

# **Superstore**

## **Sales & Profitability Analysis**

**A Business Analyst's Approach to  
Retail Performance Insights**

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# Introduction

This project analyzes Superstore's sales data to uncover insights that improve profitability and guide strategic decisions. Using Excel tools like Pivot tables, charts, and trendlines, it evaluates product performance, regional strategies, shipping efficiency, and sales trends-highlighting key issues and providing actionable, data-driven recommendations.

# Agenda

( A structured view of what the presentation covers )

- Executive Summary
- Key Business Questions
- Data overview and Preparation Summary
- Workbook Sheet Structure
- Analysis Framework-Thematic Domains
- Assumptions & Limitations
- Conclusion & Way Forward

# Executive Summary

## Objective :

To analyze Superstore's sales, profit, discounting, and shipping data using Excel to identify key performance issues and provide data-driven, quantifiable business recommendations to enhance profitability and operational efficiency.

## Dataset :

U.S. Superstore sales dataset consisting of 9,994 records from 2014 to 2017.

## Skills Demonstrated :

- Data cleaning, Preparation & Transformation
- Advanced Excel Pivot Tables and Visualizations
- Multidimensional Trend and Profitability Analysis
- Forecasting with Trendlines ( $R^2$  interpretation)
- Actionable Business Insights and Dashboard Reporting

# Key Business Questions

- Which product categories are generating the highest sales but lowest profits, and why?
  - Identifies profitability gaps across product categories.
- How do discounts impact profitability across different sub-categories?
  - Reveals whether discounts are improving sales or harming margins.
- How do different sub-categories compare in terms of average profit vs average discount?
  - Assess discount sensitivity across product lines.
- Which regions are underperforming in terms of profit despite strong sales?
  - Highlights geographical imbalances in performance.
- How is shipping mode affecting overall profit and delivery time?
  - Assess the impact of logistics choices on cost efficiency.
- What monthly trends can we observe in sales and profit over time?
  - Helps in planning inventory and budgeting based on seasonality.

# Data Overview and Preparation Summary

## ❑ Original Dataset Summary

- **Source:** Kaggle - Superstore Sales Dataset
- **Time Period:** January 2104-December 2017
- **Total Records:** 9,994
- **Original Columns:** 21

## ❑ Data Fields Summary

- **Order Information:**  
Row ID, Order ID, Order Date, Ship Date, Order Month-Year (Added), Shipping Time (Added),  
Ship Mode

- **Customer Information :**  
Customer ID, Customer Name, Segment
- **Location Information :**  
Country, City, State, Postal Code, Region
- **Product Information :**  
Product ID, Category, Sub-Category, Product Name
- **Sales performance Metrics :**  
Sales, Quantity, Discount, Profit, Profit Margin (Added)

## ❑ **Data Cleaning and Preparation**

- **Hidden Columns : 12**  
Row Data, Order ID, Customer ID, Customer Name, Segment, Country, City, State, Postal Code, Product ID, Product Name.  
( Columns not relevant for analysis were hidden to avoid clutter )

## ❑ Data Enrichment

- **Dataset Converted into Excel Table**

*Purpose:* To enable structured referencing, easier formatting, and dynamic range handling

*Table Name:* Superstore\_Sales\_Insights

- **Addition of Custom Columns : 3**

- **Order Month-Year**

*Formula Used:* =TEXT([@[Order Date]],"mmm-yyyy")

*Purpose:* Convert daily dates into a Month-Year format

*Used to:* Group orders by month for trend analysis

*Insight:* Identified monthly sales and profit trends, highlighting peak and low-performance periods.



