Exploratory Data Analysis (EDA) Insights

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Customer Analysis:

Customer Distribution by Region

After analyzing the customer distribution, I noticed that South America has the highest number of customers, followed by Europe, North America, and then Asia with the lowest customer count.

- Asia (Low Customer Count): This region presents a significant untapped opportunity. To boost customer acquisition, we can consider launching region-specific promotions, partnerships, or campaigns, keeping in mind the cultural and economic factors that influence customer behavior.
- South America (High Customer Count): Since South America is performing well, we should focus on reinforcing brand loyalty. Exclusive offers or events could be used to keep customers engaged, and maintaining a strong supply chain and excellent customer service will be key to retaining our dominance in this region.
- Europe and North America (Middle Tier): Both regions show moderate customer numbers, which suggests there's potential for deeper market penetration. We should analyse regional trends and customer preferences more closely to identify gaps in our offerings and improve sales.

Customer Signup Trends (2022-2024)

From the signup data over the past few years, here's what I found:

2022:   Customer signups were strong, showing good growth and engagement.

2023:   There was a noticeable decline in signups, which could indicate challenges such as increased competition, reduced marketing efforts, or customer dissatisfaction.

2024:   Signups saw a significant increase, suggesting successful interventions or a renewed interest in our offerings.
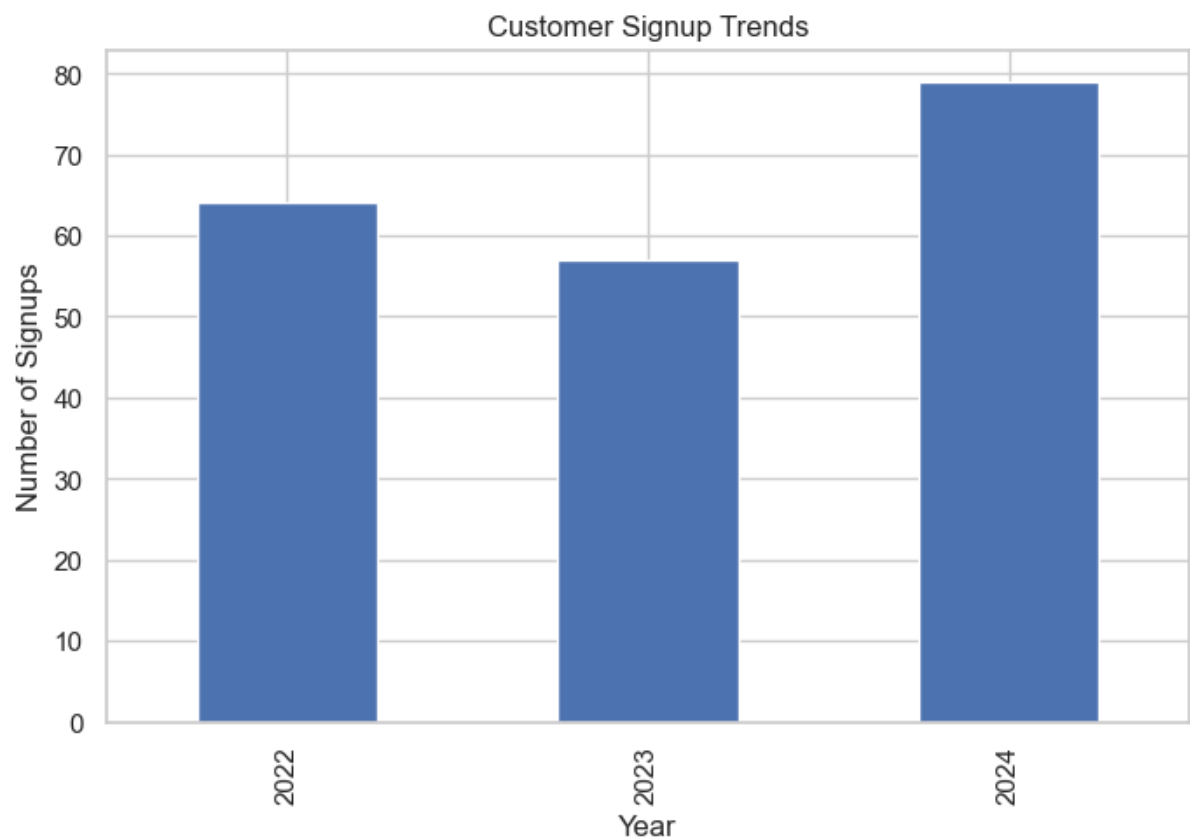
Product Analysis:

Top 10 Revenue-Generating Products

The TechPro Headphones (P029) and TechPro Cookbook (P048) are leading the revenue charts. Products like these, especially TechPro's electronics (headphones, smartwatches), are clearly in demand and should be highlighted in the marketing strategies.

