

Data Analytics Report

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It is about putting effort
and ideas into action.

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introduction

This project analyzes Adidas sales data in the U.S. to uncover patterns across products, retailers, and regions. The goal is to identify drivers of revenue and profitability, enabling better pricing, inventory allocation, and marketing strategies.

Ultimately, the goal is to translate raw sales data into actionable insights that support revenue growth and stronger competitive positioning in the U.S. market.

Data Collection & preprocessing



The dataset encompasses Adidas sales transactions in the U.S. from 2020 to 2021, along with demographic data from retailers. Initially, the data existed in various formats before being merged and refined, resulting in a structure of:

- 9,658 records , 17 attributes

A minor data cleansing process was necessary to address issues such as duplicates, missing values, and inaccuracies, for example, negative values in sold units.

Additionally, consistency was maintained across region values.



Methodology

Analysis Approach: Conducted descriptive analysis and trend identification using Python libraries (pandas, numpy, matplotlib, plotly). Performed time-based sales trend analysis across monthly/quarterly periods and customer segmentation by age groups and regions.

Techniques:

- Time series aggregation for sales trends
- Demographic and geographic segmentation analysis
- Cross-tabulation to compare performance across customer segments
- Data visualization through charts and graphs to identify patterns and insights

Analysis focused on exploratory data analysis to uncover business insights from historical sales patterns.

findings and Insights

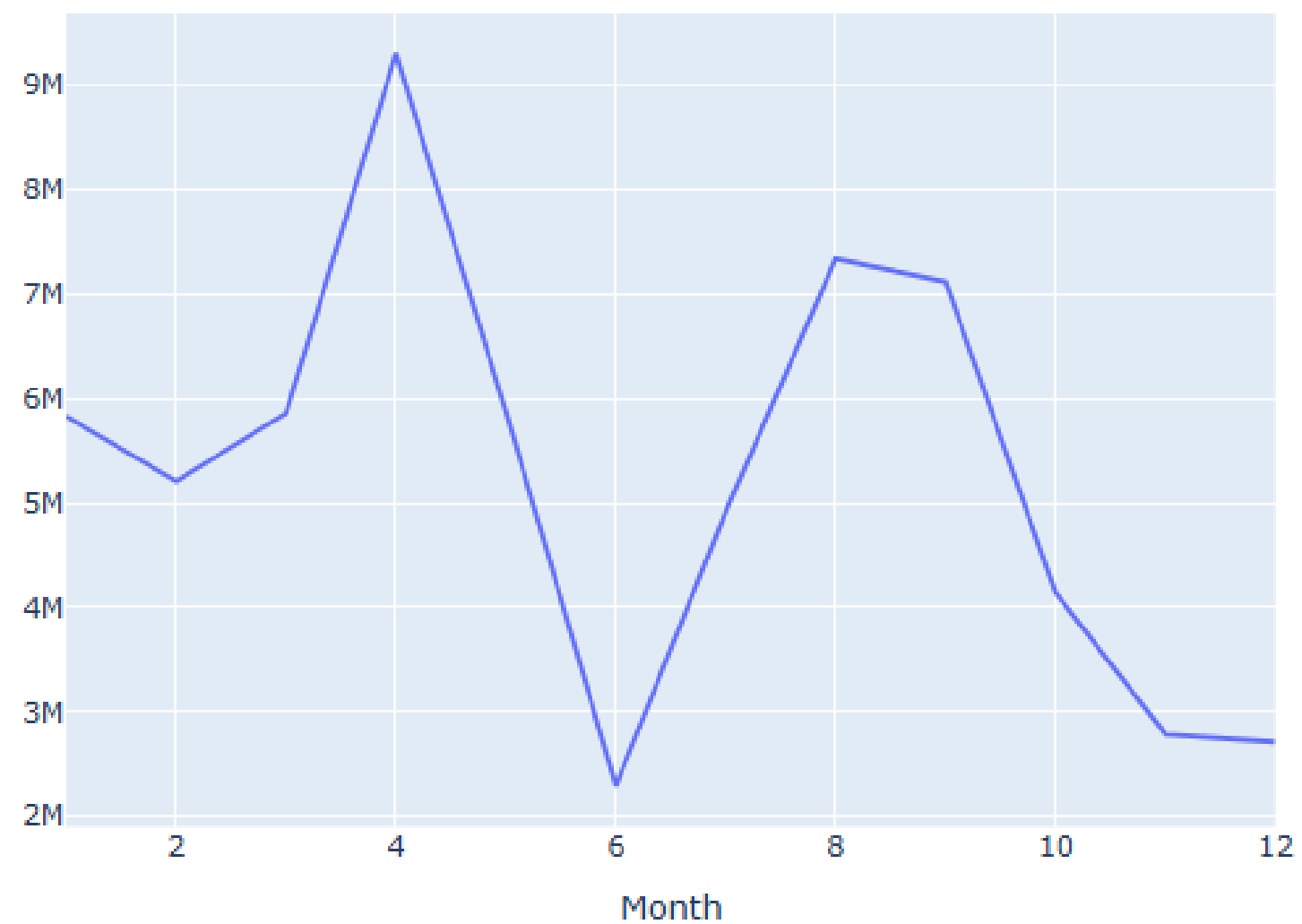
key points :

- 1.Profit over time
 - 2.Profit among products
 - 3.Profit among products over time
 - 4.Age segmentation
 - 5.profit across regions/states
 - 6.Sales Across retailers
 - 7.sales method profits across states
 - 8.Population VS items sold
 - 9.products sold across retailers
- 