- Profit Margin

*Calculated as:*  $=[@Profit]/[@Sales]$

( formatted as a percentage )

*Purpose:* To assess product-level profitability with better precision

*Used to:* Identify items with high sales but low profit efficiency

*Insight:* Supported margin-focused pricing strategy

- Shipping Time

*Calculated as:*  $=[@[Ship Date]]-[@[Order Date]]$

*Purpose:* Measured delivery speed to assess shipping performance and delivery efficiency

*Used to:* Enabled filtering of unreliable and inaccurate data

*Insight:* Identified patterns in shipping delays affecting customer satisfaction & profitability

- Created Named Ranges

*Purpose:* To simplify formula writing and improve clarity across sheets

*Method:* Used header-based named range creation after selecting the visible data

## ❑ Data Quality Check

- **Invalid Values in Shipping Time**
  - Found some negative values – Data Inaccuracy (e.g., Ship date before Order date)
  - Filtered to include only valid entries (  $\geq 0$  )
  - Ensures invalid / inaccurate data is not included in our analysis

# Workbook Sheet Structure

## 1. Instructions Guide

Workbook navigation help, sheet descriptions.

## 2. Cleaned Data Sheet

Structured, enriched, and validated dataset prepared for analysis.

## 3. Analysis Domain Overview

Describes the four key business themes guiding the analysis.

## ( Excel Sheets 4 – 12 contains Pivot Analysis Sheets [ 1-6 ] )

{ Each contains: Analysis Objective, Pivot Table, Chart, Key Insights, Identified Issues, Business Recommendations, and Expected Impact. }

## 4. Analysis Domain 1 – Pivot 1 ( Category-wise Sales & Profitability Overview )

Broad-level product view revealing underperforming categories.

5. **Analysis Domain 1 – Pivot 2 ( Sub-Category Performance Efficiency Matrix )**  
To analyze performance efficiency across sub-categories
6. **Analysis Domain 1 – Pivot 3 ( Discount Efficiency vs Profitability Analysis )**  
To evaluate discount efficiency at the sub-category level.
7. **Analysis Domain 2 – Pivot 4 ( Sales & Profitability Performance by Region )**  
Contains multiple regional insights plus three deep-dive pivots,  
( [a] Regional Sales, Profitability, & Discount Analysis,  
[b] Regional Sales & Profitability by Shipping Mode,  
[c] Category & Sub-Category Profitability Analysis )  
based on this core analysis.
8. **Analysis Domain 2 – Pivot 4 ( Central Region Recommendations )**  
Focused recovery strategy for Central Region based on in-depth findings.

9. **Analysis Domain 2 – Pivot 4 ( Action Plan – Quarterly Implementation )**  
Stepwise strategy deployment across 4 quarters.
10. **Analysis Domain 2 – Pivot 4 ( Simulation & Financial Impact Analysis )**  
Estimates profit improvements from recommended actions.
11. **Analysis Domain 3 – Pivot 5 ( Shipping Mode Performance Analysis )**  
To most cost-effective and profitable Shipping mode.
12. **Analysis Domain 4 – Pivot 6 ( Revenue & Profitability Trend Analysis )**  
Support seasonal strategy and long-term planning with Trendline Interpretation.
13. **Business Recommendations Summary**  
Final consolidated view of Key Issues, Strategic Fixes, Metrics, and Outcomes.

# Analysis Framework-Thematic Domains

## Rationale behind Thematic Grouping of Pivot Analyses

To ensure strategic clarity, the six pivot analyses were grouped into *four Thematic Analysis Domains*, each targeting a specific business area to mirror real-world focus areas .

Each domain reflects a distinct area of business performance-Product level profitability, Regional Optimization, Shipping efficiency, and Revenue trends-allowing targeted, actionable insights rather than fragmented observations.

