

# **BUSINESS ANALYSIS SUPERSTORE**

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# CASE DEFINITION



Our online Superstore faces the challenge of optimizing sales performance across various regions, product categories, and customer segments. The core issue is identifying and addressing underperformance while uncovering new growth opportunities. To remain competitive in a dynamic market, we must strategically analyze our sales data to enhance resource allocation, improve customer satisfaction, and boost profitability.





# GOALS AND OBJECTIVES



The objective of this project is to leverage data-driven insights to increase sales and profitability for the Superstore. This involves conducting a thorough analysis of sales performance across all relevant dimensions to identify actionable strategies that can drive revenue growth and cost efficiency.

# SUCCESS CRITERIA

- 01 Performance Identification:** Accurately identify high-performing and underperforming regions, categories, and subcategories.
- 02 Strategic Recommendations:** Develop targeted, data-backed strategies aimed at improving sales and profit margins.
- 03 Outcome Measurement:** Track the implementation and impact of these strategies through key performance indicators (KPIs) such as total sales, profit margins, and customer satisfaction, ensuring sustained improvement.



# DATASET OVERVIEW

The dataset is sourced from our Superstore operations, offering a comprehensive view of sales performance, customer behavior, and profitability. This data is instrumental in guiding our retail strategies and decision-making processes. The dataset includes several interconnected tables, each focusing on specific aspects of our business:

- **Orders Table:** Details on each order, including dates, shipping modes, customer information, and product specifics.
- **People Table:** Information on individuals managing various regions.
- **Returns Table:** Records of returned orders.
- **Shipping Cost Table:** Data on shipping costs associated with different states.

# DATA CLEANING AND PREPROCESSING



## Data Quality Checks

### Errors, Null Values, Duplicates and Data Types

- All errors, null values, and duplicates were resolved.
- Data types were verified and found accurate.



## Data Enhancement

### Measures Added

- Total Sales,
- Total Profits,
- Total Orders,
- Total Customers

### New Columns Created

- Cost of Goods Sold (COGS),
- Days to Reach,
- Order Year



## Table Relationships

### Linked Tables

- Orders and People (Region),
- Orders and Returns (Order ID),
- Orders and Shipping Cost (State).



## Outcome

The dataset is clean, well-structured, and ready for analysis, supporting detailed insights into sales performance and customer behavior.

# BASIC KPIs

Total Sales	Total Profits	Total Orders	Total Customers	AOV
\$ 2297.20K	\$ 286.40K	5009	793	\$458.61

- **Sales:** Our sales reached \$2.3 million, indicating strong market demand.
- **Profits:** We achieved \$286.4K in profits, reflecting effective cost management.
- **Orders:** We processed 5009 orders, showcasing our operational efficiency.
- **Customers:** We served 793 customers, demonstrating broad market engagement.
- **Average Order Value (AOV):** The AOV stands at \$458.61, highlighting the value of each customer transaction.

