Analyzing Retail Sales Data Using Tableau

Project: Superstore Sales Data

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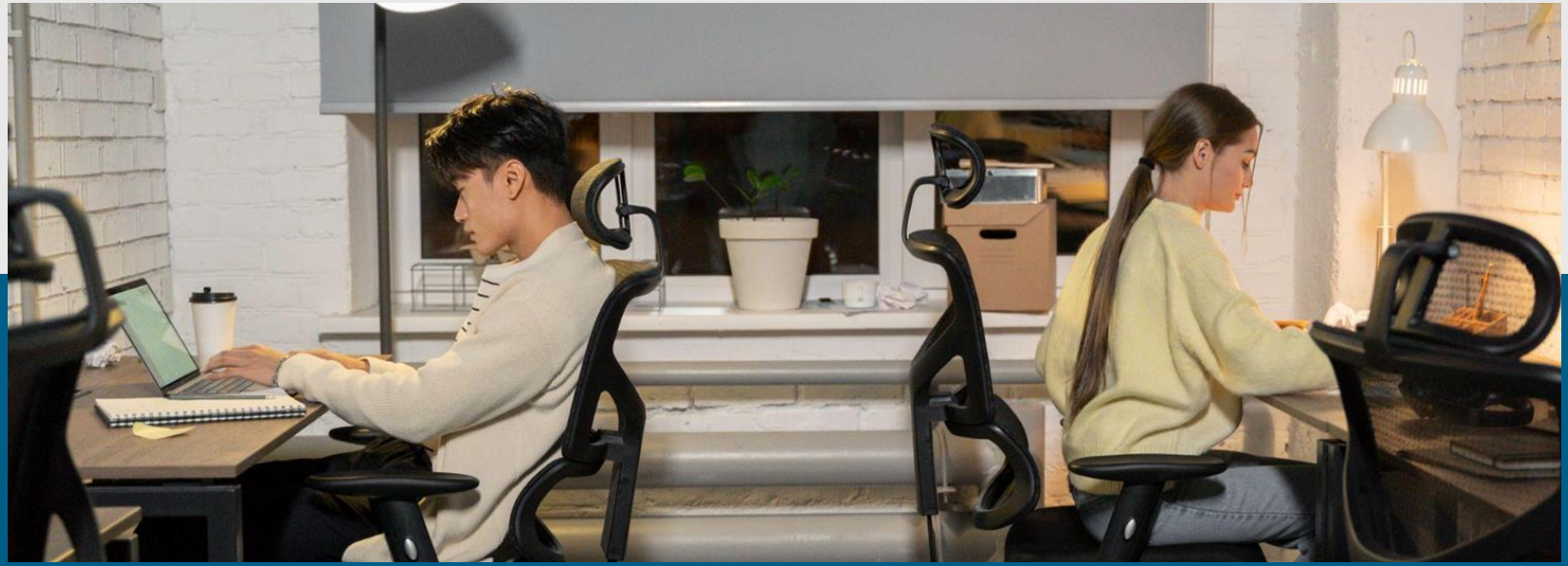


01 Objectives of the project

Objectives

Aim

To utilize Tableau for in-depth analysis and visualization of retail sales data from the Superstore dataset, enabling data-driven decision-making.

Goal

To gain actionable insights into regional sales performance, product profitability, and customer segments in order to identify opportunities for improving sales, optimizing inventory, and enhancing business growth strategies.

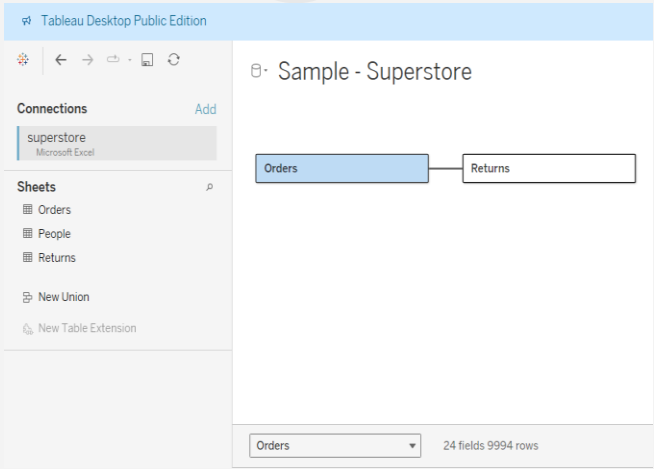
Data Overview

Data Import and Overview

The Superstore dataset (.xls file) includes three tables:

- Orders: 21 fields, 9,994 rows. Key fields are:
    - Sales (numeric) : Total sales
    - Profit (numeric) : Profit margin
    - Region (string) : Geographical regions
- People: 2 fields, 4 rows (regional managers).
- Returns: 2 fields, 296 rows (returned orders).

These fields help analyze sales performance and profitability across regions.



Data Cleaning

Data Cleaning

Checked for missing data in key fields, specifically Sales and Profit.