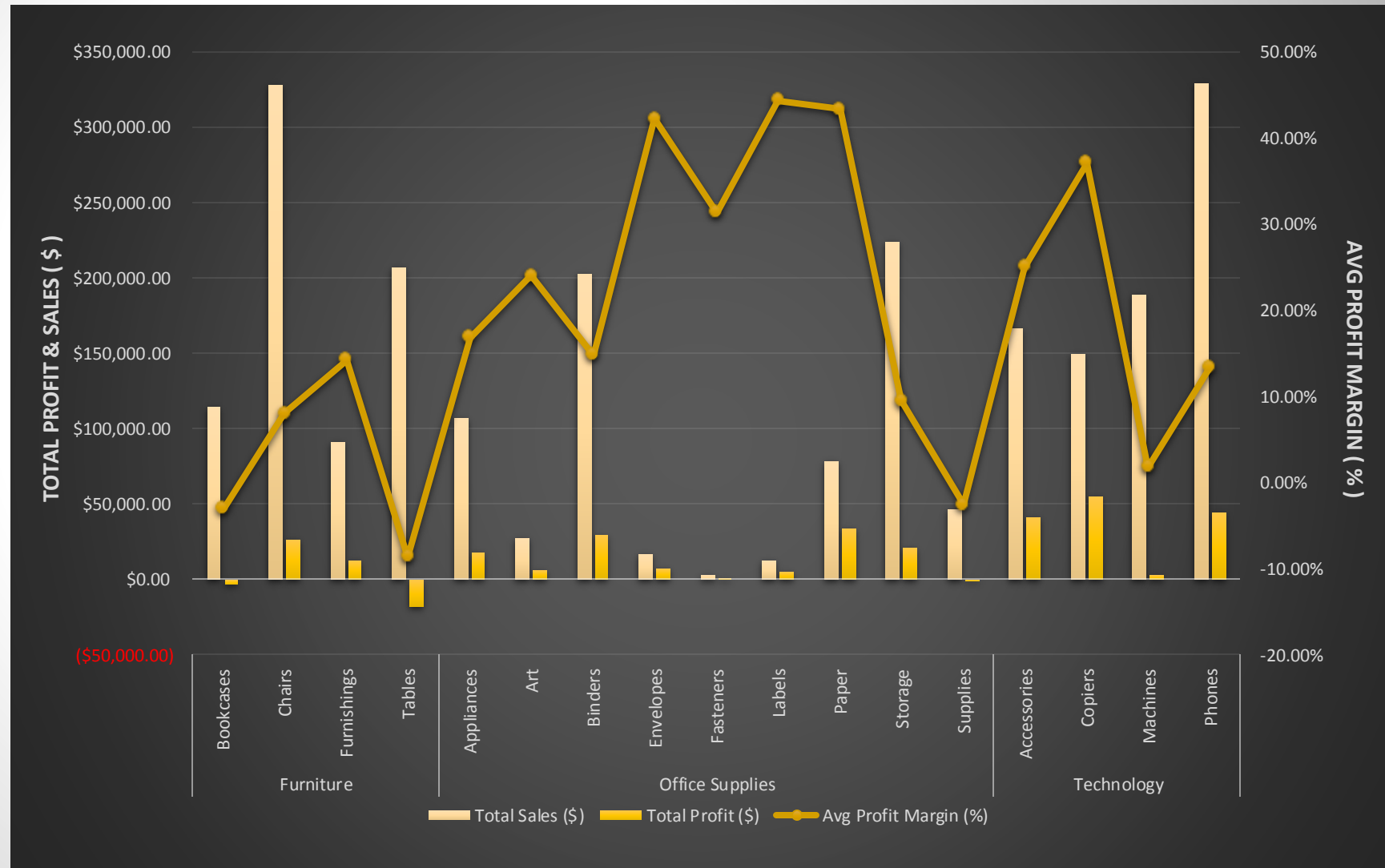
## Why Central Region Deep Dive?

While analyzing regional sales and profitability, the Central Region emerged as a critical concern area. Despite contributing significantly to overall sales volume, its profit margins were consistently lower, and discounting patterns appeared disproportionately high compared to other regions.