# EXPLORATORY DATA ANALYSIS

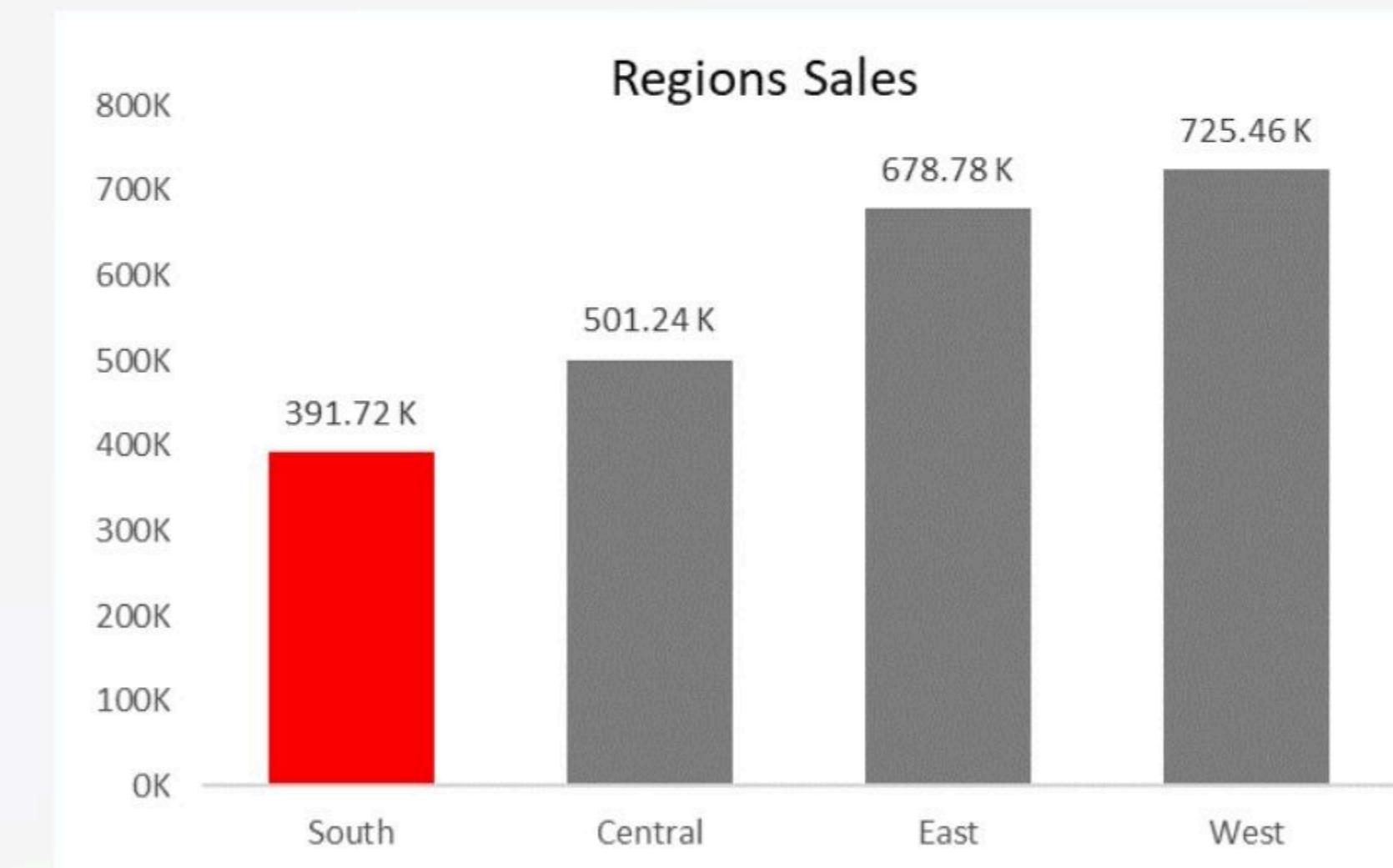
- The sales data reveals a consistent upward trend throughout the year, with notable increases in the later months.
- This growth underscores our expanding market presence and the effectiveness of our sales strategies.
- The positive trend indicates successful marketing efforts and strong customer engagement, positioning us well for continued success.



# REGIONS SALES ANALYSIS

Sales performance shows a clear regional disparity, with the West leading in sales at \$725.46K, while the South region lags significantly behind, which we have to take some steps to solve, such as:

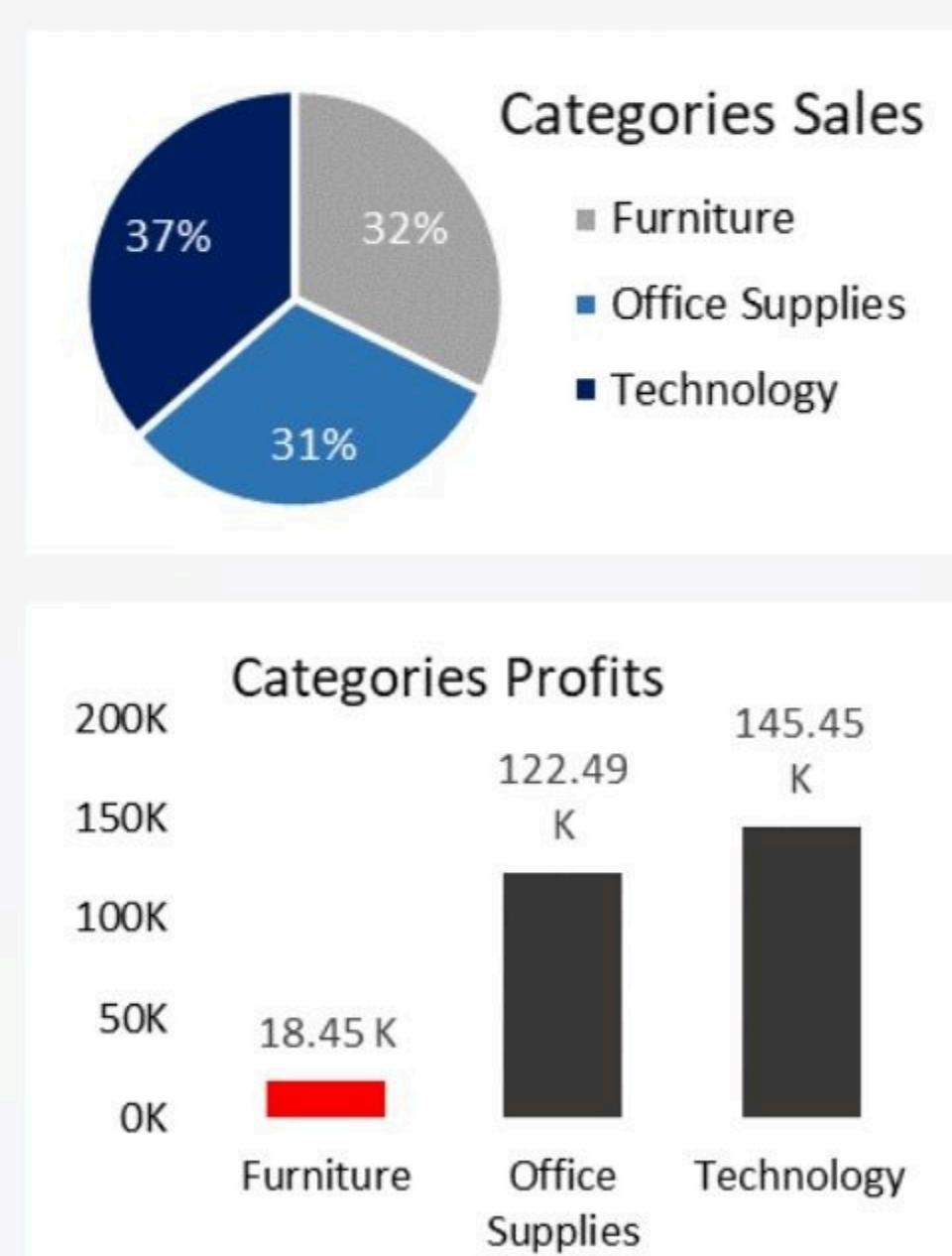
Focus on enhancing sales strategies in the underperforming South region, potentially through targeted marketing efforts, sales team evaluations, and region-specific promotions to drive improvement.



# CATEGORIES ANALYSIS

Sales performance across Office Supplies, Furniture, and Technology appears balanced, but profit margins reveal a significant issue in the Furniture category, which has notably lower profits despite high sales.

To address this, we should focus on conducting a thorough cost analysis to identify high costs or inefficiencies, optimize the supply chain, consider renegotiating supplier contracts, and increase targeted marketing efforts for high-margin items that could enhance overall profitability.