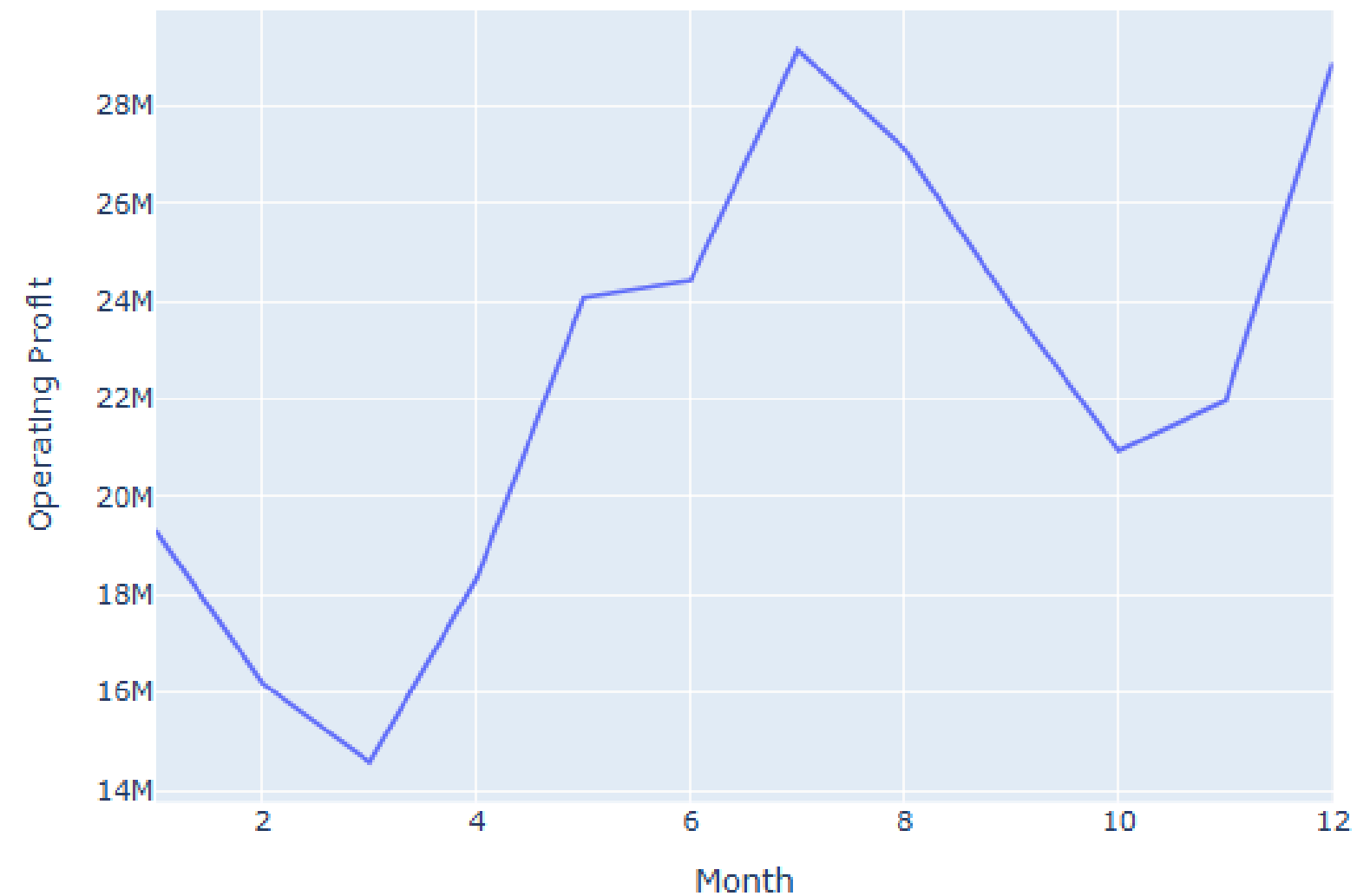
Profit over time

profit has increased significantly in 2021. also it increases more during holidays and summer. (April,summer season especially july,December) .