# 1. Domain 1 : Sub-Category Profitability Optimization

- Pivot 1 : Category wise Sales & Profitability Overview

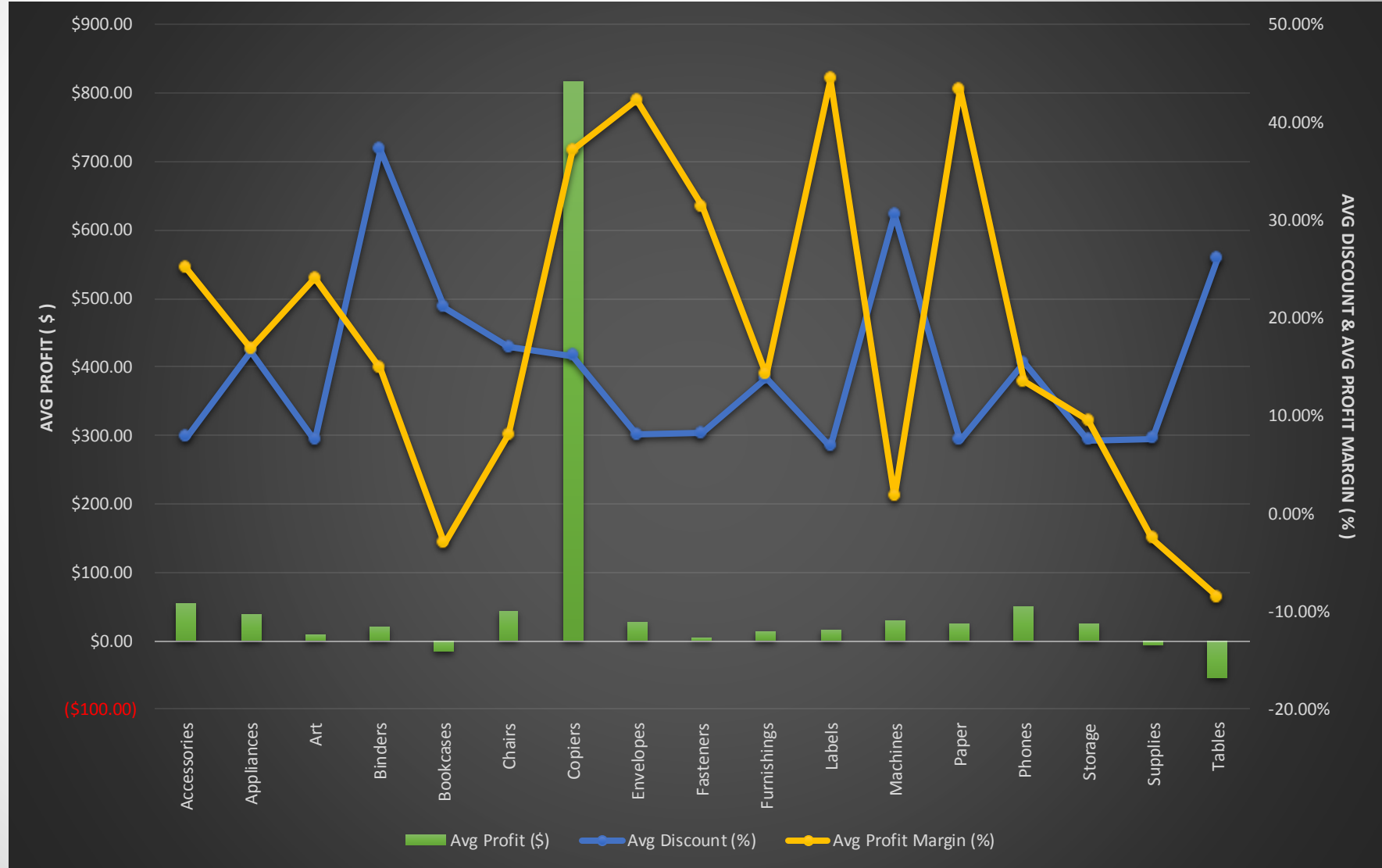
Row Labels	Total Sales (\$)	Total Profit (\$)	Avg Profit Margin (%)
Furniture	\$741,999.80	\$18,451.27	2.49%
Bookcases	\$114,880.00	(\$3,472.56)	-3.02%
Chairs	\$328,449.10	\$26,590.17	8.10%
Furnishings	\$91,705.16	\$13,059.14	14.24%
Tables	\$206,965.53	(\$17,725.48)	-8.56%
Office Supplies	\$719,047.03	\$122,490.80	17.04%
Appliances	\$107,532.16	\$18,138.01	16.87%
Art	\$27,118.79	\$6,527.79	24.07%
Binders	\$203,412.73	\$30,221.76	14.86%
Envelopes	\$16,476.40	\$6,964.18	42.27%
Fasteners	\$3,024.28	\$949.52	31.40%
Labels	\$12,486.31	\$5,546.25	44.42%
Paper	\$78,479.21	\$34,053.57	43.39%
Storage	\$223,843.61	\$21,278.83	9.51%
Supplies	\$46,673.54	(\$1,189.10)	-2.55%
Technology	\$836,154.03	\$145,454.95	17.40%
Accessories	\$167,380.32	\$41,936.64	25.05%
Copiers	\$149,528.03	\$55,617.82	37.20%
Machines	\$189,238.63	\$3,384.76	1.79%
Phones	\$330,007.05	\$44,515.73	13.49%
Grand Total	\$2,297,200.86	\$286,397.02	12.47%