Profit Null Check:

- Formula: IF ISNULL([Profit]) THEN "Null" ELSE "Not Null" END

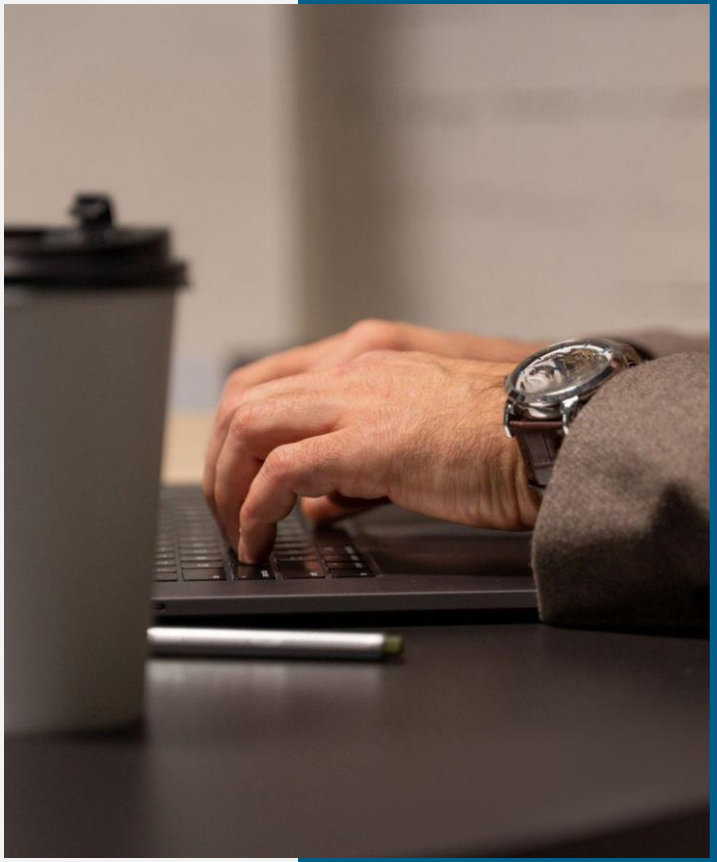
Result: "Not Null" (no missing values in Profit)

Sales Null Check:

- Formula: IF ISNULL([Sales]) THEN "Null" ELSE "Not Null" END

Result: "Not Null" (no missing values in Sales)

This confirms the data is complete and reliable for analysis.