Operating Profit by month in 2020

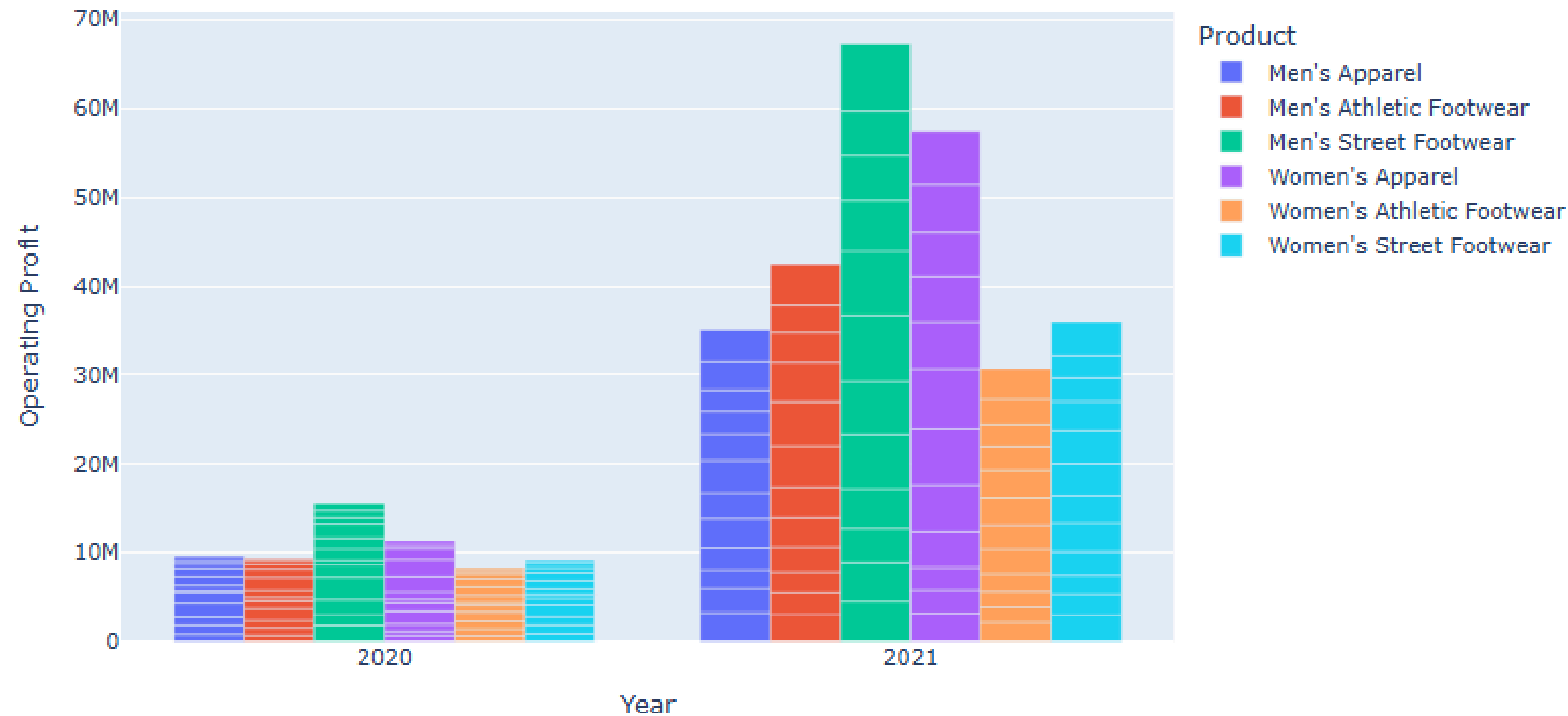


Operating Profit by month in 2021



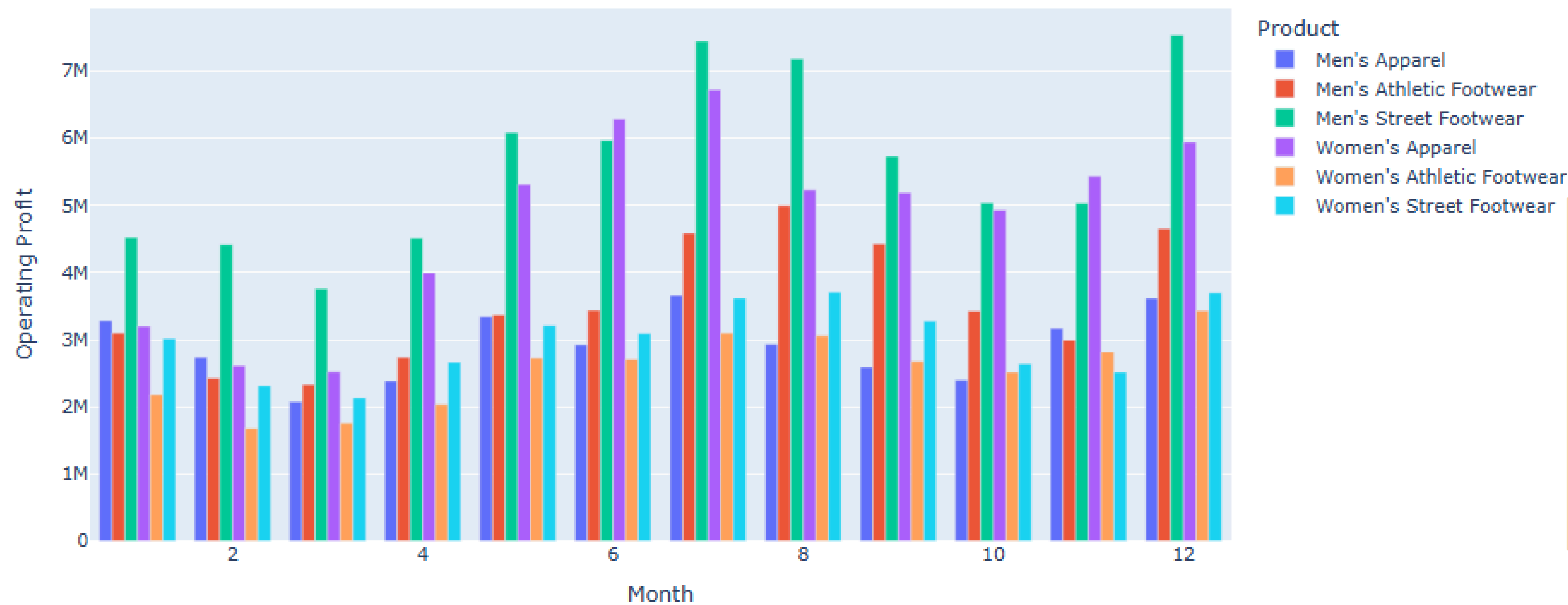
Profit among products

Operating Profit among categories



Profit among products over time

Operating Profit among products by month in 2021



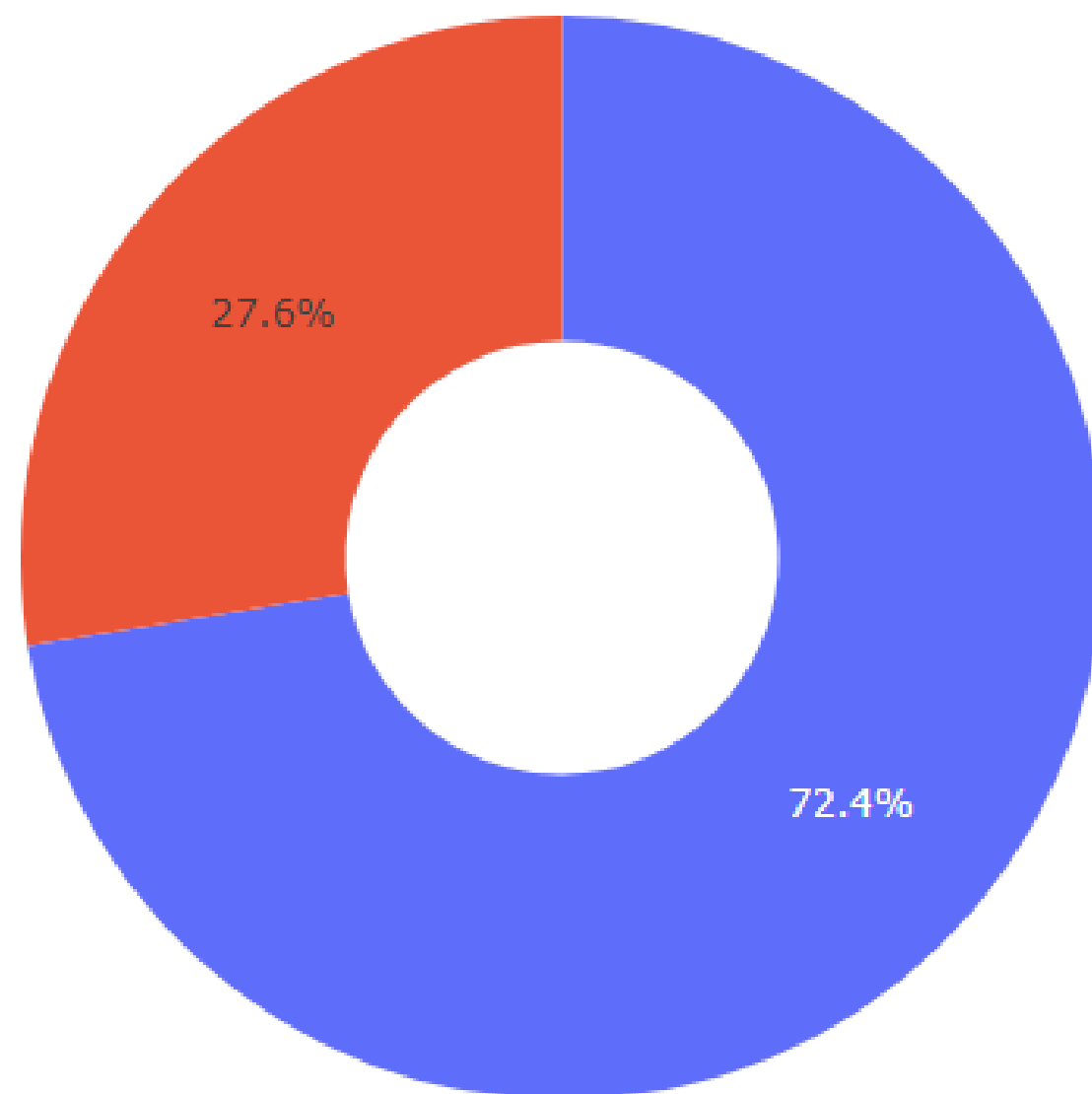
Recommendations:

- **Focus on Men's Streetwear and Footwear, especially around July & December, by running seasonal promotions and ensuring strong stock availability.**
- **Pair best-sellers with slower-moving items in promotions**

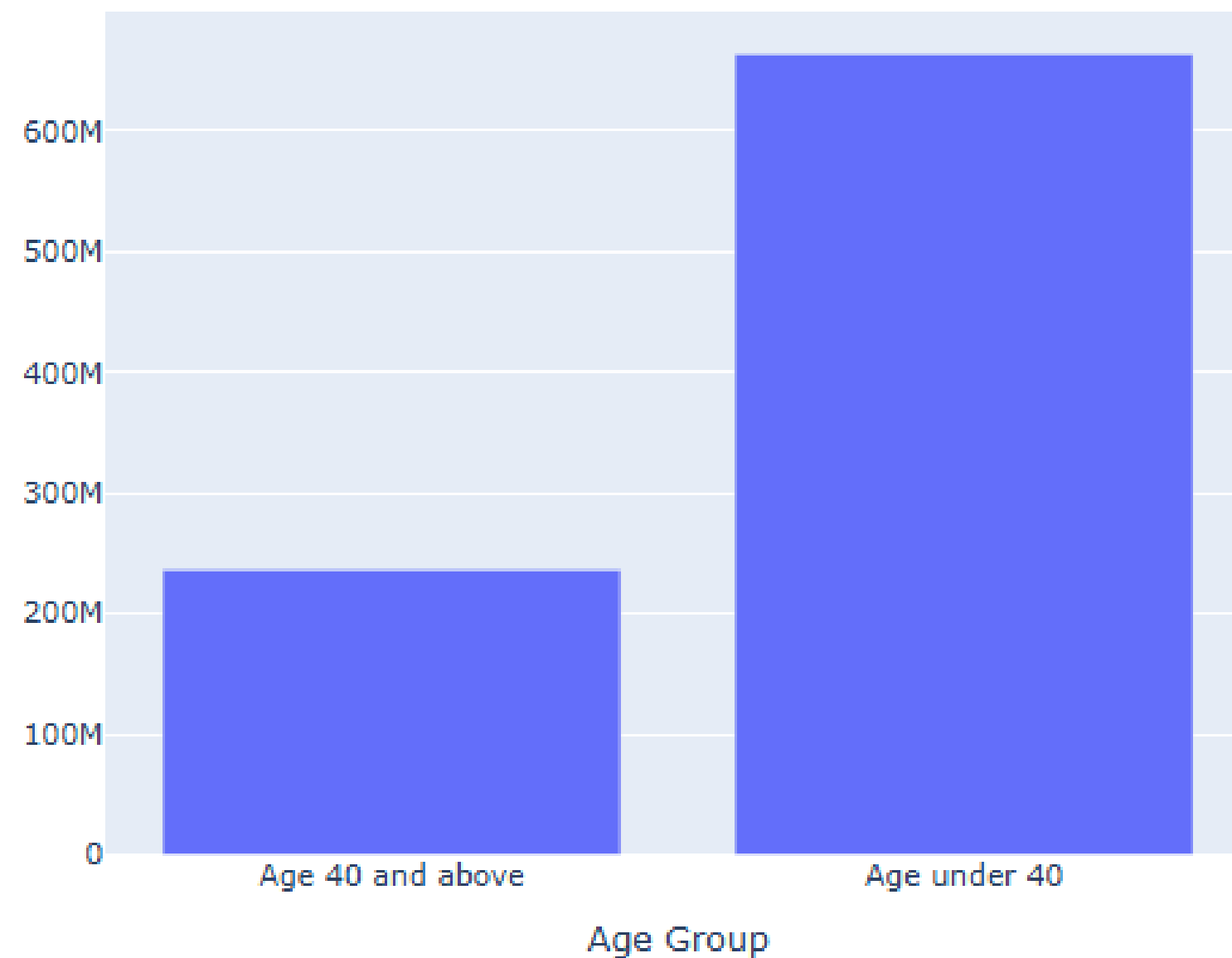
Age segmentation

min average age is 30 y and the max age is about 45 y approx. , most sales are from average age of under 40 , exactly equal to 33.9 .

