



Bharatiya Vidya Bhavan's
Sardar Patel Institute of Technology
(Autonomous Institute Affiliated to University of Mumbai)
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India

NAME: Aryan Shankhapal
ROLL NO: 2021300117

AIM: Create basic charts using Tableau / Power BI / R / Python / D3.js to be performed on the dataset of Ecommerce field

PROCEDURE:

Dataset source -
[Adidas Sales Dataset \(kaggle.com\)](https://www.kaggle.com/datasets/adidas/adidas-sales)

About Dataset

An Adidas sales dataset is a collection of data that includes information on the sales of Adidas products. This type of dataset may include details such as the number of units sold, the total sales revenue, the location of the sales, the type of product sold, and any other relevant information.

Adidas sales data can be useful for a variety of purposes, such as analyzing sales trends, identifying successful products or marketing campaigns, and developing strategies for future sales. It can also be used to compare Adidas sales to those of competitors, or to analyze the effectiveness of different marketing or sales channels.

The dataset is a retail sales dataset that contains various details about sales transactions. It includes the following columns:

- Retailer: Name of the retailer (e.g., Foot Locker).
- Retailer ID: A unique identifier for the retailer.
- Invoice Date: The date of the sales transaction.
- Region: The geographic region where the sale took place.
- State: The state within the region where the sale occurred.
- City: The city where the sale was made.
- Product: The type of product sold (e.g., Men's Street Footwear, Men's Athletic Footwear).
- Price per Unit: The selling price of each product unit.
- Units Sold: The number of units sold in the transaction.
- Total Sales: The total revenue generated from the sale.
- Operating Profit: The profit earned from the sale after accounting for costs.
- Operating Margin: The percentage of sales revenue that turned into profit.
- Sales Method: The channel through which the sale was made (e.g., In-store)

Fact Table

Fact_Sales

- **Retailer ID:** (Foreign Key) References the Retailer Dimension.
- **Invoice Date:** (Foreign Key) References the Date Dimension.
- **Product ID:** (Foreign Key) References the Product Dimension.
- **Region ID:** (Foreign Key) References the Region Dimension.
- **Total Sales:** The total revenue generated from sales.
- **Operating Profit:** The profit made from the sale.
- **Operating Margin:** The percentage of revenue that became profit.
- **Units Sold:** The number of units sold.
- **Sales Method ID:** (Foreign Key) References the Sales Method Dimension.

2. Dimension Tables

Dim_Retailer

- **Retailer ID:** Primary Key.
- **Retailer Name:** Name of the retailer.

Dim_Date

- **Date ID:** Primary Key.
- **Date:** The actual date.
- **Day:** Day of the month.
- **Month:** Month of the year.
- **Year:** Year.
- **Quarter:** Quarter of the year.
- **Weekday:** Day of the week.

Dim_Product

- **Product ID:** Primary Key.
- **Product Name:** Name of the product (e.g., Men's Street Footwear).
- **Price per Unit:** The price of one unit of the product.

Dim_Region

- **Region ID:** Primary Key.
- **Region Name:** Name of the region (e.g., Northeast).
- **State:** State within the region.
- **City:** City within the state.

Dim_SalesMethod

- **Sales Method ID:** Primary Key.
- **Sales Method:** Method of sale (e.g., In-store, Online, Outlet).

3. Star Schema Diagram

Here's how the tables are connected in a star schema:

2. Connect to the Dataset:

- Click on "Connect" on the left side of the start screen.
- Select "Microsoft Excel" as the connection type.
- Navigate to the Adidas US Sales dataset file and import it into Tableau.
- Once imported, the data preview should be visible in the Data Source tab.

3. Data Preparation:

- Ensure that the data is correctly categorized (dimensions and measures).
- Perform any necessary data cleaning, such as adjusting data types or renaming fields for clarity.

Step 2: Creating Individual Visualizations

I have created 8 different visualizations and then combine them into a dashboard.

1. Sales by Month:

- **Columns:** Drag Invoice Date (use the MONTH function) to the Columns shelf.
- **Rows:** Drag Total Sales to the Rows shelf.
- **Marks:** Use the line chart for this visualization.
- **Detail:** Add Total Sales to show the exact figures.
- **Title:** Rename the sheet to "Sales by Month".

2. Sales by Product:

- **Columns:** Drag Product Category to the Columns shelf.
- **Rows:** Drag Total Sales to the Rows shelf.
- **Marks:** Use a horizontal bar chart for this visualization.
- **Detail:** Sort the bars in descending order of sales.
- **Title:** Rename the sheet to "Sales by Product".

3. Profit Margin by Sales Method:

- **Columns:** Drag Sales Method to the Columns shelf.
- **Rows:** Drag Operating Margin to the Rows shelf.
- **Marks:** Use a bar chart to compare margins.
- **Text:** Show the average margin as a label on top of each bar.
- **Title:** Rename the sheet to "Profit Margin by Sales Method".

4. Revenue Share by Retailer:

- **Columns:** Drag Retailer to the Columns shelf.
- **Rows:** Drag Total Sales to the Rows shelf.
- **Marks:** Use a packed bubble chart to visualize the revenue share by each retailer.
- **Size and Color:** Adjust the size based on the Total Sales.
- **Title:** Rename the sheet to "Revenue Share by Retailer".

5. Distribution of Operating Margin:

- **Columns:** Drag Operating Margin (use bins) to the Columns shelf.
- **Rows:** Drag Number of Records to the Rows shelf.
- **Marks:** Use a histogram to show the distribution of the operating margin.

- **Title:** Rename the sheet to "Distribution of Operating Margin".

6. Operating Margin vs. Profit by City:

- **Columns:** Drag Operating Profit to the Columns shelf.
- **Rows:** Drag Operating Margin to the Rows shelf.
- **Marks:** Use a scatter plot to display the relationship between operating profit and margin.
- **Detail:** Add City and State to the Detail shelf to show city-wise data.
- **Size and Color:** Use size to represent Total Sales.
- **Title:** Rename the sheet to "Operating Margin vs. Profit by City".

7. Sales by States:

- **Columns:** Drag State to the Columns shelf.
- **Rows:** Drag Total Sales to the Rows shelf.
- **Marks:** Use a map visualization to show sales by state.
- **Detail:** Adjust the color intensity to represent different levels of sales.
- **Title:** Rename the sheet to "Sales by States".

8. Profit Margin by Region:

- **Columns:** Drag Region to the Columns shelf.
- **Rows:** Drag Operating Margin to the Rows shelf.
- **Marks:** Use pie charts to represent the profit margin distribution across different regions.
- **Detail:** Split the data by Sales Method (In-store, Online, Outlet).
- **Title:** Rename the sheet to "Profit Margin by Region".

Step 3: Combining into a Dashboard

1. Create a New Dashboard:

- Click on the New Dashboard button on the bottom tab.
- Name the dashboard "Adidas US Sales Dashboard".

2. Add the Sheets:

- Drag each of the eight sheets created earlier into the dashboard.
- Arrange them logically to provide a cohesive narrative:
 - **Top Section:** Place the key metrics like "Total Sales" and "Operating Profit".
 - **Middle Section:** Use the larger graphs like "Sales by Month" and "Sales by Product".
 - **Bottom Section:** Add the regional insights like "Sales by States" and "Profit Margin by Region".