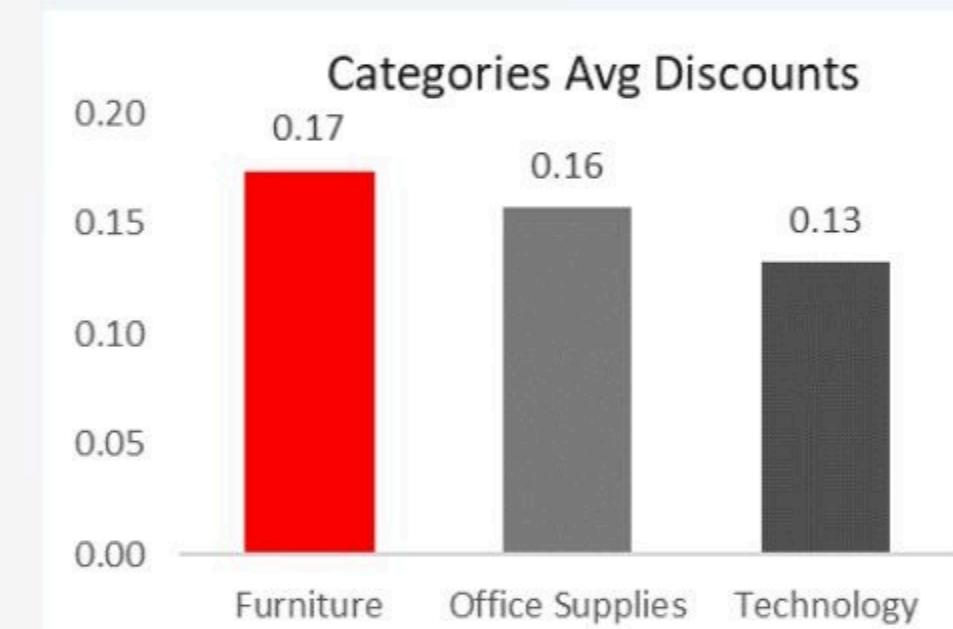


# DISCOUNT & PROFIT

The data shows that increasing discount levels generally leads to a decrease in average profit, with profits turning negative at higher discount rates. While a 10% discount increases profit, discounts above 15% have a significant negative impact.

This trend is particularly evident in the Furniture category, where higher discounts have contributed to its low profitability.

The findings suggest a need for a more balanced discount strategy, especially for Furniture, to boost sales without eroding overall profit margins.



# KEY FINDINGS

- 1. Regional Sales Performance:** Sales performance varies significantly across regions, with the West leading and the South lagging. This uneven distribution highlights the need for targeted strategies to improve sales in underperforming regions, particularly the South.
- 2. Category Profits:** Although sales are balanced across categories, the Furniture category struggles with low profitability compared to Office Supplies and Technology. This indicates potential operational or pricing challenges within the Furniture category that need to be addressed to improve overall profitability.
- 3. Discount Impact on Profit:** Higher discount levels are strongly associated with declining profits, especially within the Furniture category. The steep drop in profits at higher discounts suggests that the current discounting strategy is undermining profitability, signaling the need for a more refined approach to discount management.

# CONCLUSION

The analysis has highlighted a positive overall sales trend, showcasing the Superstore's growth potential.

However, to further enhance sales and profitability, it is crucial to:

- address regional sales disparities,
- refine discount strategies,
- and optimize pricing for key categories.

These targeted improvements can significantly boost financial performance and elevate customer satisfaction.



# RECOMMENDATIONS

## **Target Underperforming Regions:**

Implement targeted marketing campaigns in regions like the South and consider regional pricing strategies to boost sales and profitability.

## **Improve Category Profitability:**

Specifically, focus on the Furniture category by optimizing operational efficiency and adjusting pricing to align better with profit goals.

## **Refine Discount Strategies:**

Reduce the frequency and depth of discounts in categories like Furniture where they significantly impact profit margins, and consider targeted discounts for high-inventory products.

## **Optimize Pricing and Cost Management:**

Reevaluate pricing for low-margin products such as Phones and Chairs, focusing on reducing costs to improve profitability.

# NEXT STEPS

- 1. Deeper Product-Level Analysis:** Conduct a more granular analysis of individual products to identify specific items that are driving profit or loss.
- 2. Customer Behavior Analysis:** Analyze customer purchasing patterns and lifetime value to tailor marketing efforts more effectively.
- 3. Sales Forecasting:** Implement predictive modeling to forecast future sales trends and adjust inventory and marketing strategies accordingly.
- 4. Experimentation and Testing:** Test different discounting and pricing strategies in a controlled manner to evaluate their impact on sales and profitability before a full rollout.



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Thank you for your attention!  
I'd now like to open the floor for any questions or discussion.