# 1. Domain 1 : Sub-Category Profitability Optimization

- Pivot 2 : Sub-Category Performance Efficiency Matrix

Row Labels	Avg Profit (\$)	Avg Discount (%)	Avg Profit Margin (%)
Accessories	\$54.11	7.85%	25.05%
Appliances	\$38.92	16.65%	16.87%
Art	\$8.20	7.49%	24.07%
Binders	\$19.84	37.23%	14.86%
Bookcases	(\$15.23)	21.11%	-3.02%
Chairs	\$43.10	17.02%	8.10%
Copiers	\$817.91	16.18%	37.20%
Envelopes	\$27.42	8.03%	42.27%
Fasteners	\$4.38	8.20%	31.40%
Furnishings	\$13.65	13.83%	14.24%
Labels	\$15.24	6.87%	44.42%
Machines	\$29.43	30.61%	1.79%
Paper	\$24.86	7.49%	43.39%
Phones	\$50.07	15.46%	13.49%
Storage	\$25.15	7.47%	9.51%
Supplies	(\$6.26)	7.68%	-2.55%
Tables	(\$55.57)	26.13%	-8.56%
Grand Total	\$28.66	15.62%	12.47%

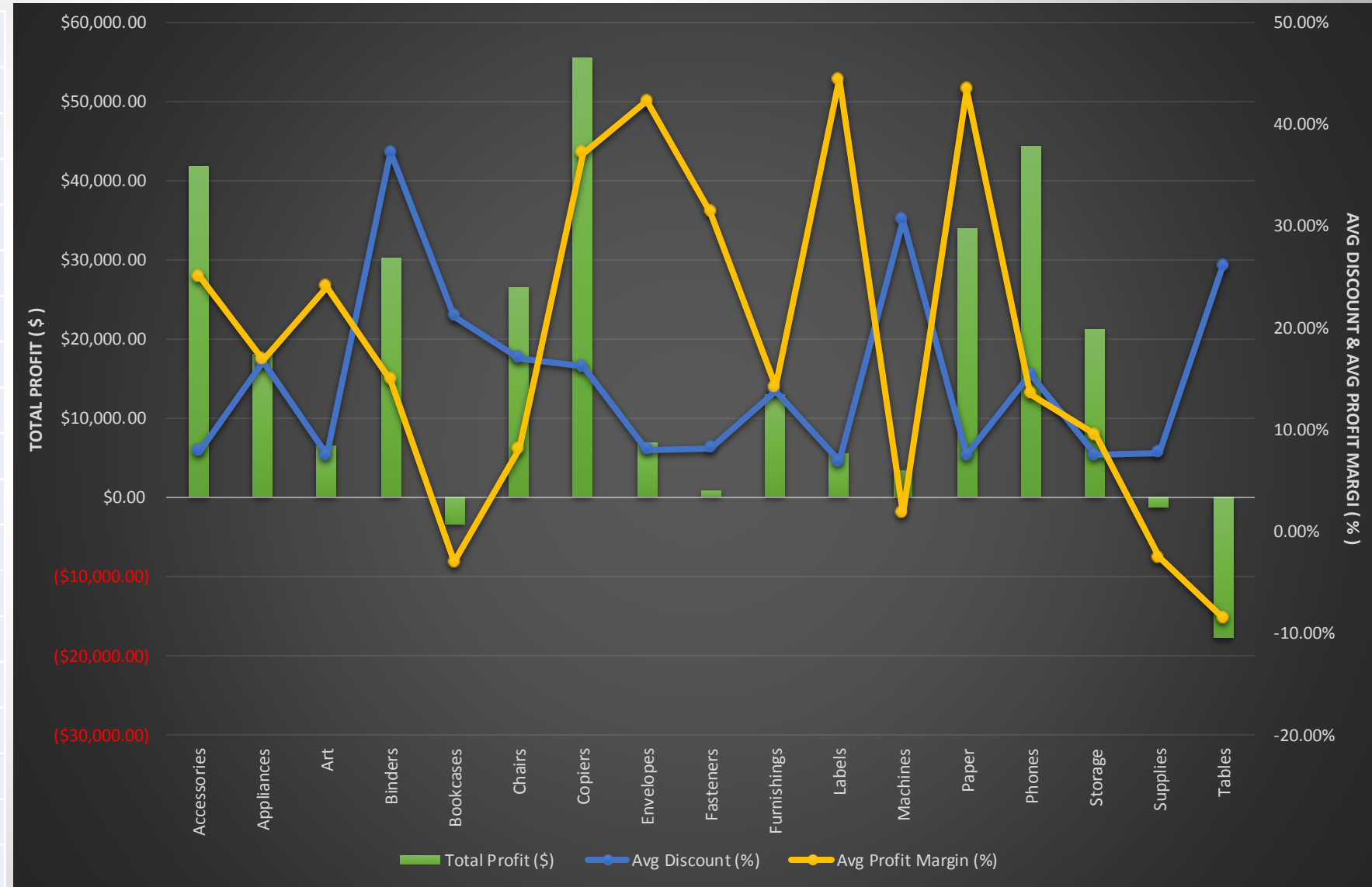




# 1. Domain 1 : Sub-Category Profitability Optimization

- Pivot 3 : Discount Efficiency vs Profitability Analysis

Row Labels	Total Profit (\$)	Avg Discount (%)	Avg Profit Margin (%)
Accessories	\$41,936.64	7.85%	25.05%
Appliances	\$18,138.01	16.65%	16.87%
Art	\$6,527.79	7.49%	24.07%
Binders	\$30,221.76	37.23%	14.86%
Bookcases	(\$3,472.56)	21.11%	-3.02%
Chairs	\$26,590.17	17.02%	8.10%
Copiers	\$55,617.82	16.18%	37.20%
Envelopes	\$6,964.18	8.03%	42.27%
Fasteners	\$949.52	8.20%	31.40%
Furnishings	\$13,059.14	13.83%	14.24%
Labels	\$5,546.25	6.87%	44.42%