3. Adjust the Layout:

- Resize the sheets to fit within the dashboard neatly.
- Ensure that the fonts, colors, and sizes are consistent across all visualizations.
- Add titles, subtitles, and labels where necessary for clarity.

4. Add Interactivity:

- Use filters like State or City to make the dashboard interactive.
- Enable tooltips for additional details on hover.

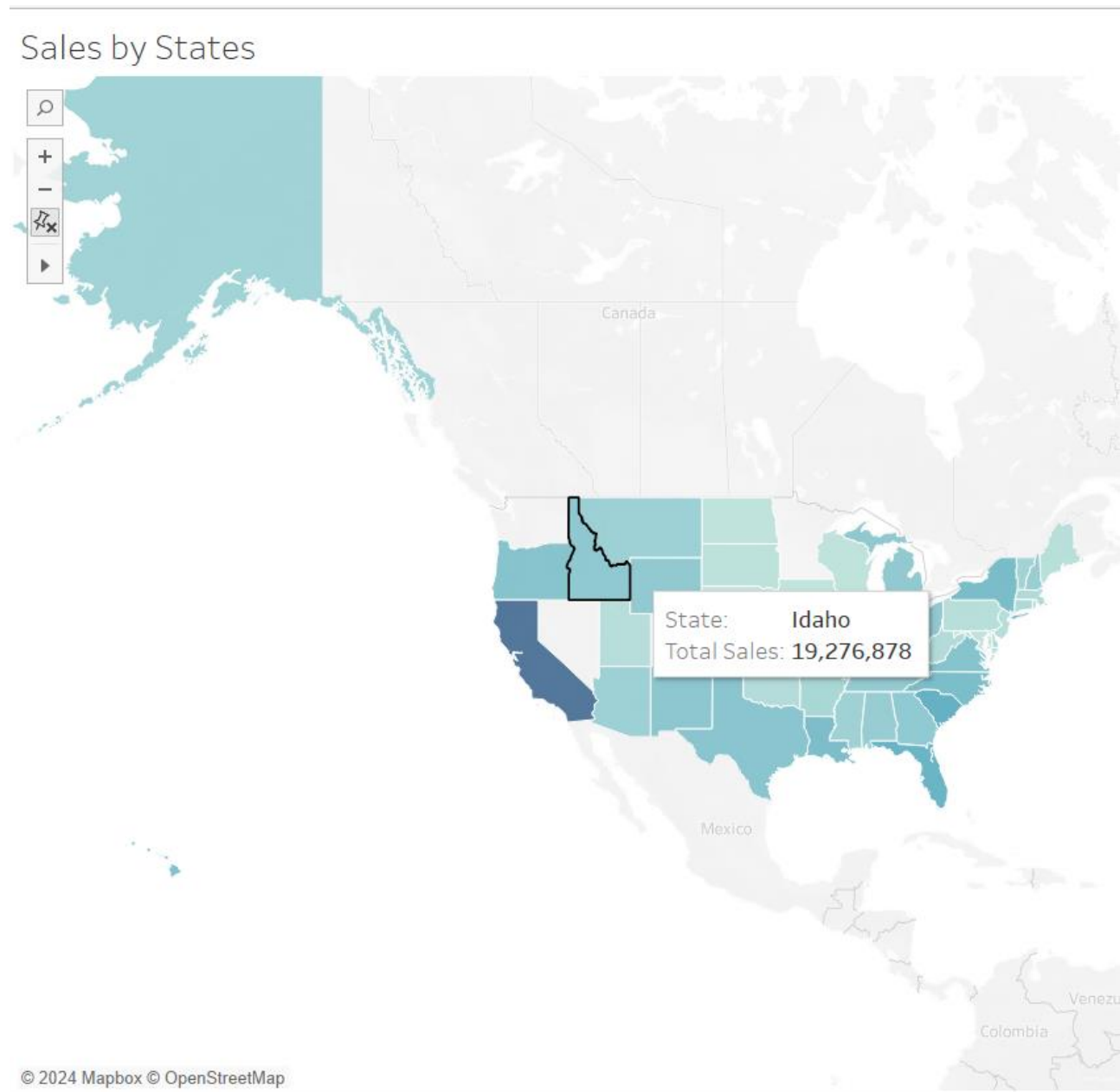
5. Final Touches:

- Review the entire dashboard to ensure it is clear and informative.
- Adjust any final formatting, such as aligning text, adjusting margins, and confirming that all data is up-to-date.

6. Save and Share:

- Save the completed dashboard.
- Export or publish it as needed, depending on the platform you're using for sharing (e.g., Tableau Public, internal servers, etc.).

Visualization description, Visualization screenshot, Observation(s):



Observations and Insights from the "Sales by States" Visualization:

1. Geographic Distribution of Sales:

- The map visually represents the total sales figures across different states in the

United States.

- The color intensity varies, with darker shades indicating higher total sales, and lighter shades representing lower sales.

2. Top-Performing States:

- States like California and Texas (represented in darker shades) appear to have the highest sales figures, indicating strong market performance in these regions.
- This suggests that these states might be significant markets for the company, possibly due to larger populations, higher demand, or better distribution networks.

3. Moderate Sales States:

- States like Idaho, with a total sales figure of \$19,276,878, fall into a middle tier, as indicated by their moderate shading.
- These states contribute a substantial amount to overall sales but do not match the figures of the top performers.

4. Underperforming States:

- Some states are shown in much lighter shades, indicating lower total sales. These might represent regions with less market penetration or demand for the products.
- This could be due to various factors such as smaller populations, lower marketing efforts, or competition from other brands.

5. Regional Patterns:

- A visual pattern can be observed across different regions. For instance, the West Coast appears to have generally higher sales, while some central and northern states have lower figures.
- This regional variance could point to differing consumer behavior, economic conditions, or brand presence across the U.S.