Age Percentage



Total Sales by age



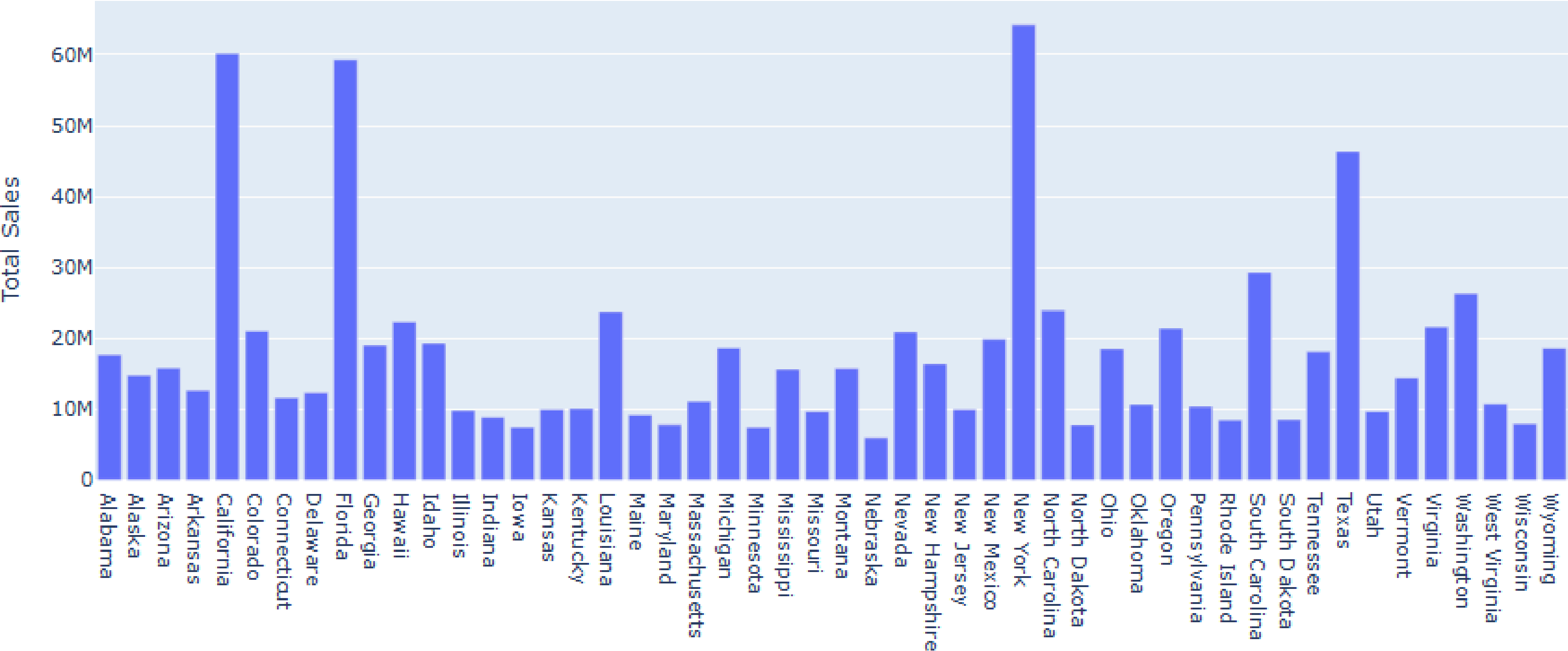
Recommendations:

- **Expand age-focused marketing campaigns targeting consumers under 40, since they generate the majority of profits.**
- **Develop new product variations in high-demand categories to capture more market share.**

