A horizontal bar chart ranking products by revenue.
- **Key Insights:**
 - The **ActiveWear Smartwatch** is the top-performing product, generating \$39,096.97 in revenue.
 - **SoundWave Headphones** and **SoundWave Novel** are also major contributors, exceeding \$24,000 in revenue each.
 - Products related to **tech and activewear** dominate the top 10.



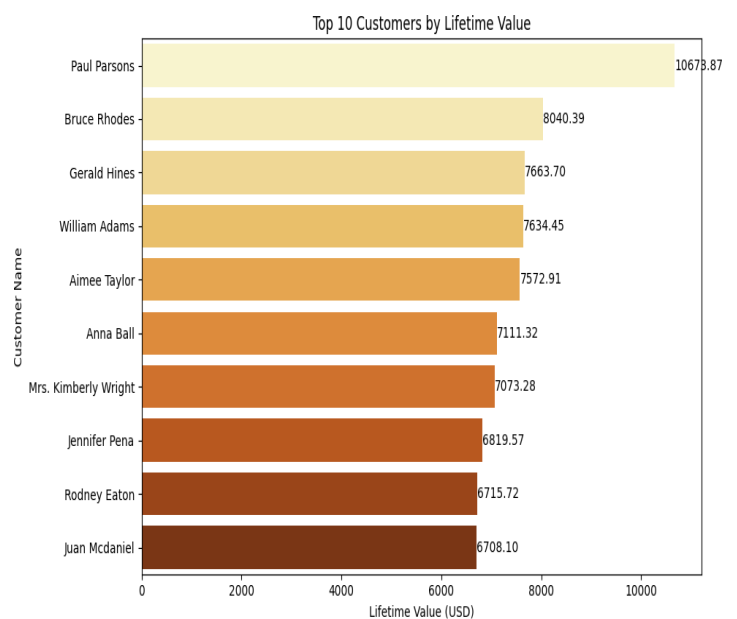
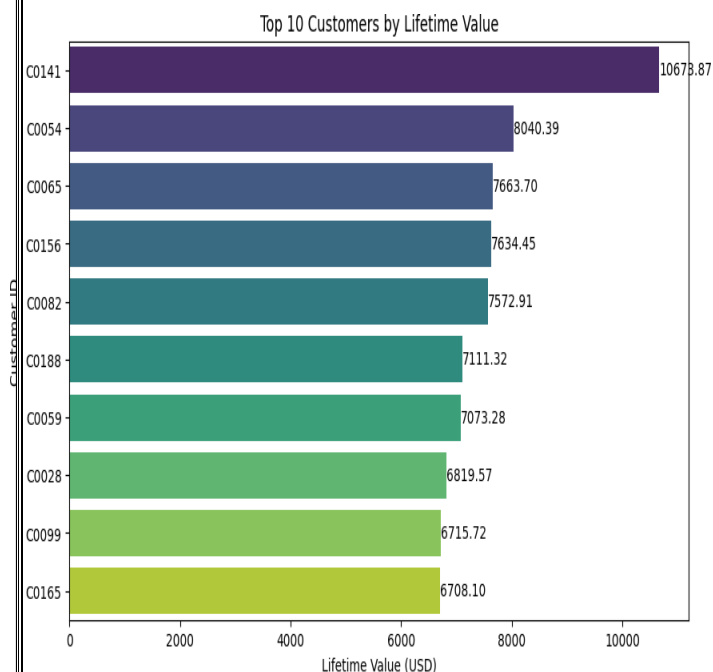
3. Average Spend per Region

- **Description:** A bar chart showing the average customer spend across regions.
- **Key Insights:**
 - Customers in **South America** have the highest average spend (\$721.55), followed closely by **Europe** (\$710.49).
 - **North America** and **Asia** have comparatively lower average spends, but they remain close to \$700.