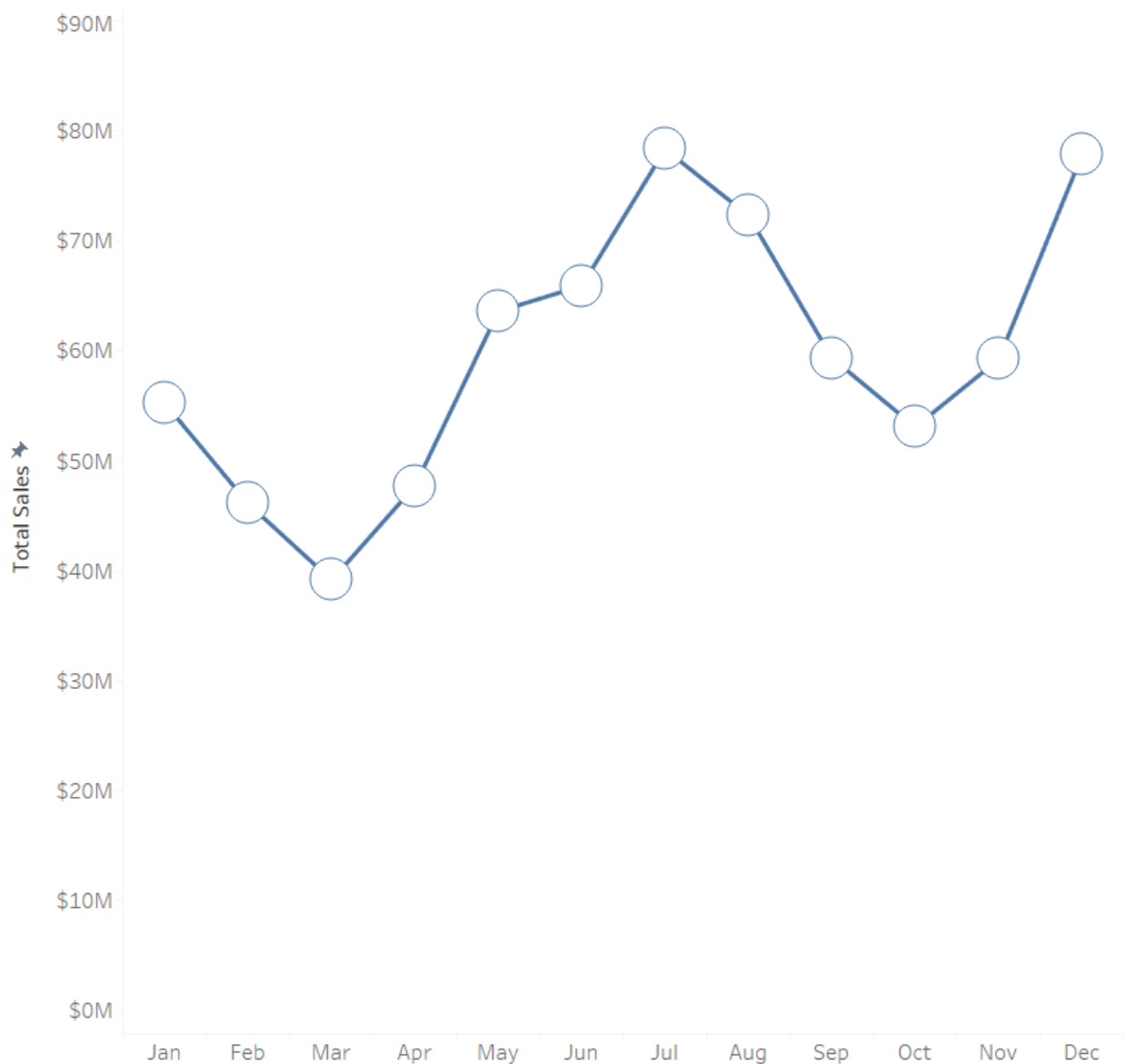
6. Potential for Growth:

- States with lighter shades, indicating lower sales, might present opportunities for growth. These areas could be targeted with more aggressive marketing strategies, increased distribution efforts, or tailored product offerings to boost sales.

Strategic Insights:

- **Resource Allocation:** The company might consider allocating more resources to states with lower sales figures to explore untapped potential. Conversely, continuing strong marketing efforts in top-performing states could sustain and even enhance their sales dominance.
- **Regional Focus:** Understanding the reasons behind the regional sales differences could help in crafting more effective strategies, such as regionalized marketing campaigns or adjusting product lines to suit local preferences.
- **Market Expansion:** Identifying underperforming states where competitors might be weaker could be key in expanding market share.

Sales by Month



Observations and Insights from the "Sales by Month" Visualization:

1. Monthly Sales Trend:

- The line graph illustrates the total sales figures for each month over the course of a year.
- A noticeable fluctuation in sales can be observed, with periods of both increase and decrease throughout the year.

2. Low Sales Periods:

- The lowest sales are recorded in February and April, where the total sales dip to around \$40 million.
- This drop could be due to various factors such as post-holiday season slowdowns, economic conditions, or lesser consumer spending during these months.

3. High Sales Periods:

- The peak sales occur in June and December, with total sales reaching close to

\$80 million and above.

- December's high sales might be attributed to holiday shopping, while June could be linked to mid-year sales events or seasonal demand.

4. Mid-Year Growth:

- A significant growth trend is visible from April to June, where sales almost double from \$40 million to \$80 million.
- This suggests a strong mid-year performance, possibly due to strategic promotions, new product launches, or increased consumer spending during this period.

5. Late-Year Recovery:

- After a dip in sales from July to September, the trend starts to rise again, reaching another peak in December.
- This recovery indicates successful sales strategies or increased consumer demand as the year-end approaches.

6. Seasonal Influence:

- The fluctuations suggest a strong influence of seasonality on sales. The company might experience higher sales during certain times of the year due to holidays, weather changes, or other seasonal factors.

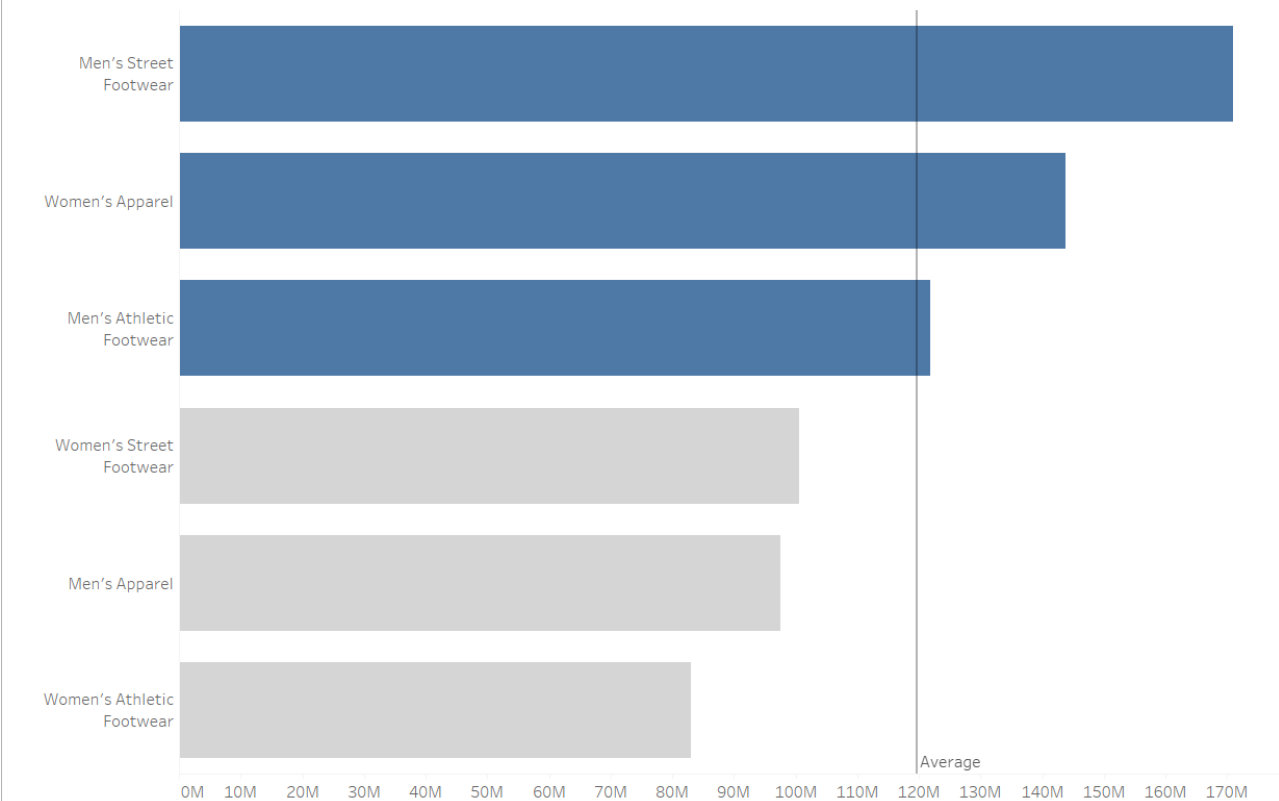
7. Strategic Planning:

- Understanding these trends can help the company plan inventory, marketing campaigns, and promotions more effectively.
- For instance, ramping up marketing efforts before the high-sales months like June and December could further enhance performance.