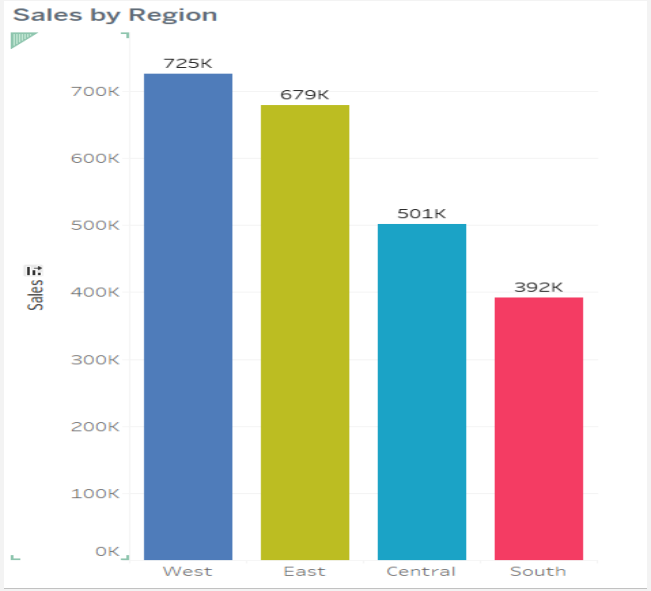


3. Key Visualizations

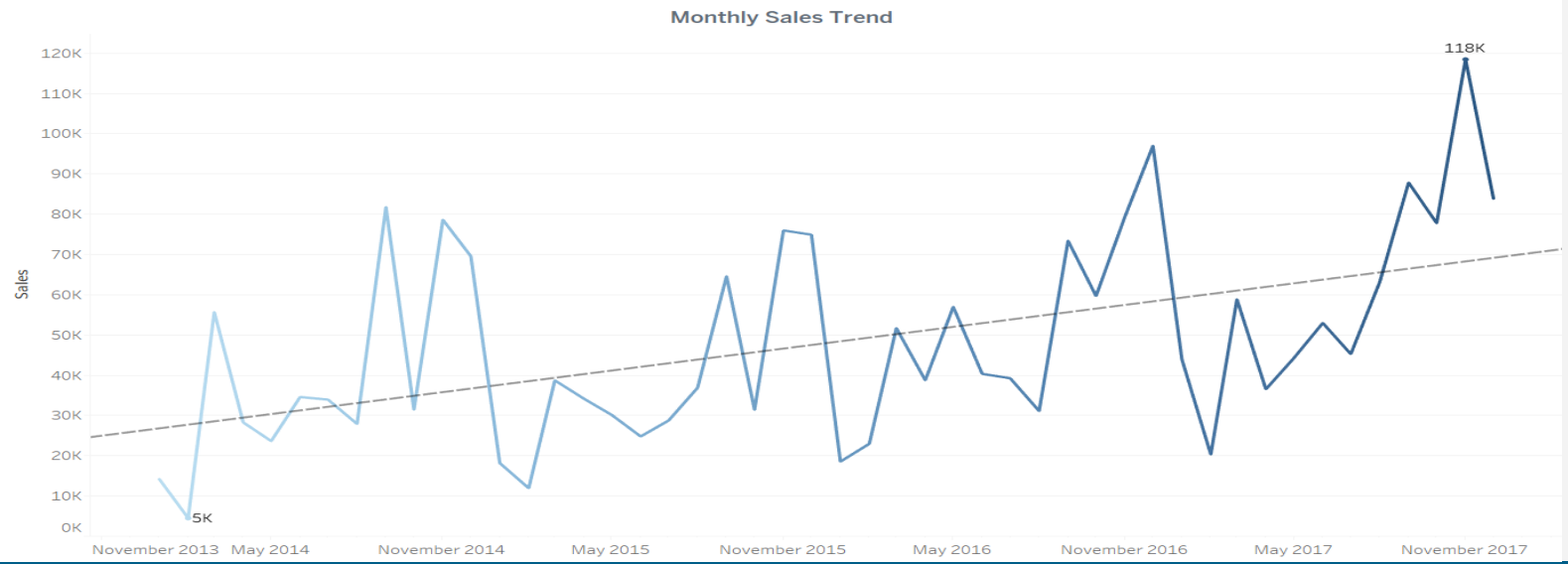
Sales by Region

Insights:

- Sales Performance:
  - West: Highest at $725K.
  - South: Lowest at $392K; room for improvement.
- Regional Strengths and Weaknesses:
  - West: Effective strategies or favourable demographics.
  - South: Challenges such as competition or lower demand.
- External Factors:
  - Market Presence: Number of stores/online reach.
  - Competition: Analyze strategies in each area.
  - Consumer Behavior: Local trends and economic conditions.



Monthly Sales Trend



Display a line chart showing sales from January 2014 to December 2017.

Key Points:

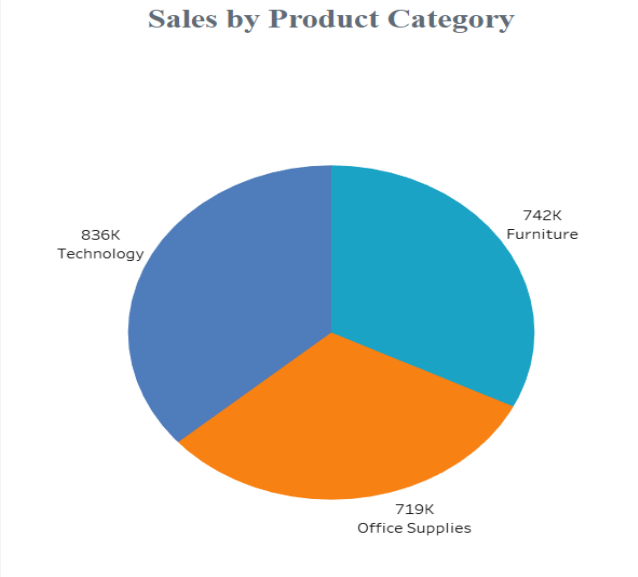
Highlight min sales ($5K)in February 2014.

Highlight max sales($118k) in November 2017.