profit across regions/states

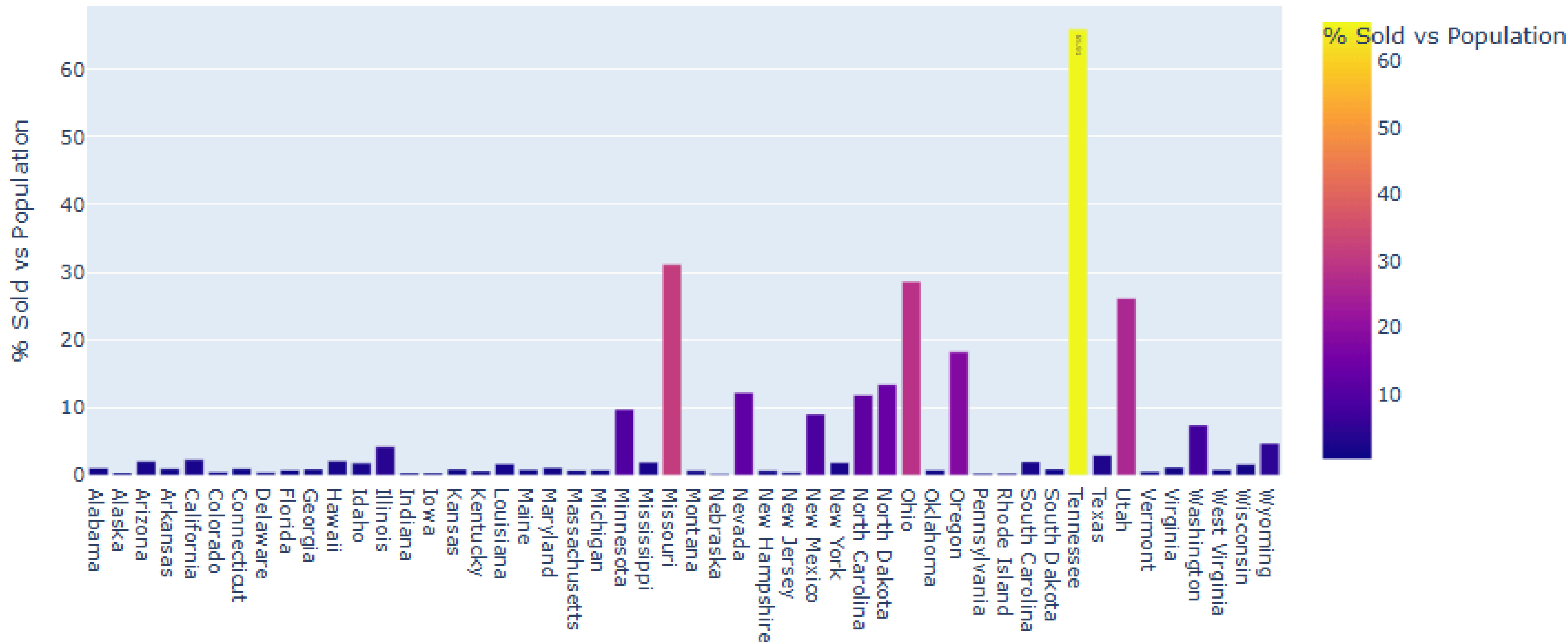
TOP 3 STATES IN SALES ARE 1-NEW YORK 2-CALIFORNIA 3-FLORIDA

Total Sales by state



Population VS items sold

‘State summary’ is a feature which sums units sold in each state relative to its population, which indicates that most of state’s natives buy from Adidas (Tennessee 60%)



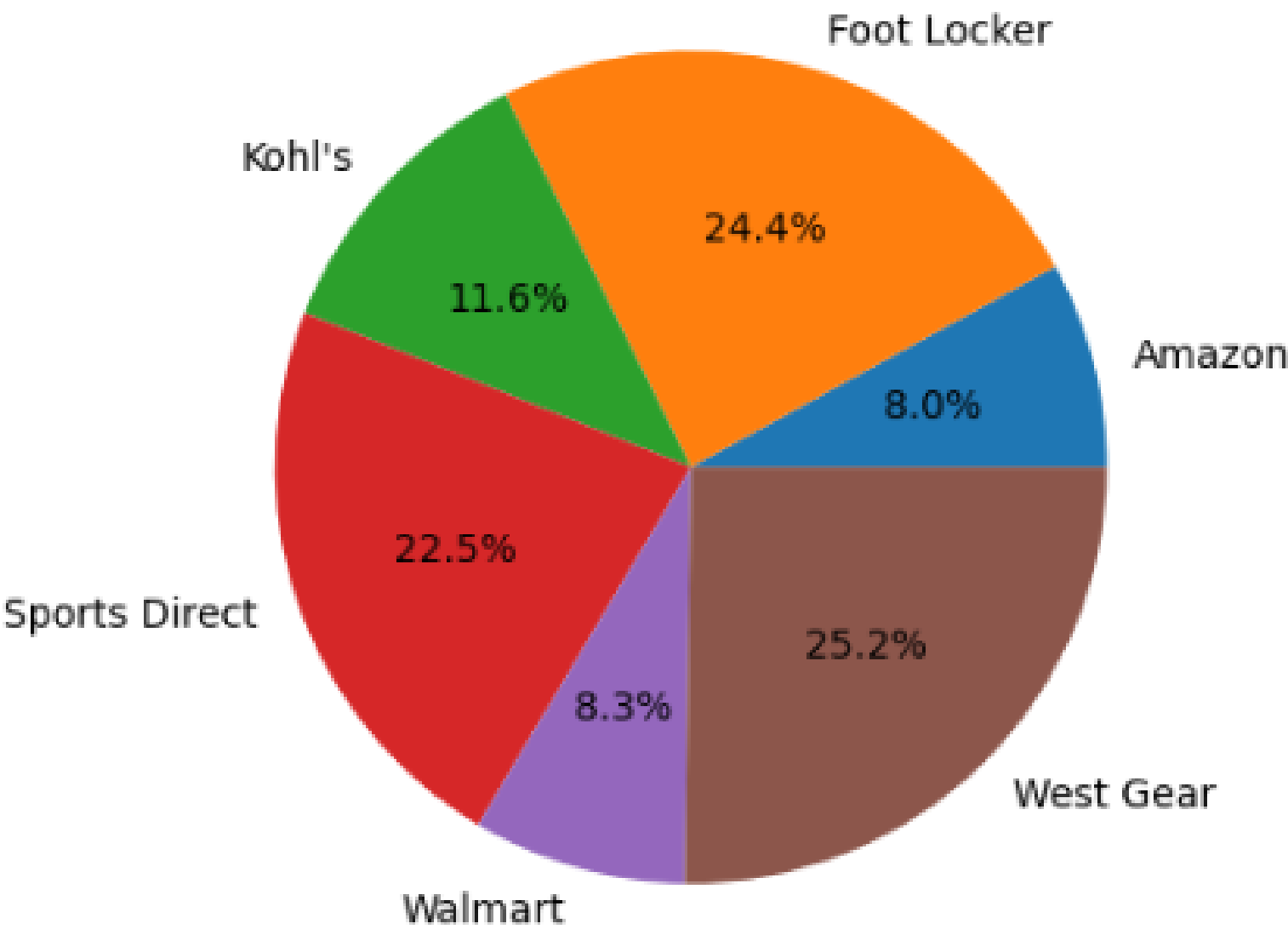
Recommendations:

- **Scale up investment in the three highest-revenue states.**
- **Strengthen Tennessee market presence through localized campaigns and retail expansion, building on the existing 60% native customer adoption rate.**
- **Implement cross-market product promotion strategies, featuring successful products more heavily in underperforming regions to drive sales growth.**