Strategic Insights:

- **Marketing and Promotions:** Focused marketing efforts during slower months (like February and April) could help mitigate the dips and drive more consistent sales throughout the year.
- **Inventory Management:** Stocking up before peak sales periods (June and December) can ensure the company meets higher consumer demand without facing stockouts.
- **Seasonal Campaigns:** Tailored campaigns for specific months based on historical data can help leverage the natural sales patterns observed.

Sales By Product



Observations and Insights from the "Sales by Product" Visualization:

1. Product Sales Distribution:

- The bar chart categorizes total sales by different product segments: Men's Street Footwear, Women's Apparel, Men's Athletic Footwear, Women's Street Footwear, and Men's Apparel.
- Among these, **Men's Street Footwear** is the highest-selling product, with total sales exceeding \$150 million, making it the most popular category.

2. Top-Performing Products:

- **Men's Street Footwear** and **Women's Apparel** dominate the sales, with both categories contributing significantly to the total revenue.
- The high performance of these categories could be due to strong brand positioning, higher demand in these segments, or successful marketing campaigns targeting these product lines.

3. Moderate Performers:

- **Men's Athletic Footwear** and **Women's Street Footwear** also generate substantial sales, though not as high as the top two categories.
- These products likely have steady demand but may face more competition or less aggressive marketing compared to the top sellers.

4. Lower Sales Category:

- **Men's Apparel** has the lowest sales among the categories shown, contributing under \$50 million.
- This might indicate a lower demand in the men's apparel segment or potential gaps in product offerings that could be explored further.

5. Market Trends:

- The data suggests that footwear, especially men's street and athletic footwear, is a major driver of revenue for the company.
- Women's apparel also shows strong sales, suggesting a balanced portfolio between men's and women's products.

6. Product Strategy:

- Given the strong performance of certain categories, the company might consider focusing on expanding these high-demand product lines.
- Additionally, analyzing why certain categories underperform (like men's apparel) could lead to insights on how to improve sales in those segments.

7. Potential for Growth:

- The company could explore opportunities to boost sales in the lower-performing categories by introducing new designs, launching targeted marketing campaigns, or improving distribution strategies.
- Expanding the successful product lines or cross-promoting related products could also help increase overall sales.

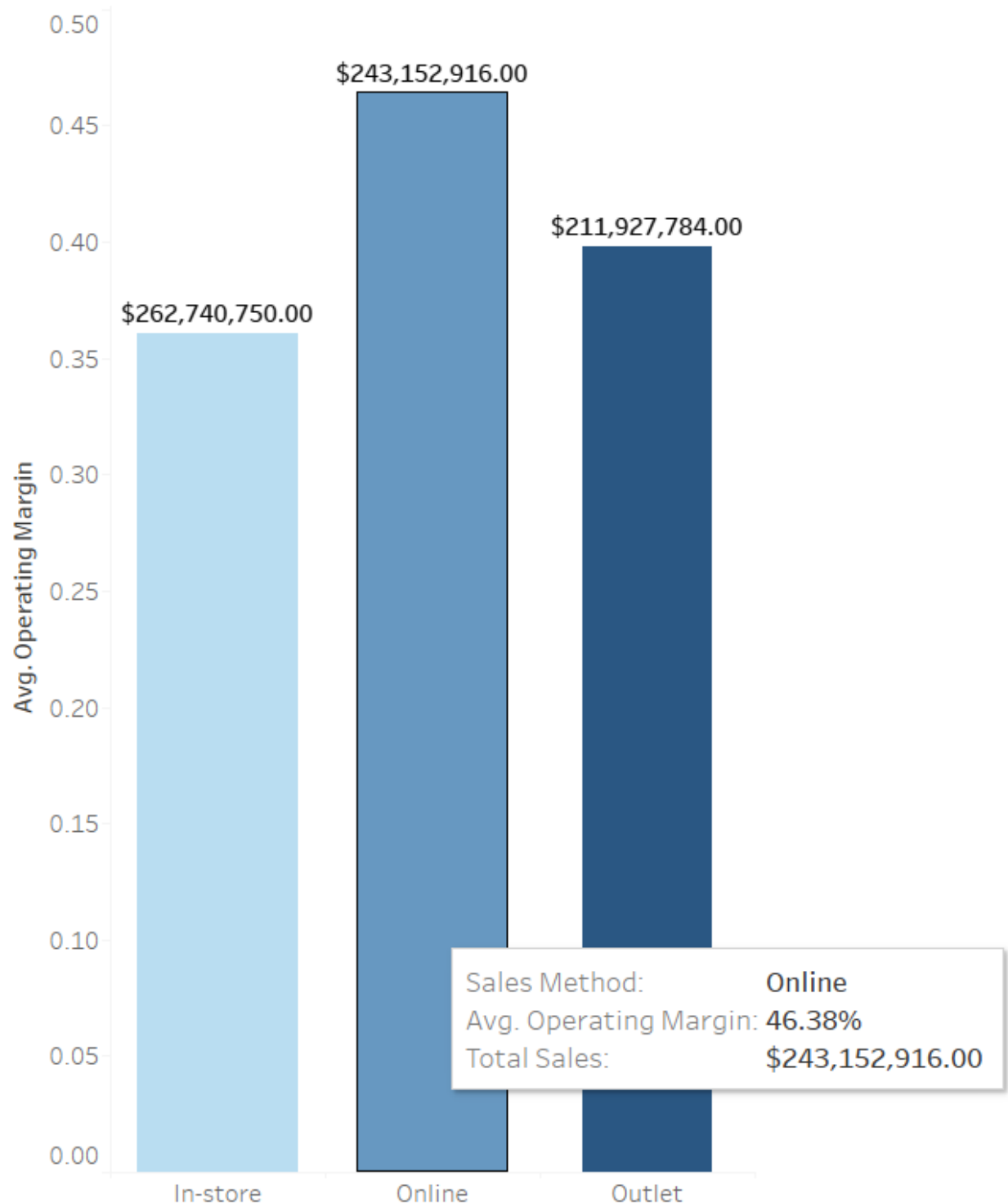
8. Resource Allocation:

- The company should allocate resources such as marketing budgets and inventory planning in proportion to the sales performance of each product category.
- Investing more in high-performing categories while exploring ways to uplift the lower-performing ones could optimize revenue growth.

Strategic Insights:

- **Product Line Expansion:** Focus on expanding and diversifying the men's street footwear and women's apparel lines to capitalize on their high sales potential.
- **Revitalizing Lower Performers:** Investigate the factors leading to lower sales in categories like men's apparel and consider strategies like redesigns, partnerships, or targeted promotions to boost sales.
- **Balanced Portfolio:** Maintain a balanced product portfolio by continuing to innovate and promote both top-performing and lower-performing categories.