We also see a growing trend in lifestyle and fitness-related products, like the ActiveWear Rug (P079) and ActiveWear Jacket (P020), which presents an opportunity to expand our presence in the active lifestyle market.

Top 10 Products by Revenue
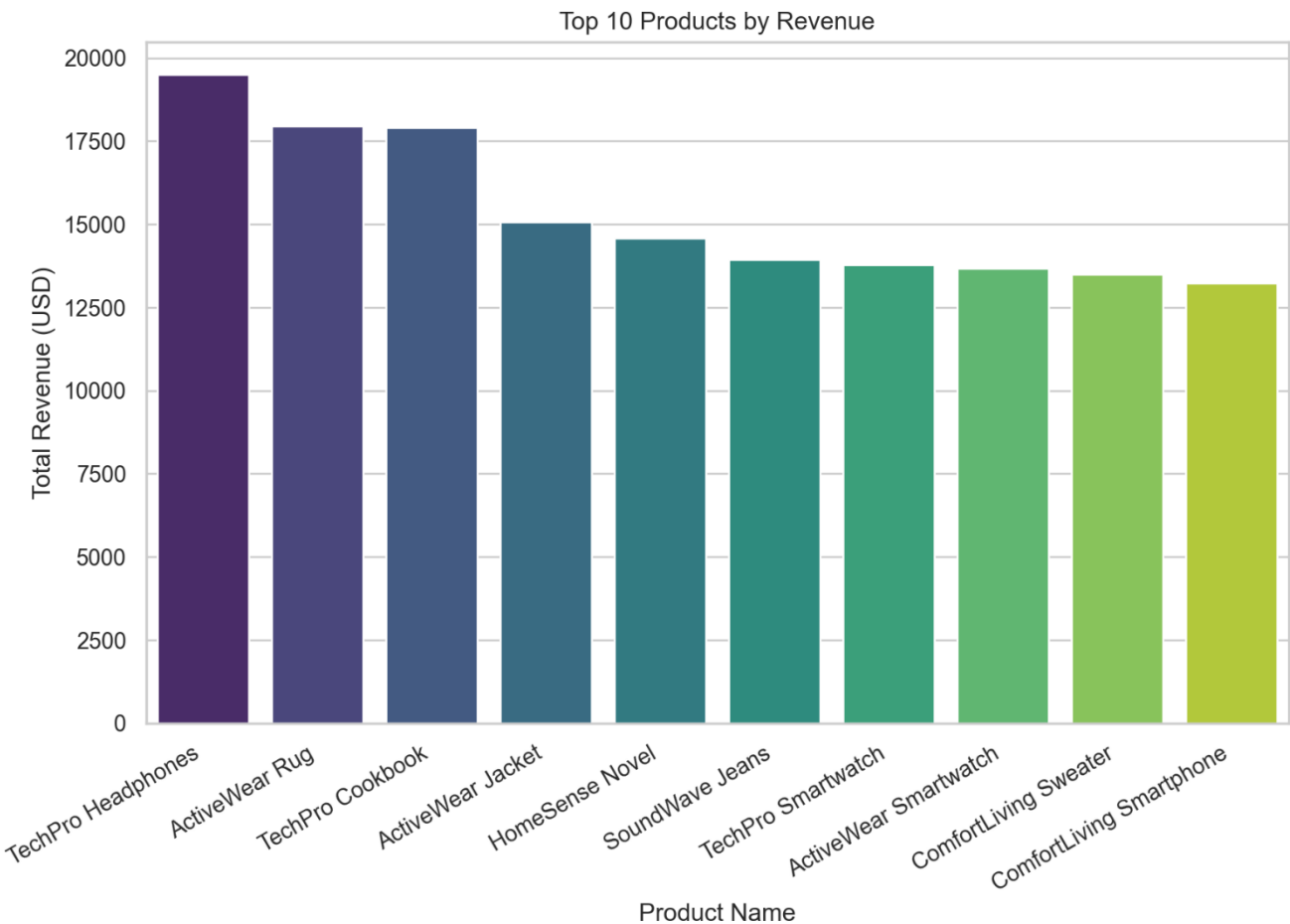
Low-Performing Products