Insight: Higher sales in the holiday season

Actionable: Implement targeted marketing campaigns during peak seasons

Sales by Region



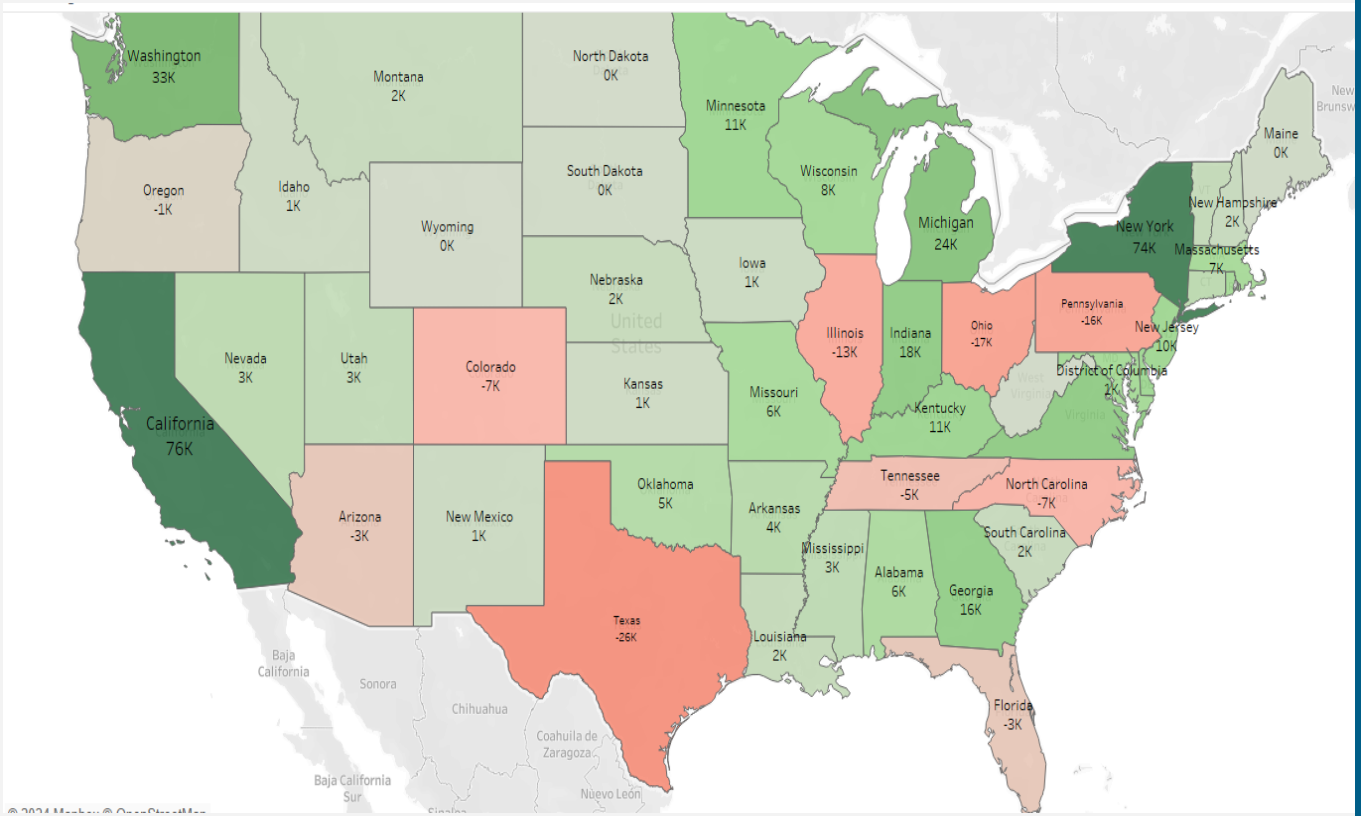
Insights:

- Technology Dominance:
  - Top-selling category, indicating strong customer preference.
- Office Supplies & Furniture:
  - Significant, but lower sales contributions compared to technology.

Strategic Recommendations

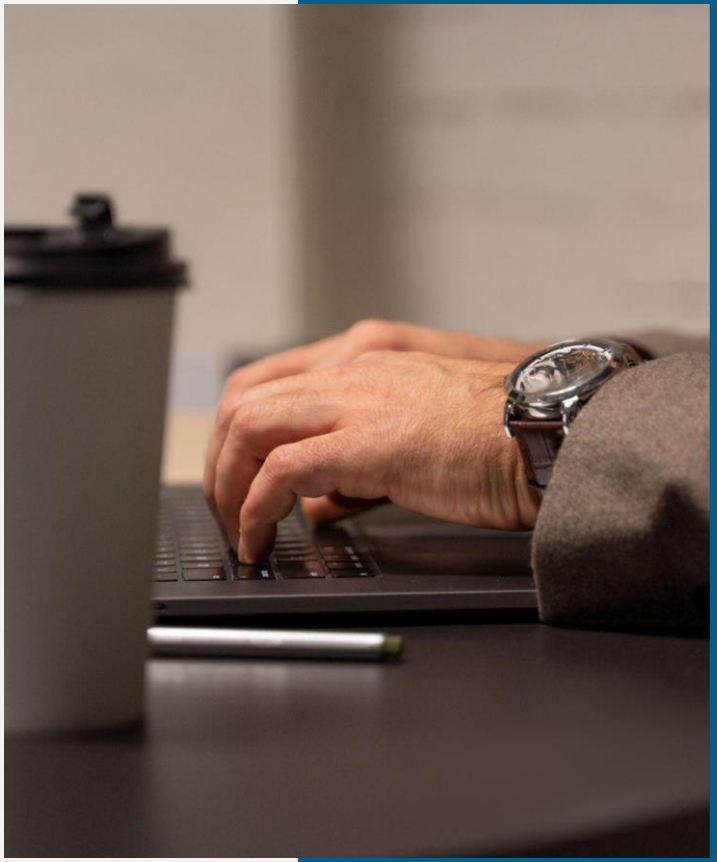
- Promote Technology Products:
  - Invest more in marketing and product development.