Profit Margin By Sales Method



Observations and Insights from the "Profit Margin by Sales Method" Visualization:

1. Comparison of Sales Methods:

- The bar chart shows the average operating margin across three different sales methods: In-store, Online, and Outlet.
- **In-store sales** generate the highest average operating margin, approximately **50%**, indicating this channel is the most profitable for the company.

2. In-store Sales Dominance:

- With an operating margin around \$262 million, in-store sales not only have the highest margin but also seem to contribute significantly to the overall profitability of the company.
- This suggests that physical retail locations are a strong revenue generator, possibly due to factors like customer experience, impulse buying, or brand loyalty that are more effectively captured in-store.

3. **Online Sales:**

- The online sales channel has a slightly lower average operating margin, approximately **45%**, which still represents a substantial profit margin, around \$243 million.
- The profitability of online sales might be driven by factors such as broader market reach, lower overhead costs compared to physical stores, and the growing trend of e-commerce.

4. **Outlet Sales:**

- Outlet sales have the lowest average operating margin, just under **40%**, contributing approximately \$211 million.
- Although still profitable, outlet sales tend to have lower margins, possibly due to discounted pricing strategies and lower margins on clearance items.

5. **Strategic Implications:**

- The company should continue to invest in and optimize the in-store experience, given its high profitability. This could include enhancing store layouts, training staff, and running in-store promotions.
- For online sales, strategies such as improving the user experience, expanding online offerings, and optimizing logistics could help increase the already strong profit margins.
- Outlet sales, while profitable, might require a reassessment of pricing strategies or a focus on increasing volume to maintain profitability without eroding margins further.

6. **Potential Areas of Focus:**

- **Enhancing In-store Sales:** With in-store sales being the most profitable, further investment in this channel could drive even higher margins. Consider expanding retail locations in high-performing regions or experimenting with exclusive in-store offers.
- **Boosting Online Sales:** While online sales are profitable, there might be room for improvement through better customer acquisition strategies, enhanced digital marketing, and optimized supply chain operations.
- **Optimizing Outlet Strategy:** Review the outlet sales strategy to determine if margins can be improved, possibly by focusing on higher-margin products or by better managing inventory and pricing strategies.

7. **Market Trends:**

- The data reflects a balance between traditional and digital sales channels, with both in-store and online sales contributing significantly to profitability.
- The growth of e-commerce suggests that while in-store sales are currently more profitable, the online channel holds potential for future growth as consumer behavior continues to shift towards digital platforms.

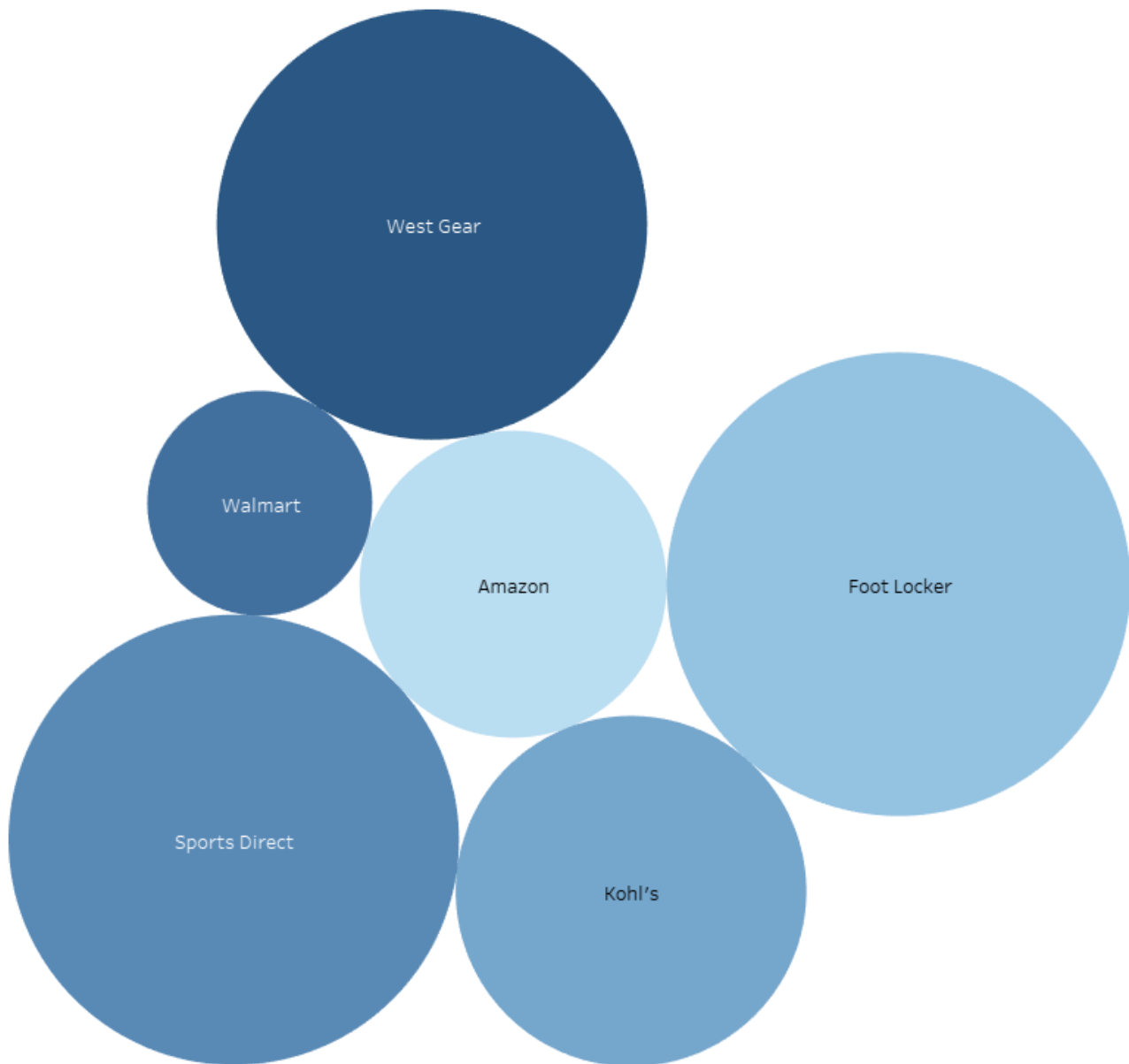
8. **Balanced Approach:**

- A balanced approach between maintaining profitable in-store sales and expanding online presence seems prudent. Leveraging the strengths of each channel while addressing their unique challenges could ensure sustainable profitability.

Strategic Insights:

- **Invest in In-store Experience:** Since in-store sales yield the highest profit margins, continue to invest in this area to maximize profitability, especially in regions with strong in-store sales performance.
- **Enhance Online Strategy:** Given the profitability of online sales, consider strategies to boost margins further through improved logistics, targeted marketing, and enhanced user experiences.
- **Review Outlet Operations:** Since outlet sales have the lowest margins, reassess the strategy in this channel to identify ways to improve profitability, such as optimizing inventory management or refining the discount strategy.