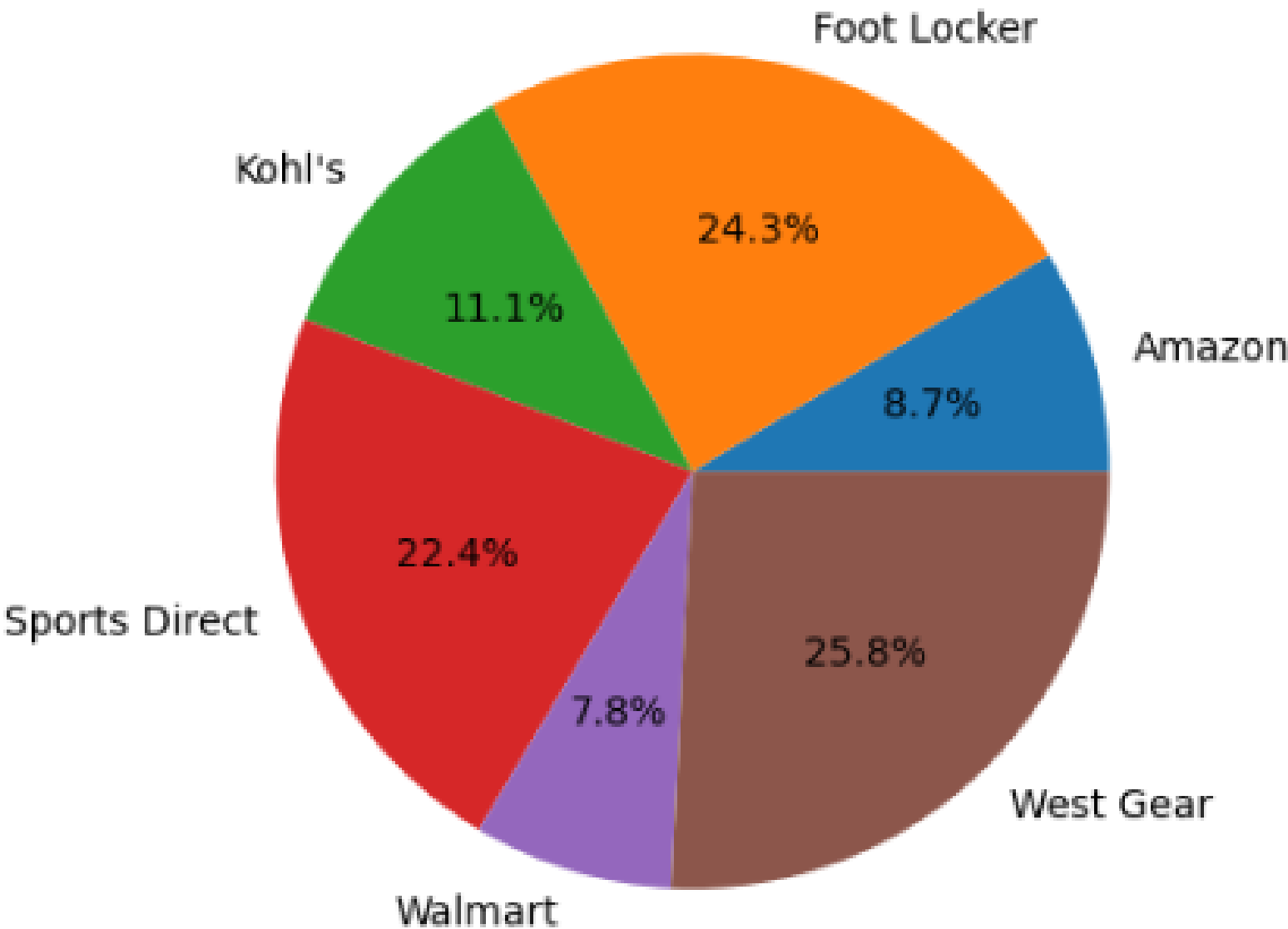
Sales Across retailers

Highest number of units sold is “West Gear” even though its the highest operating profit