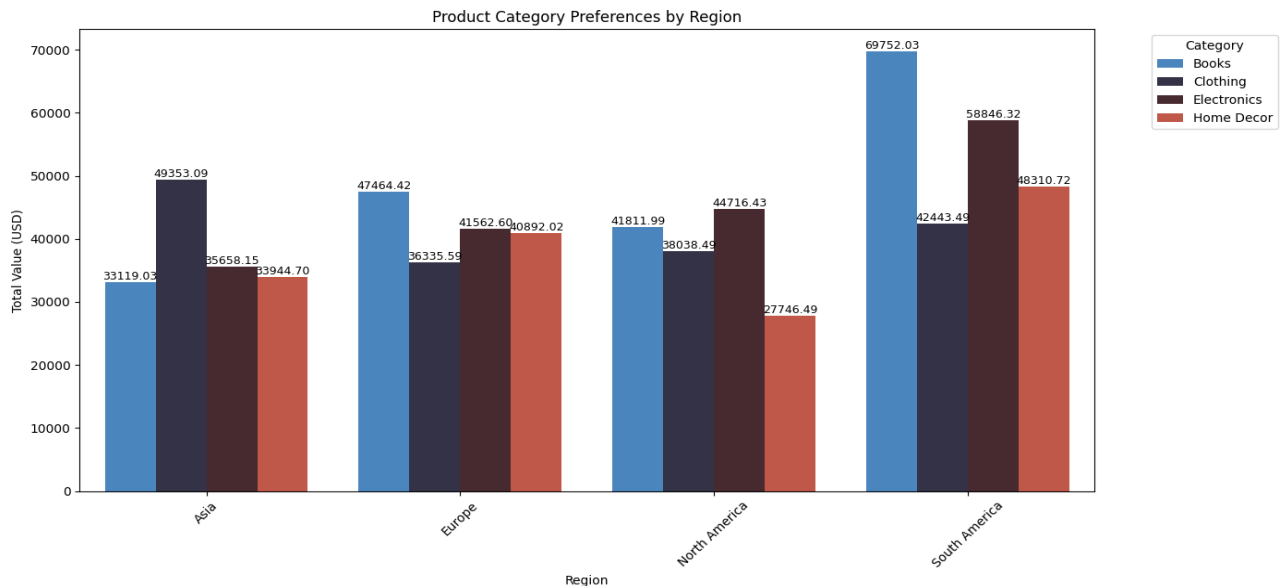
4. Top 10 Customers by Lifetime Value

- **Description:** A horizontal bar chart ranking customers by their lifetime value (total spending).
- **Key Insights:**
 - The top customer (ID **C0141**) has a lifetime value of **\$10,678.87**, significantly higher than the rest.
 - There is a gradual decline in lifetime values among the top 10 customers, but all exceed **\$6,700**.