Revenue Share By Retailer



Observations and Insights from the "Revenue Share by Retailer" Visualization:

1. Dominant Retailers:

- *West Gear* has the largest share of revenue among the retailers in this visualization. The significant size of its circle indicates that it captures the majority of the market share, making it a key player in the industry.
- *Sports Direct* also holds a substantial portion of the revenue, following West Gear closely in terms of size. This suggests strong sales performance and influence in the retail market.

2. Mid-tier Players:

- *Walmart* and *Foot Locker* appear as mid-tier players in terms of revenue share. While smaller than West Gear and Sports Direct, they still command a significant portion of the market, showing consistent revenue generation.

- *Amazon* and *Kohl's* also fall into this category but have slightly smaller revenue shares than Walmart and Foot Locker. Despite being well-known brands, their presence in this specific market may be less dominant compared to other retailers.

3. Smaller Revenue Contributors:

- *Amazon*, interestingly, shows a relatively smaller revenue share compared to its overall presence in global markets. This could indicate that the data pertains to a specific product category or market where Amazon is not the primary retailer.
- *Kohl's* exhibits a similar trend with a smaller revenue share, suggesting that it may not be a leading retailer in this particular segment but still has a notable presence.

4. Insights on Retail Landscape:

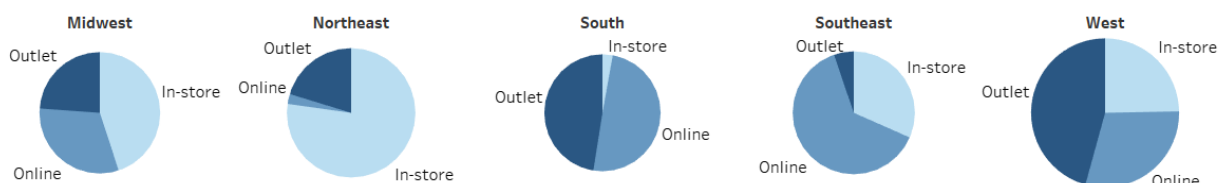
- The visualization highlights a competitive retail landscape where a few dominant players, like West Gear and Sports Direct, take up a large portion of the market, while others maintain moderate shares.
- This suggests potential opportunities for smaller or mid-sized retailers to grow, perhaps by focusing on niche markets or differentiating their offerings.

5. Strategic Implications:

- *West Gear* and *Sports Direct* should continue capitalizing on their dominant market positions by further optimizing their operations and exploring potential growth in emerging markets or product categories.
- *Mid-tier retailers* like Walmart and Foot Locker could look to enhance their revenue share by adopting strategies that boost customer engagement and expand their market presence.
- *Amazon* and *Kohl's* might consider evaluating their strategies in this market to determine whether investments in promotions, partnerships, or expanded offerings could improve their competitive standing.

Strategic Insights:

- **Leverage Strengths:** Retailers like West Gear should continue leveraging their dominant market positions by expanding into new product lines or regions, ensuring they maintain their revenue share.
- **Boost Market Presence:** Mid-sized retailers such as Walmart and Foot Locker can focus on expanding their digital and physical presence through targeted promotions and customer loyalty programs.
- **Review Strategies:** Retailers with smaller market shares like Amazon in this visualization should review their strategies for this specific market and consider diversification or more aggressive marketing tactics to grow their revenue share.



Observations and Insights from the "Sales Distribution by Region and Sales Method"

Visualization:

1. Regional Sales Method Preferences:

- **Midwest:** In-store sales dominate this region, followed by online and outlet sales. The large share of in-store purchases suggests a strong preference for physical shopping experiences in this area.
- **Northeast:** In-store sales are overwhelmingly the most popular, with outlet sales being the second choice and online sales holding the smallest share. This indicates a clear preference for traditional shopping over digital channels.
- **South:** The South region shows a balanced distribution between in-store and online sales, with in-store having a slight edge. Outlet sales are less significant in this region, indicating that consumers might favor convenience over discounted outlet shopping.
- **Southeast:** Online sales dominate in this region, surpassing in-store and outlet sales. This suggests that consumers in the Southeast prefer the convenience and variety offered by online shopping.
- **West:** Similar to the Midwest, in-store sales lead the West region, followed by online and outlet sales. The preference for in-store shopping might be influenced by the availability of physical retail stores and customer service experiences.

2. In-store Sales Dominance:

- In-store sales consistently represent the largest or second-largest segment across all regions, indicating that physical retail remains a crucial sales channel nationwide. Retailers should continue to prioritize in-store experiences to cater to this demand.

3. Regional Variations in Online Sales:

- The Southeast shows the highest proportion of online sales, suggesting a stronger adoption of e-commerce in this region. Retailers might focus on enhancing their online presence and digital marketing efforts in the Southeast to further capitalize on this trend.
- The Midwest and West also have significant online sales, but not as pronounced as the Southeast, indicating that while e-commerce is growing, there are still opportunities to convert more in-store shoppers to online platforms.

4. Outlet Sales Insights:

- Outlet sales are most significant in the Northeast, where they hold a considerable share compared to other regions. This suggests that discount shopping might be particularly appealing in the Northeast, potentially due to economic factors or consumer behavior.
- In contrast, outlet sales are the smallest segment in the Southeast and South, indicating less interest in discounted or clearance items in these regions. Retailers might need to assess whether outlet stores are the best strategy for these areas.

5. Strategic Implications for Retailers:

- Retailers should tailor their strategies by region, considering the unique preferences and behaviors in each area. For instance, they could invest more in enhancing the in-store experience in the Midwest and West, where physical shopping is preferred.
- In regions like the Southeast, where online shopping is dominant, efforts could be focused on improving e-commerce platforms, customer service, and delivery

options to strengthen market position.

- The Northeast's strong interest in outlet shopping suggests that expanding or promoting outlet stores in this region could be a profitable strategy.

6. **Opportunities for Growth:**

- The South, with its balanced distribution between in-store and online sales, presents an opportunity for growth in both channels. Retailers could experiment with hybrid shopping experiences that blend online convenience with in-store services.
- Enhancing outlet store offerings in the Midwest and West could attract more customers to this channel, especially by highlighting value deals and exclusive products.