Profit by State



Insight: High profits in California and New York, losses in Texas and Pennsylvania

Actionable: Address factors influencing profitability in underperforming states



4. Advanced Visualizations

Sales VS Profit

Key Insights:

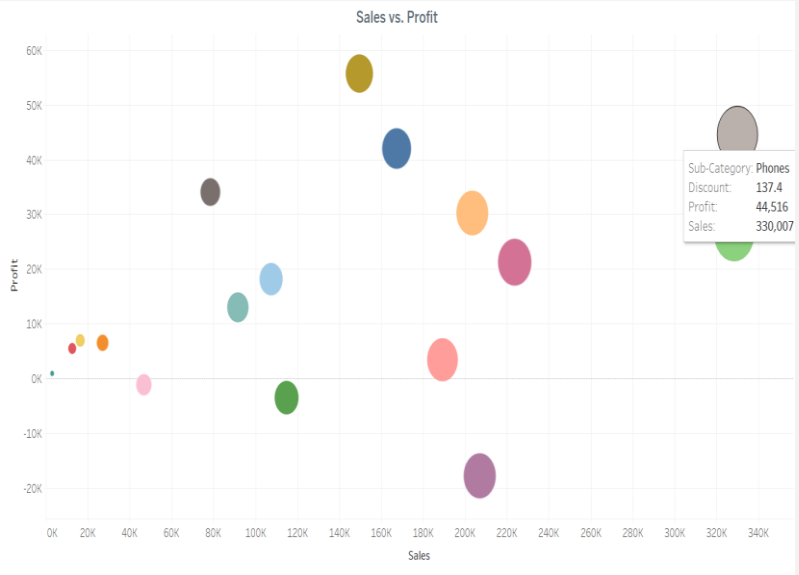
Positive Correlation: Higher sales typically lead to higher profits.

Top Performers: Categories with large sales and profits (e.g., $44.5K profit on $330K sales) stand out.

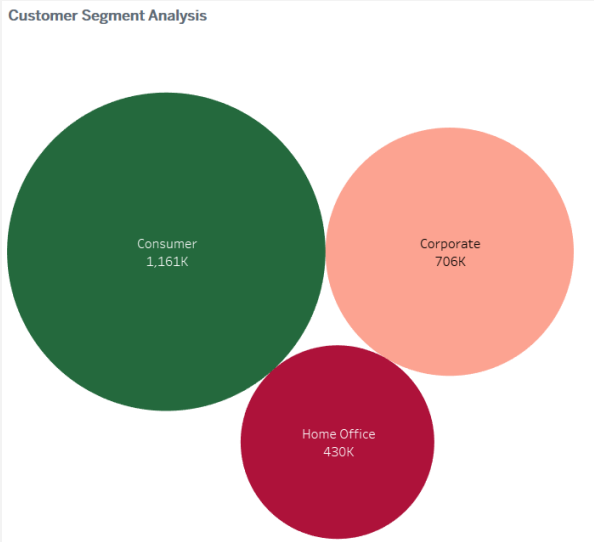
Outliers: Some categories, like one with $206.9K sales but $-17.7K profit, have high sales but negative profitability.

Negative Profit: Bubbles below the x-axis indicate unprofitable categories.

This plot highlights the relationship between sales and profitability across product categories.



Customer Segment Analysis



Key Insights:

- **Consumer Segment:** Highest sales ($1,161K). Opportunity: Leverage strong demand with targeted marketing.
- **Corporate Segment:** Sales of $706K. Opportunity: Focus on upselling and tailored solutions.
- **Home Office Segment:** Lowest sales ($430K). Opportunity: Targeted promotions and product bundling for growth.

Strategic Recommendations:

- **Prioritize high-sales, high-profit segments.**
- **Customize marketing for each segment.**
- **Invest in home office growth if profitability is promising.**
- **Conclusion: Maximize profitability across all segments for sustainable growth.**

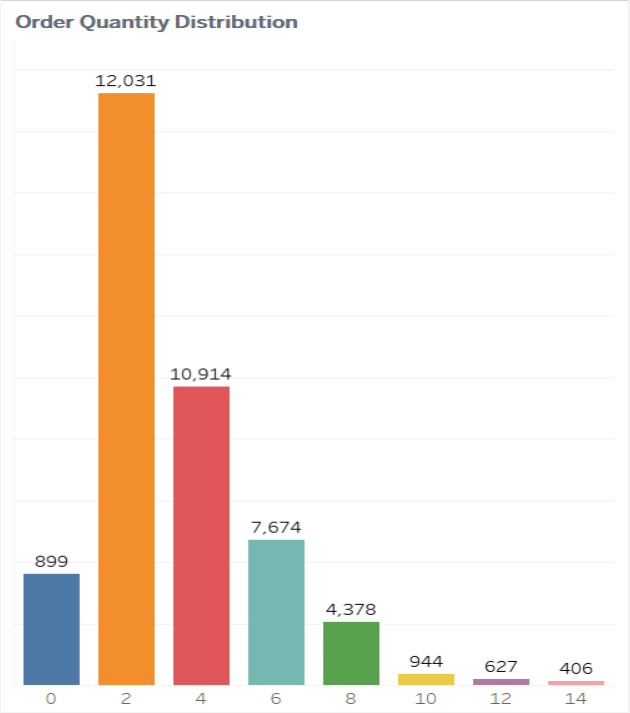
Order Quantity Distribution

Key Insights:

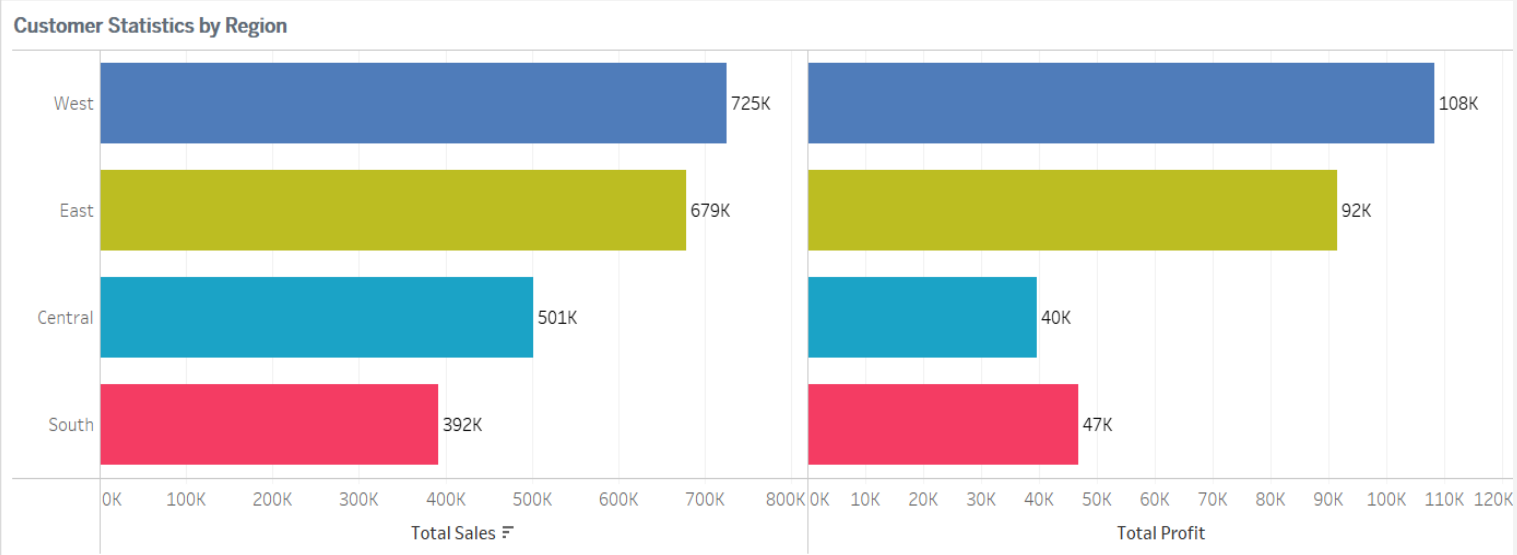
Small Orders Dominate: Most orders are for 2 (12,031) and 4 items (10,914).

Declining Trend: Significant drop in orders for quantities above 4.

Action: Optimize inventory for 2-4 item orders and encourage bulk purchases.



Customer Statistics by Region



Insights:

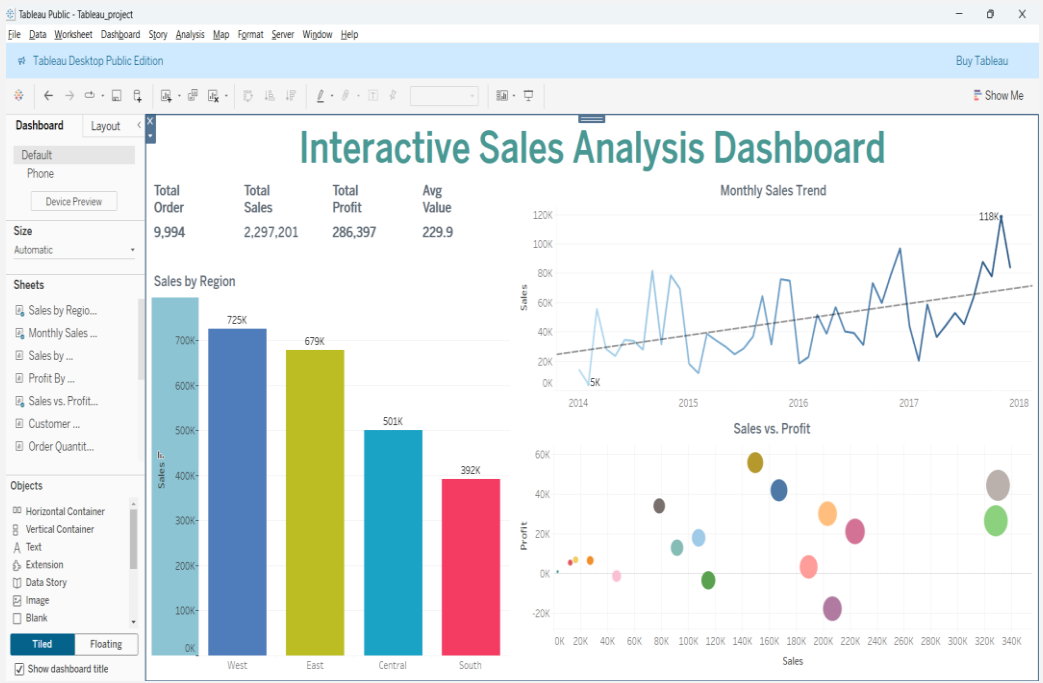
- Disparity: West leads in sales; East has better profitability.
- Opportunities: Central and South regions require attention.