Some products like ActiveWear Running Shoes, SoundWave Smartwatch, ComfortLiving Laptop, and TechPro Novel are underperforming significantly. This could be due to factors like low demand, strong competition, or misalignment with current customer preferences. It would be wise to investigate further to understand if these products need to be rebranded, marketed differently, or possibly removed from the catalog.

Top 10 Low-Performing Products by Revenue
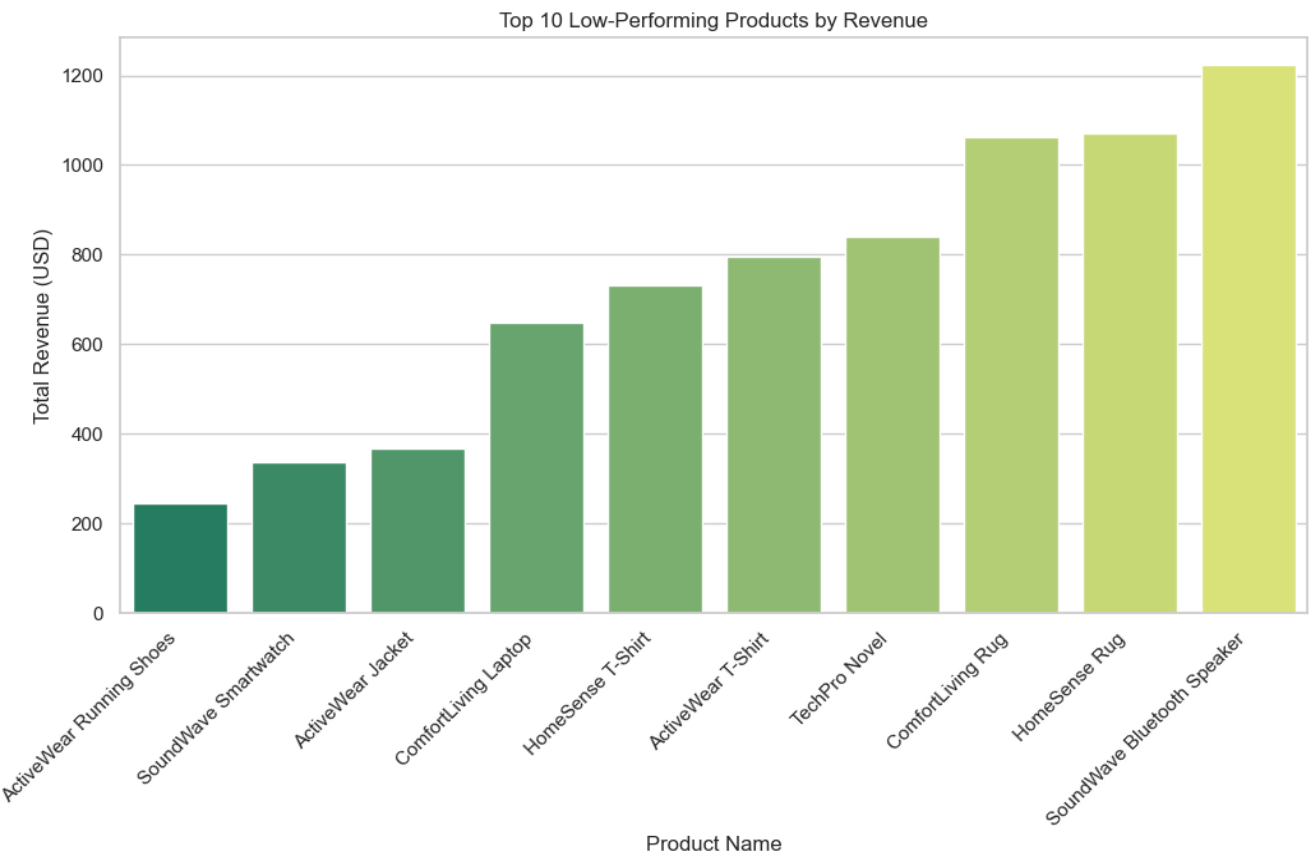
Transaction and Revenue Analysis