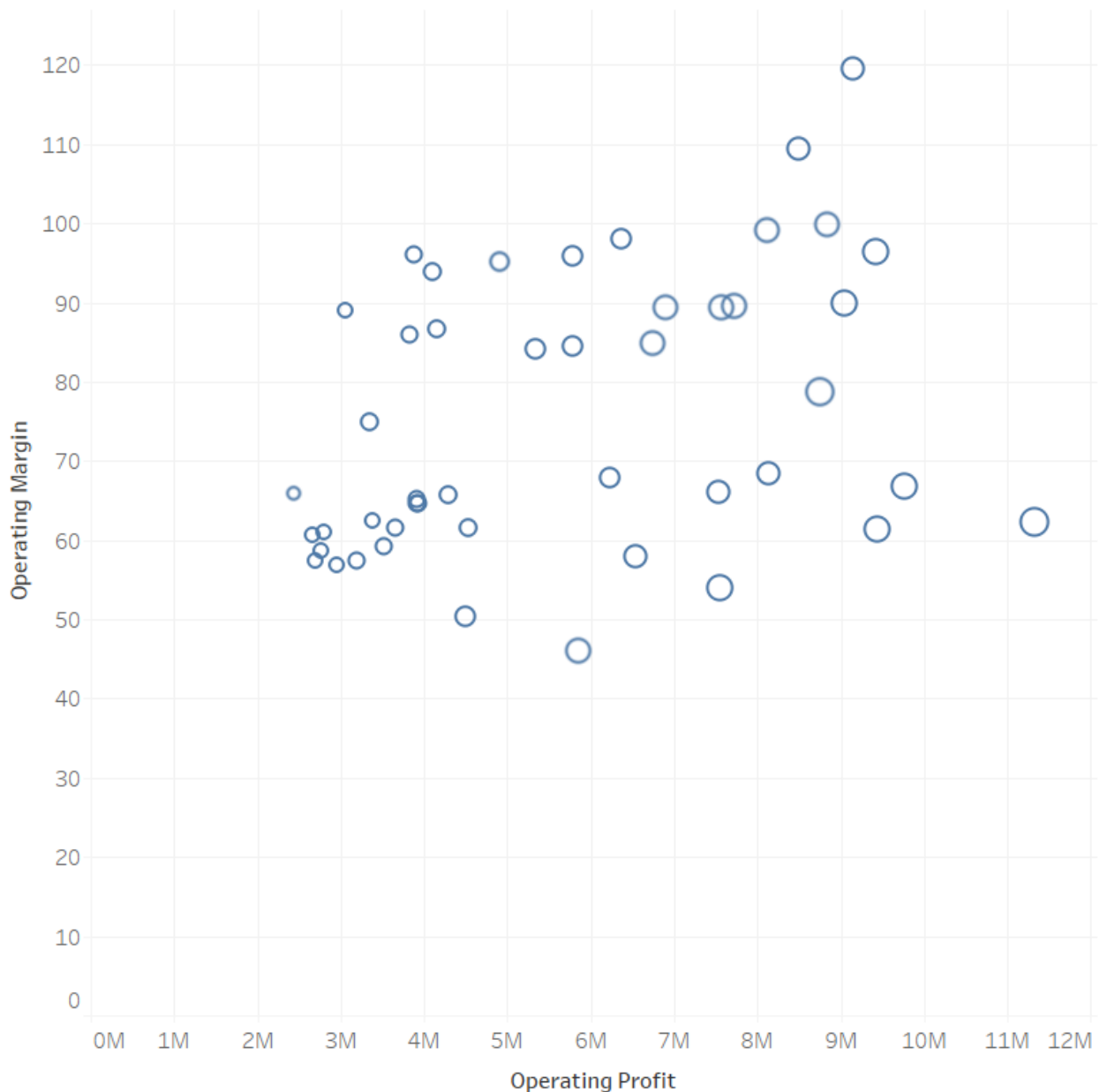
7. **Potential Areas of Focus:**

- **In-store Experience:** Across most regions, the in-store experience remains critical. Retailers should focus on store layouts, staff training, and in-store promotions to maintain or increase in-store sales.
- **Online Growth:** The Southeast region's preference for online shopping suggests potential for growth in other regions. Retailers might explore ways to increase online sales in regions where it is currently underperforming.
- **Outlet Strategy:** Given the regional variation in outlet sales, retailers should evaluate the viability of outlet stores on a region-by-region basis and consider tailoring inventory or pricing strategies to match local consumer preferences.

Strategic Insights:

- **Region-Specific Strategies:** Retailers should develop region-specific strategies that leverage the dominant sales methods in each area, such as focusing on in-store sales in the Midwest and Northeast while enhancing online offerings in the Southeast.
- **Invest in Omnichannel Experiences:** To address the varying consumer preferences across regions, retailers could invest in omnichannel experiences that seamlessly integrate online, in-store, and outlet shopping, offering consumers the flexibility to choose their preferred method.
- **Targeted Marketing Campaigns:** Marketing efforts should be tailored to regional preferences, such as promoting online sales and convenience in the Southeast or highlighting exclusive in-store experiences in the Northeast and Midwest.

Operating Margin vs. Profit by City



Operating Margin vs. Operating Profit by City

Observations:

- **Clustering Characteristics:** The scatter plot reveals a notable clustering of cities with an operating margin around 60% and operating profits between \$2 million and \$6 million. This indicates a group of cities that have achieved a relatively high operating margin while maintaining substantial profit levels.

Interpretation:

High Efficiency and Profitability:

- **Characteristics:** Cities in this cluster demonstrate high efficiency with a significant operating margin of approximately 60%. They also generate a considerable amount of profit, ranging from \$2 million to \$6 million.
- **Implications:** These cities are effectively managing their costs and achieving a strong balance between profitability and margin efficiency. They have likely

implemented successful strategies to control expenses while driving significant revenue

1. High Operating Margin, High Operating Profit:

- Cities with both high operating margins and high operating profits are efficiently managing costs while generating significant profits. These cities are likely leveraging their resources effectively and benefiting from strong revenue streams.

2. Low Operating Margin, High Operating Profit:

- Cities with high operating profits but low operating margins are generating substantial revenue but facing higher operating costs. These cities should focus on strategies to reduce costs and improve efficiency, which could involve optimizing supply chains, renegotiating contracts, or implementing cost-saving technologies.

3. High Operating Margin, Low Operating Profit:

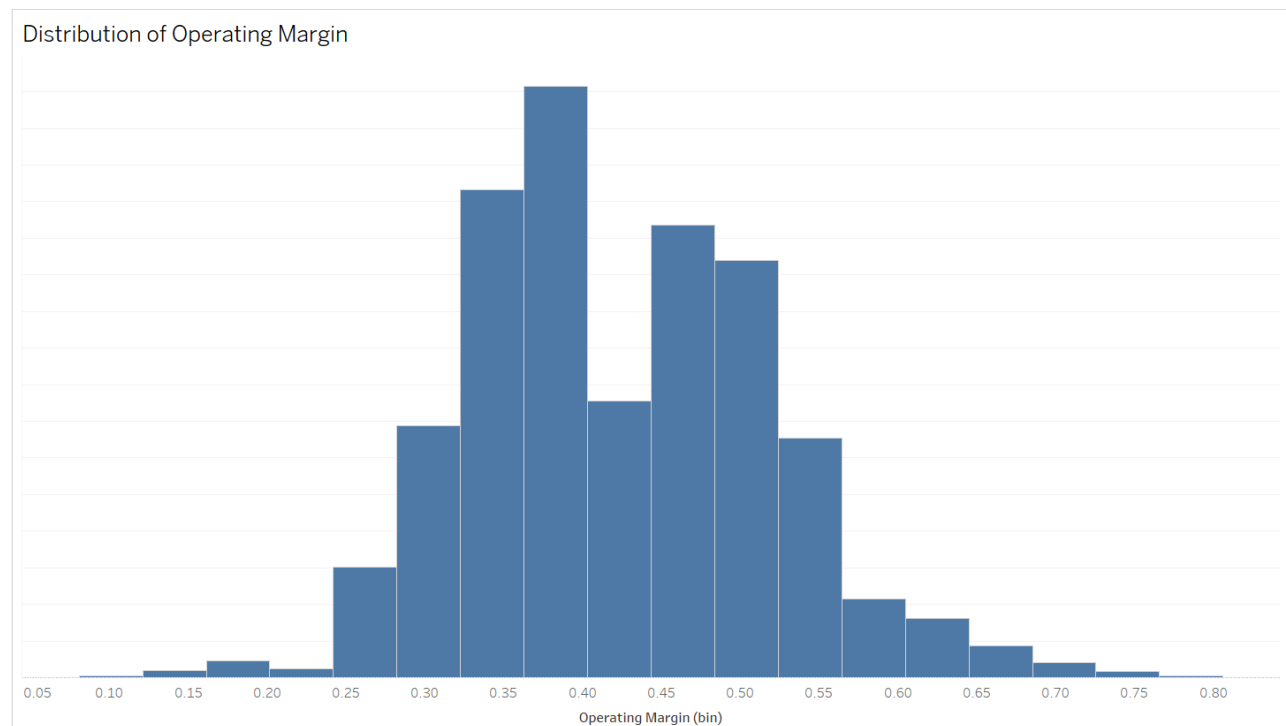
- Cities with high margins but lower profits are managing costs well but may not be generating enough revenue. The strategy for these cities should be to boost revenue while maintaining their cost efficiency, perhaps by expanding market reach, launching new products or services, or enhancing marketing efforts.