Units Sold % by retailer

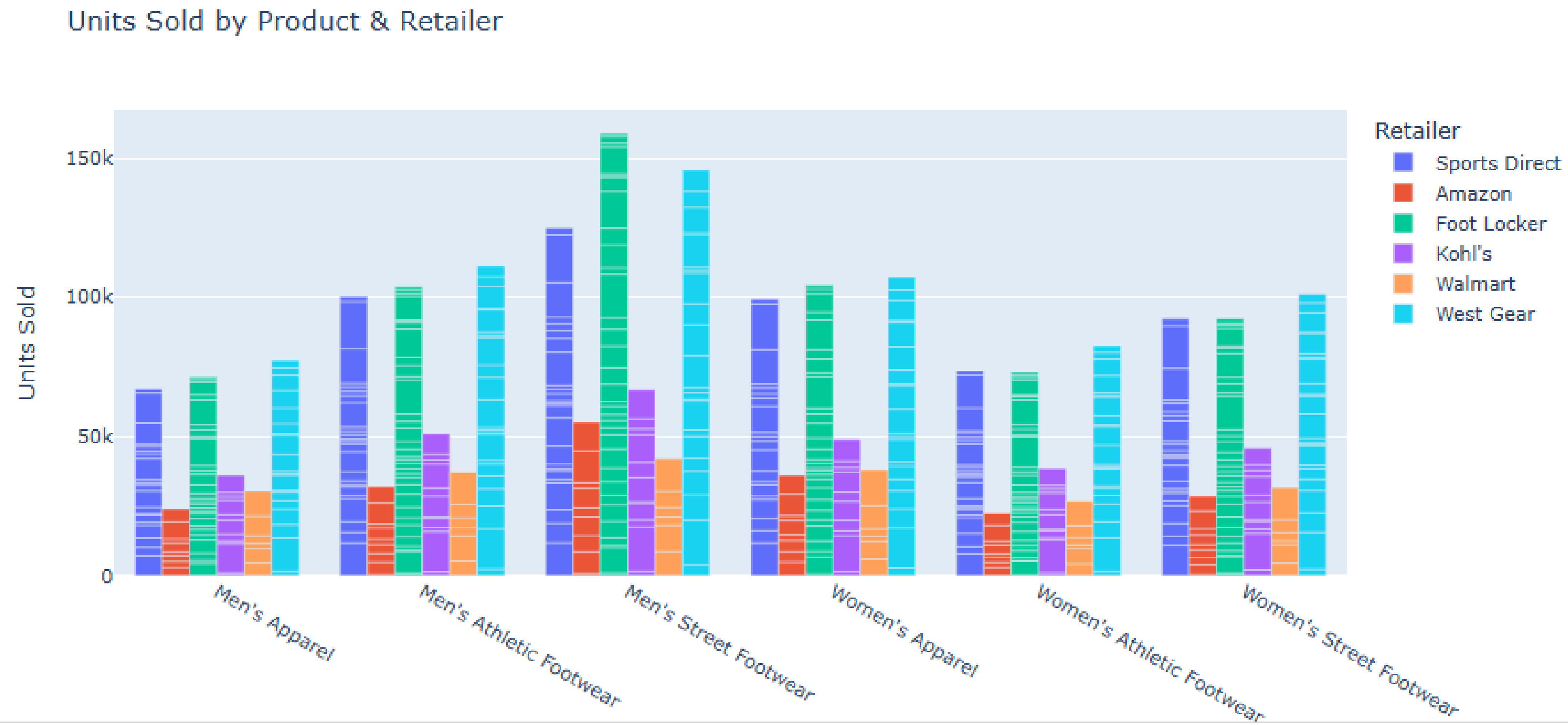


Operating Profit % by retailer



products sold across retailers

indicates which products sold the most by which retailer
eg. Foot Locker has the highest sales of Men's streetfootwear

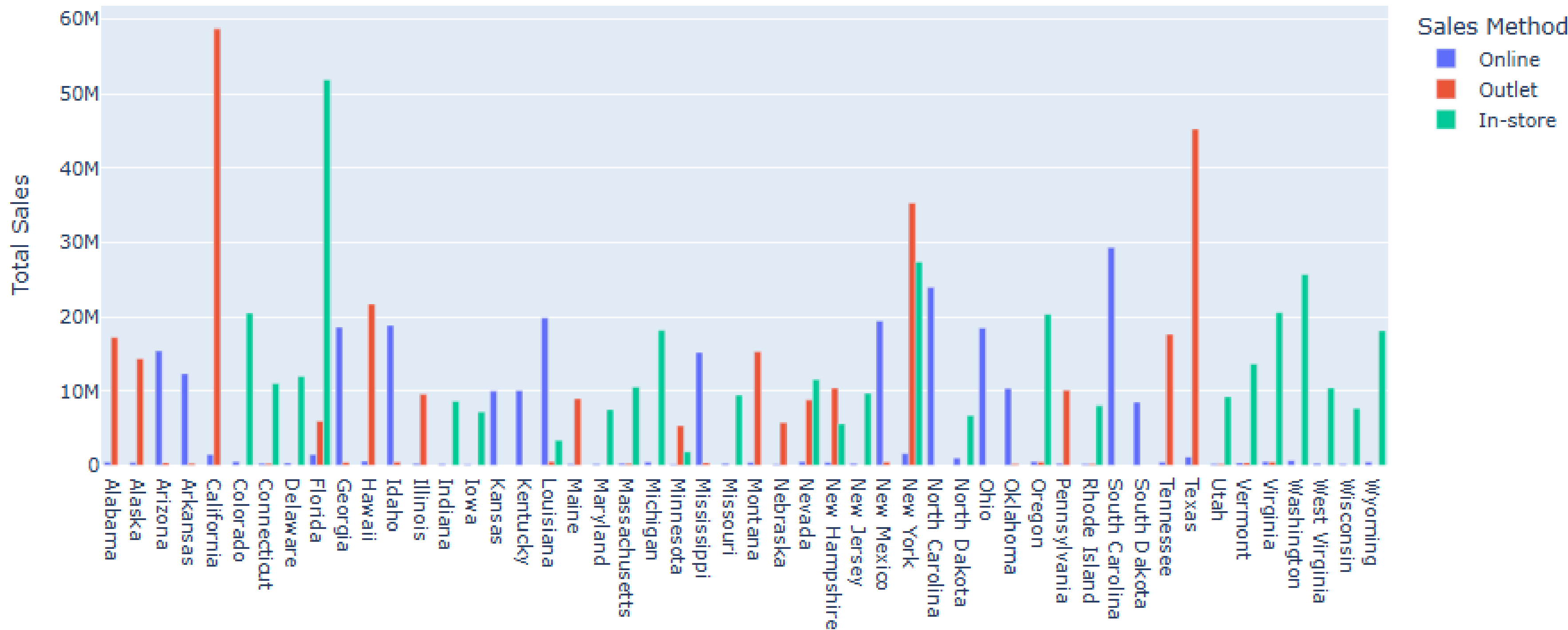


Recommendations:

- **Strengthen partnerships with West Gear to maximize profitability, as it delivers the highest operating profit also with highest unit sales.**
- **Support Foot Locker in pushing men's street footwear, which is already a top-selling category in their stores.**
- **Use retailer-level profit insights to optimize product distribution across partners.**

sales method profits across states

most of sales are from 'outlet stores', significantly in California and Texas



Recommendations:

- **Maximize outlet channel investment in California and Texas markets where performance data indicates highest return potential.**
- **Strategically prioritize tourism-heavy markets (California, New York, Texas, Florida) that consistently deliver top-tier sales performance.**
- **Execute a balanced channel strategy that leverages digital marketing to enhance online conversion while maintaining in-store retail as the primary sales foundation.**

Conclusion

Key Findings:

Analysis identified Men's Streetwear and Footwear as top categories with July/December peaks, under-40 consumers as primary profit drivers, and California, Texas, Florida, New York as highest-revenue markets. West Gear is the most profitable partner while outlet stores outperform other channels.

Impact:

These insights enable targeted seasonal planning, demographic marketing, geographic expansion in tourism states, and optimized retail partnerships for sustained revenue growth.

Conclusion

Business Value:

Implementation of these recommendations will optimize resource allocation, maximize profitable partnerships, and leverage proven high-performing markets and channels for sustained revenue growth.

Next Steps: Continued monitoring of seasonal patterns and regional performance will ensure strategy adaptation as market conditions evolve, maintaining competitive advantage through data-driven decision making.

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Additional Resources:

For complete code, extended visualizations, and detailed statistical outputs, view the full analysis notebook:

Notebook

also visit the Github repository for full project access:

GitHub

**Thank
You**