Monthly Transaction Trends
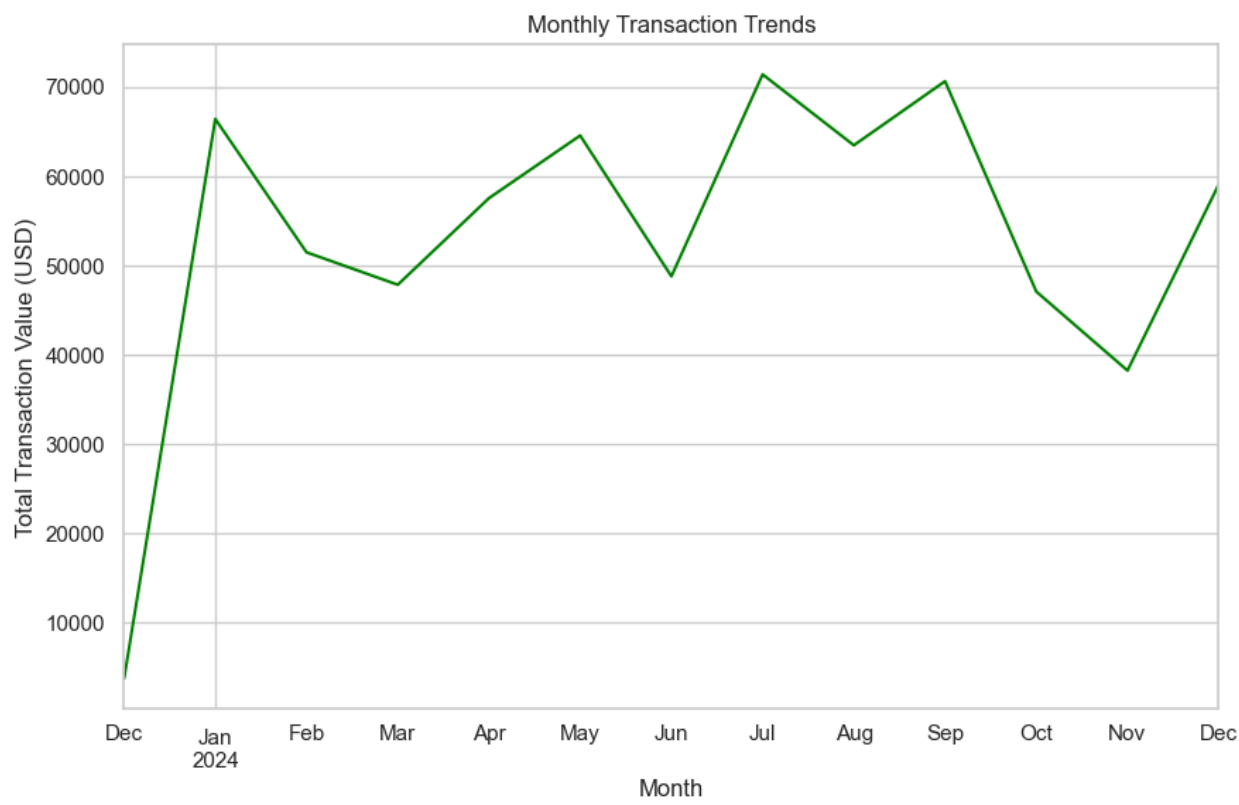
High-Performing Months (January, May, July, September):

These months show significant spikes in transactions, likely due to seasonal sales or promotions.

Low-Performing Month (November):

November has low sales, possibly due to a post-holiday slump or lack of promotions.

Moderate Months:

Other months have steady sales, but no significant spikes.

Inventory Turnover Rate

Products such as SoundWave Jeans (P059), with a turnover rate of 19, and TechPro Headphones (P029), with a turnover rate of 17, are performing well. These fast-moving products indicate high demand, and we should ensure adequate stock levels to avoid running out of inventory. Additionally, featuring these products in our marketing campaigns could further boost sales.