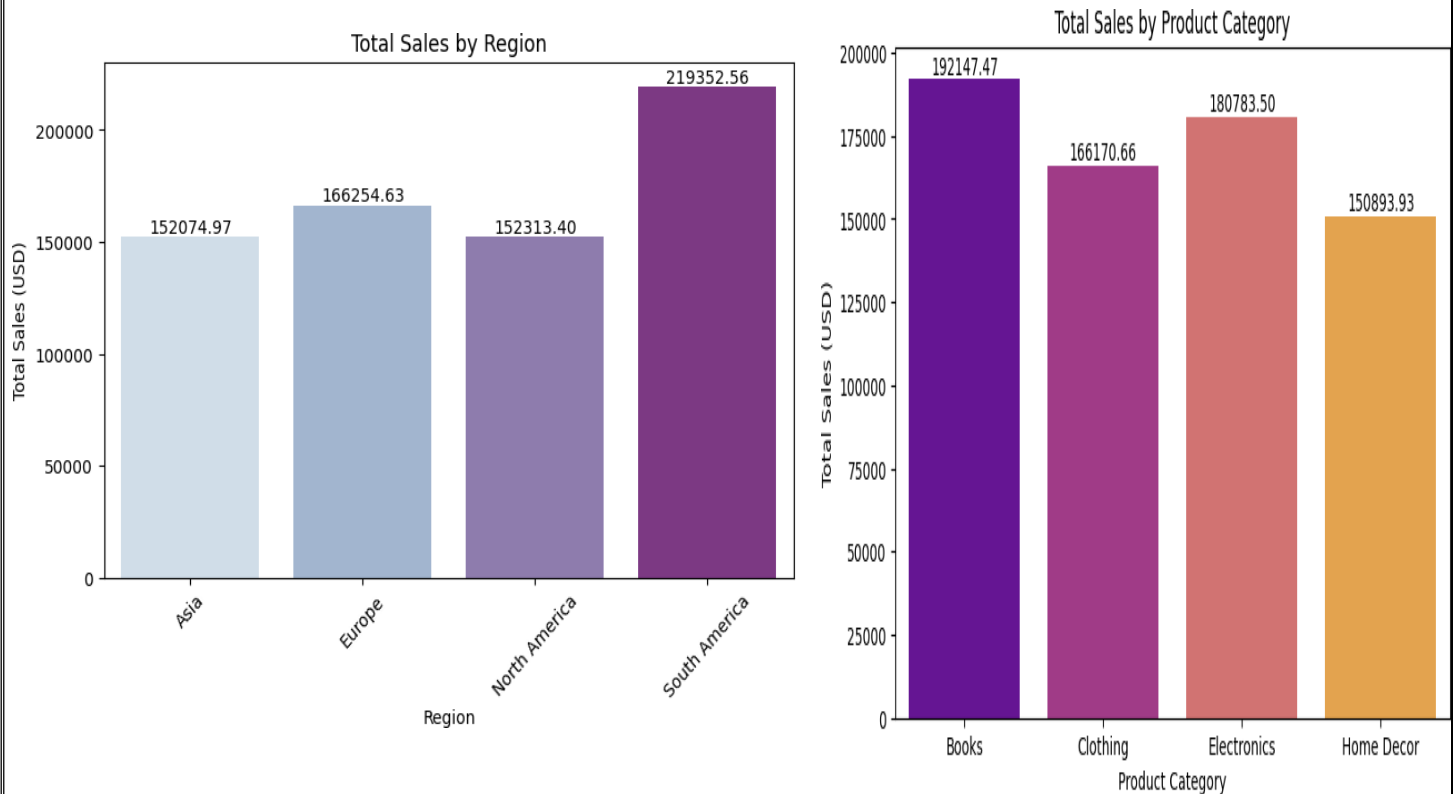
5. Products Category Preferences by Region:

- **Description:** A Heatmap and horizontal bar chart ranking Products that are more used by the regions.
- **Key Insights:**
 - All the products have shown a great impact on generating revenues by the regions but overall Books have played a major role .
 - There is a huge demand in the regions of South America followed by Europe and both North America and Asia seems to be equally contributing to the revenue generation.



General Observations

- **High-Performing Products:** Tech and activewear products are the biggest revenue drivers, suggesting a focus on these categories could further boost sales.
- **Regional Spending:** South America and Europe show strong customer engagement, and targeted marketing in these regions could maximize returns.
- **Customer Loyalty:** A small percentage of customers (top 10) generate substantial revenue, emphasizing the importance of loyalty programs and retention strategies.



Conclusion

1. **Sales Trends:**
 - Sales exhibit seasonal patterns, with noticeable peaks in June and September.
 - Efforts should be made to understand what drives these peaks (e.g., promotions, product launches) and replicate successful strategies during off-peak months.
2. **Top Products:**
 - The **ActiveWear Smartwatch** and other tech and activewear products dominate revenue, indicating strong customer demand for these categories.
 - Investment in expanding these product lines or cross-promoting similar products could yield significant returns.
3. **Regional Insights:**
 - Customers in **South America** and **Europe** spend the most on average, making these regions ideal for targeted campaigns or premium offerings.

- North America and Asia, while slightly lower in average spend, still show strong engagement and should not be overlooked.
- 4. **Customer Value:**
 - A small group of high-value customers (top 10) contributes disproportionately to revenue.
 - Implementing loyalty programs and personalized offers for these customers could further enhance retention and spending.
- 5. **Actionable Insights:**
 - Focus marketing efforts and promotions during peak months and replicate successful campaigns in low-sales periods.
 - Prioritize high-demand categories like tech and activewear for inventory and advertising investments.
 - Strengthen customer retention strategies, particularly for high-value customers, by offering rewards, early access to sales, or exclusive deals.

This analysis highlights opportunities for revenue growth through strategic marketing, product expansion, and customer engagement.

...Thank You...

Salil V Solomon