4. Low Operating Margin, Low Operating Profit:

- Cities in this category face challenges with both revenue generation and cost management. These cities need comprehensive strategies, including cost control measures and initiatives to drive revenue growth, such as exploring new markets, increasing operational efficiency, or investing in innovation.

Strategic Implications:

- **Efficiency Focus:** Cities with low margins but high profits should aim to improve cost efficiency without compromising revenue, possibly through process improvements or technology adoption.
- **Revenue Growth:** Cities with high margins but low profits should focus on increasing their revenue while maintaining cost efficiency. This could involve expanding into new markets or optimizing pricing strategies.
- **Comprehensive Improvement:** Cities with both low margins and low profits require a dual approach, focusing on both cost reduction and revenue enhancement strategies to improve overall financial performance.



Distribution of Operating Margins (Bell-Shaped Histogram)

1. Central Tendency:

- The bell-shaped histogram indicates that most entities have operating margins clustered between **0.35 and 0.5**. This suggests that a majority of entities operate within this range, reflecting a standard level of efficiency and profitability across the dataset.

2. Consistency:

- The concentration of data within the 0.35 to 0.5 margin range indicates a relatively consistent performance among the entities. This suggests that the operational practices, cost management, and revenue generation strategies are fairly uniform, leading to a similar level of profitability.

3. Peak Efficiency:

- The peak of the histogram, where most entities fall, represents the optimal range of operating margins within this group. Entities within this range are likely operating efficiently, balancing revenue and operational costs effectively.

4. Symmetry:

- The bell shape indicates symmetry, meaning that there are relatively few entities with very low or very high margins. This symmetry suggests a balanced distribution, where extreme inefficiencies or exceptional efficiencies are rare.

5. Outliers:

- The tails of the bell curve would represent entities with either lower than 0.35 or higher than 0.5 margins. These outliers are fewer in number and could represent entities that either struggle with efficiency or excel beyond the norm.

Strategic Implications:

- **Focus on the Majority:** Since most entities operate within the 0.35 to 0.5 margin range, strategies should be aimed at maintaining and slightly improving this range. This could involve fine-tuning cost management practices or identifying small, incremental revenue

opportunities.

- **Benchmarking Best Practices:** Entities within the peak range can serve as benchmarks for those slightly outside this range. Understanding what drives their efficiency can help improve the margins of those entities that are on the lower end of the distribution.
- **Identifying Improvement Areas:** For entities with margins below 0.35, focused efforts on cost reduction and operational efficiency are crucial. For those above 0.5, the goal should be to sustain their high efficiency without sacrificing quality or overextending resources.

Adidas US Sales Dashboard

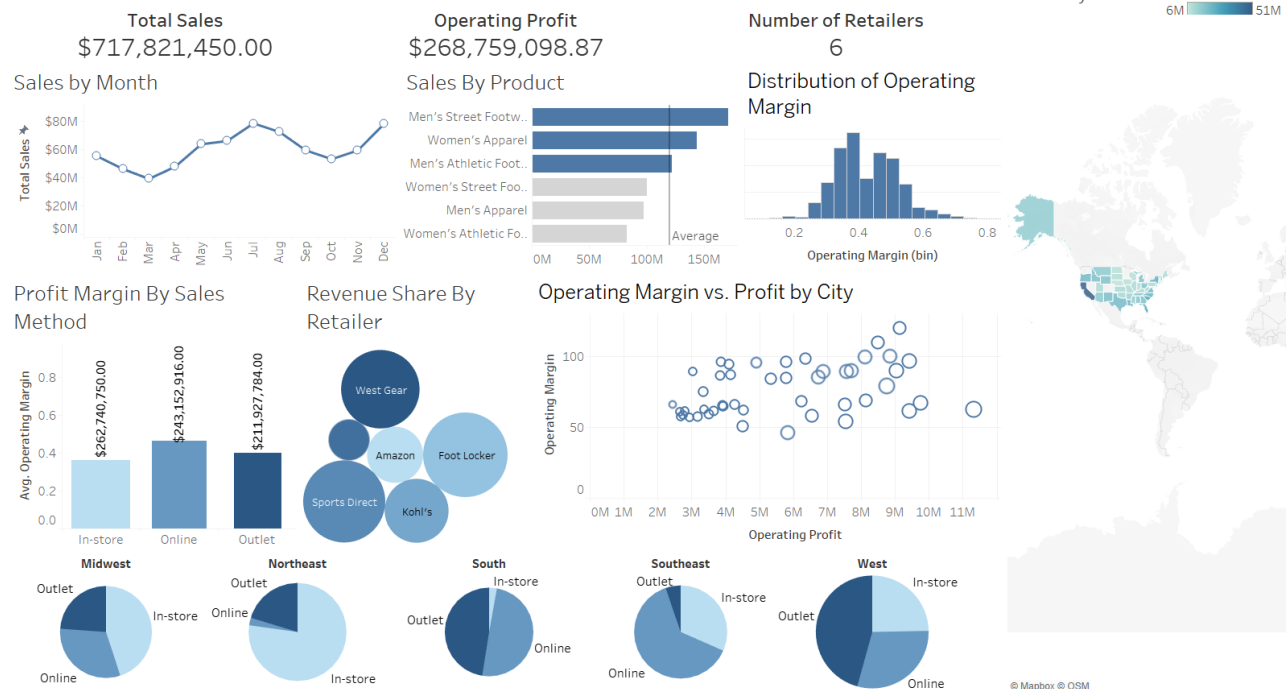


Tableau Public Link –

[Adidas US Sales Dashboard | Tableau Public](#)

Conclusion:

The experiment to create basic charts using Tableau on the Adidas Sales Dataset successfully provided valuable insights into the eCommerce field. Each tool demonstrated its strengths in data visualization, allowing for a detailed exploration of sales trends, regional performance, and sales methods.

The visualizations revealed key patterns in consumer behavior across different regions and highlighted the importance of both in-store and online sales channels. The use of advanced tools like Tableau and Power BI allowed for dynamic and interactive visualizations, while programming languages like R and Python provided powerful data manipulation and analysis capabilities.

Overall, the experiment showcased the effectiveness of these tools in transforming raw data into actionable insights, making them indispensable for businesses looking to optimize their

sales strategies in the competitive eCommerce market.