Top 10 Products by Inventory Turnover Rate
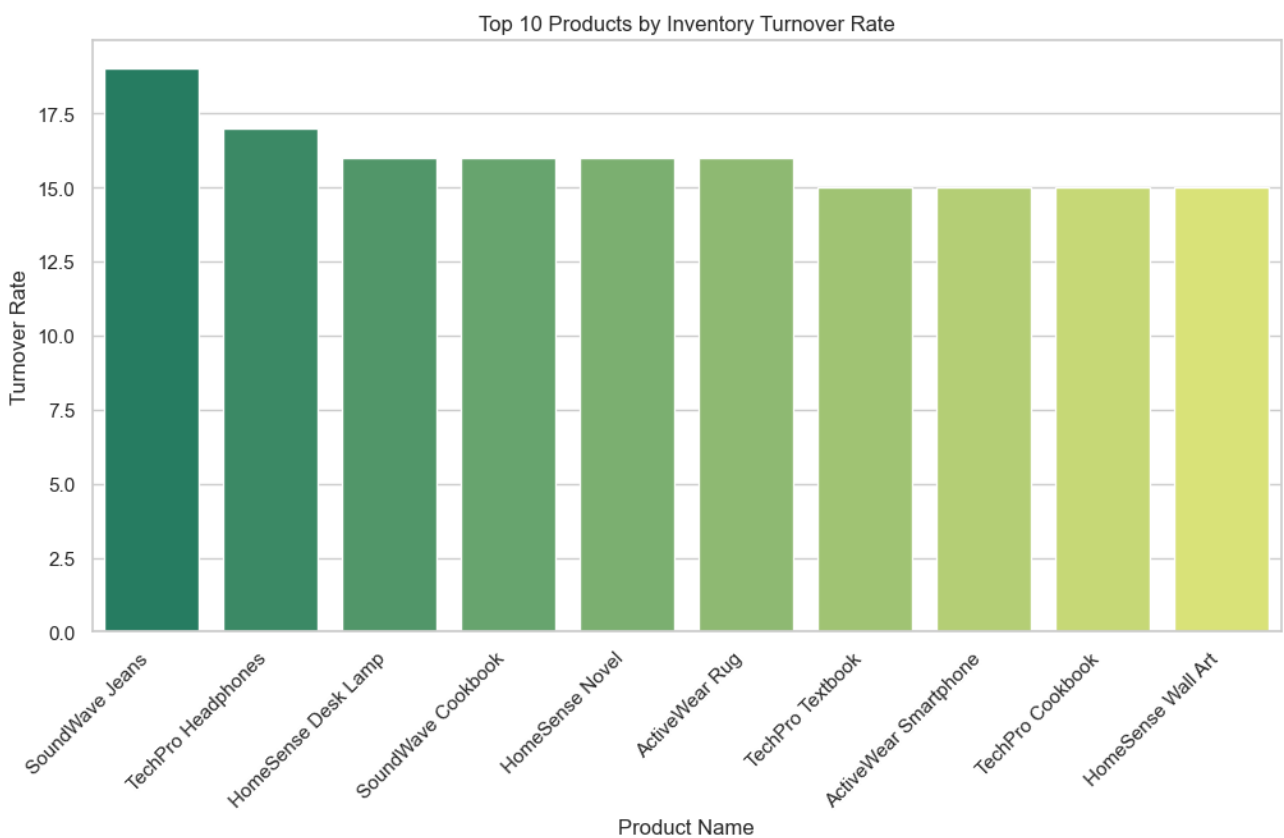
Non-Transacting Customers

A customer like Amy Carpenter (C0180) signed up but hasn't made any purchases yet. This suggests she might not have found the products appealing, encountered issues navigating the site, or faced other barriers that prevented her from completing a purchase. By identifying and segmenting these non-transacting customers, we can create targeted strategies to convert them into active buyers, whether through personalized recommendations, better onboarding experiences, or follow-up campaigns.

Top 10 High-Value Customers

Customers like C0141, C0054, and C0065 are driving the highest revenue, with C0141 being the top spender at $10,673.87. Understanding the behaviours and preferences of these high-value customers can help us tailor personalized offerings and loyalty programs to retain them.

Top 10 Customers by Total Transaction Value