Recommendations:

- Target growth in Central and South.
- Optimize costs in West.
- Analyze regional performance factors.

5. Dashboard Insights & Recommendations

Interactive Sales Analysis Dashboard



Insights

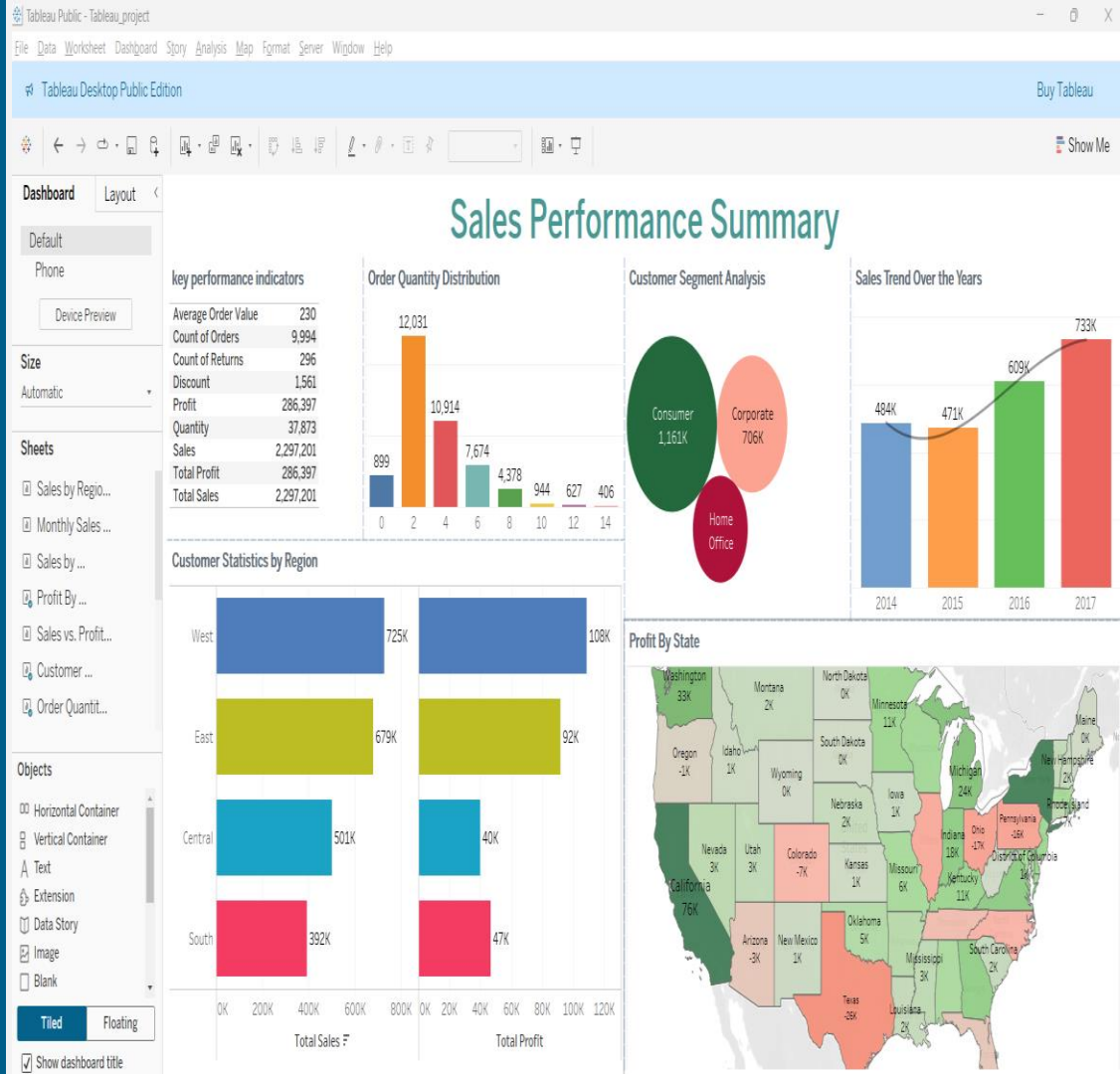
- Components: Sales by Region, Monthly Sales Trend, Sales vs. Profit
- Filters: Region, Product Category
- Purpose: Explore data interactively to gain specific insights

Summary

- **Total Sales:** Sales increased significantly over the last quarter, indicating strong demand.
- **Total Profit:** Profit reflects effective cost management and positive margins.
- **Average Order Value:** Higher average order value indicates successful upselling.
- **Sales Trend Analysis:** Seasonal sales trends present targeted marketing opportunities.
- Regional Performance Insights: Sales by region reveal areas for expansion and resource allocation.
- **Profitability Insights:** Sales and profit correlation suggests a review of pricing strategies.

