

Central Region Superstore

Sales & Profitability Dashboard

README & Project Documentation

1. Project Overview

This dashboard analyzes sales, profitability, and discount behavior across 13 US Central Region states using data from the Superstore dataset.

2. Data Cleaning Steps

2.1 Power Query Transformations

- Removed all blank/null rows across all 21 columns using Remove Empty Rows in Power Query.
- Removed duplicate rows using Remove Duplicates on the full table
- Verified and corrected column data types.
- Trimmed whitespace from text columns (State, City, Customer Name) to avoid grouping errors.

2.2 DAX Measures Created

- Total Sales = SUM(Orders[Sales])
- Total Profit = SUM(Orders[Profit])
- Profit Margin % = DIVIDE([Total Profit], [Total Sales], 0)
- Avg Discount = AVERAGE(Orders[Discount])
- Loss Orders = CALCULATE(COUNTROWS(Orders), Orders[Profit] < 0)
- Profit by State = CALCULATE([Total Profit], ALLEXCEPT(Orders, Orders[State]))

3. Key Insights

3.1 Discount Is Killing Profit

The most critical finding in this dataset: high discounts directly cause profit losses. The data shows this pattern clearly:

Discount Range	Avg Profit per Order	# of Orders	Total Profit
0% – 10%	\$106.56	18	+\$1,918
10% – 20%	\$16.85	834	+\$14,055
20% – 30%	-\$44.50	147	-\$6,541
30% – 40%	-\$126.45	40	-\$5,058
40% – 50%	-\$239.43	18	-\$4,310

50%+	-\$83.30	438	-\$36,484
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Any discount above 20% flips profitability into the negative. Orders with 50%+ discounts (438 orders) generated a combined loss of over \$36,000.

3.2 Texas and Illinois Are the Biggest Profit Problems

- Texas: \$170,188 in sales but a \$25,729 net LOSS. Avg discount: 37%. Highest order volume (985 orders).
- Illinois: \$80,166 in sales but a \$12,608 net LOSS. Avg discount: 39%.
- Both states have high revenue but are deeply unprofitable due to discounting rates.
- Michigan & Indiana are the healthiest states, since discount rates aren't as high as other states

3.3 Category Performance

Category	Total Sales	Total Profit
Technology	\$170,416	+\$33,697
Office Supplies	\$167,026	+\$8,880
Furniture	\$163,797	-\$2,871

- Furniture is the only category running at a loss — driven mainly by Tables (-\$3,560) and Furnishings (-\$3,906) and might be cause Furniture is seen least important and only bought when its necessity or times of great discounts
- Technology is the top performer with \$33,697 profit, led by Copiers and Phones and that because tech is a lot of way of work and contention so people are quick to replace it and also used or repaired cost very closely to full price so most buy new.

3.4 Worst Performing Sub-Categories

- Furnishings: -\$3,906 profit
- Tables: -\$3,560 profit
- Appliances: -\$2,639 profit
- Bookcases: -\$1,998 profit

All four are in the Furniture category and share a pattern of high discounting. These sub-categories should be flagged for pricing review.

4. Recommendations

- Cap discounts at 20% company-wide — any discount above this threshold consistently produces losses.
- Texas and Illinois need an immediate discount policy since their extreme loss
- Prioritize Technology sales (especially Copiers and Phones)
- Consider discontinuing or repricing Furniture sub-categories (Tables, Furnishings) as they are loss-making even at low discount levels.

- Indiana and Michigan are model markets — replicate their low-discount, healthy-margin approach in other states.

5. Tools & Methods

Tool	Usage
Power Query	Data import, cleaning, type casting, filtering to Central Region
DAX	Calculated measures: Total Sales, Profit Margin %, Avg Discount, Loss Orders
Power BI Visuals	Filled Map, Bar Charts, KPI Cards, Slicers, Tooltips
Custom HTML Map	Interactive US region map embedded via Power BI Web Content visual

Dataset: Central_Superstore.xlsx | 2,323 rows | 21 columns | 0 nulls | 0 duplicates