Sales Performance Summary

- **Regional Performance: West region outperforms others**
- **Product Categories: Technology products drive sales**
- **Profitability: Some categories need pricing or cost optimization**
- **Customer Segments: Targeted strategies needed for each segment**



$2,297,201

Total Sales

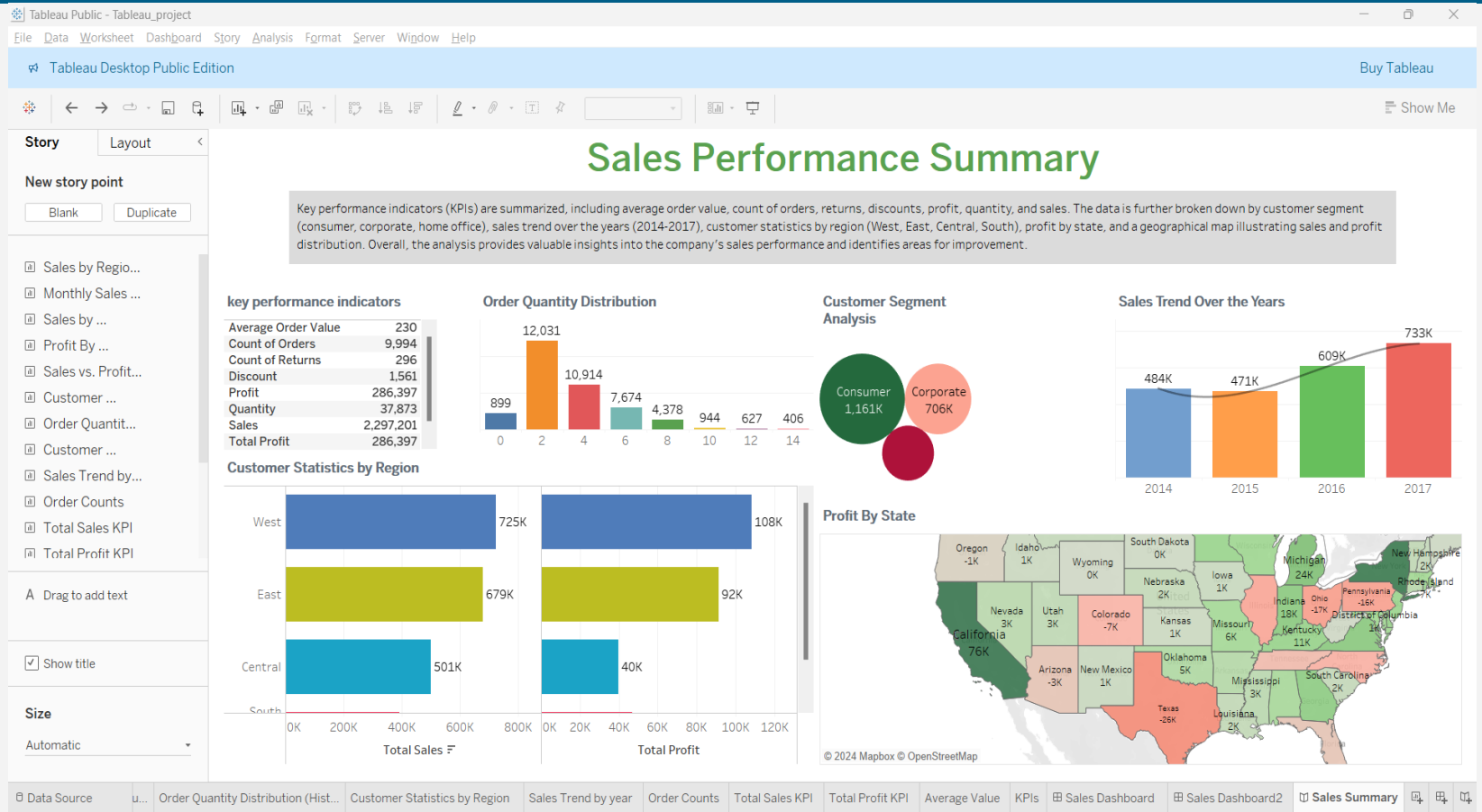
$286,397

Total Profit

9,994

Total Order

Sales Performance Storyboard



Key Insights and Recommendations

Key Insights

- Regional Performance: West region outperforms others
- Product Categories: Technology products drive sales
- Profitability: Some categories need pricing or cost optimization
- Customer Segments: Targeted strategies needed for each segment

Recommendations

- Invest in marketing and sales efforts in the South region
- Optimize pricing strategies for unprofitable categories
- Implement targeted marketing campaigns by customer segment
- Improve inventory management based on order distribution

Conclusion

Tableau analysis revealed key insights on sales, profitability, and customer behavior.

Takeaways:

- West leads in sales, but cost optimization is needed.
- Growth potential in South and Central regions.
- Tailored strategies for customer segments and inventory optimization.

By leveraging these insights, businesses can improve performance and drive growth.

Thanks!

Do you have any questions?

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