Machines	\$3,384.76	30.61%	1.79%
Paper	\$34,053.57	7.49%	43.39%
Phones	\$44,515.73	15.46%	13.49%
Storage	\$21,278.83	7.47%	9.51%
Supplies	(\$1,189.10)	7.68%	-2.55%
Tables	(\$17,725.48)	26.13%	-8.56%
Grand Total	\$286,397.02	15.62%	12.47%



## **Objective :**

Evaluate category and sub-category performance to identify profitability gaps.

## **Key Issues Identified :**

- Furniture category contributes high sales but shows a low average profit margin of only 2.49%
- Certain sub-categories like Tables consistently report negative profits.
- Binders and Appliances deliver high-sales but below-average profit margins.

## **Recommendations :**

- Reassess product pricing and sourcing strategy for Furniture and underperforming sub-categories.
- Discontinue or reposition products with consistent losses.
- Emphasize marketing and bundling of high-margin sub-categories.

## **Quantifiable Measures :**

- Target at least a 5% profit margin for the Furniture category.
- Reduce net losses in Tables by eliminating products with <-5%.
- Increase Binders' and Appliances' margins by 3-4 percentage points.

## **Expected Business Impact :**

- Improved profitability of the overall product mix.
- Better inventory utilization and reduced losses from unprofitable SKUs.
- Increased net profit contribution from core sales-driving categories.

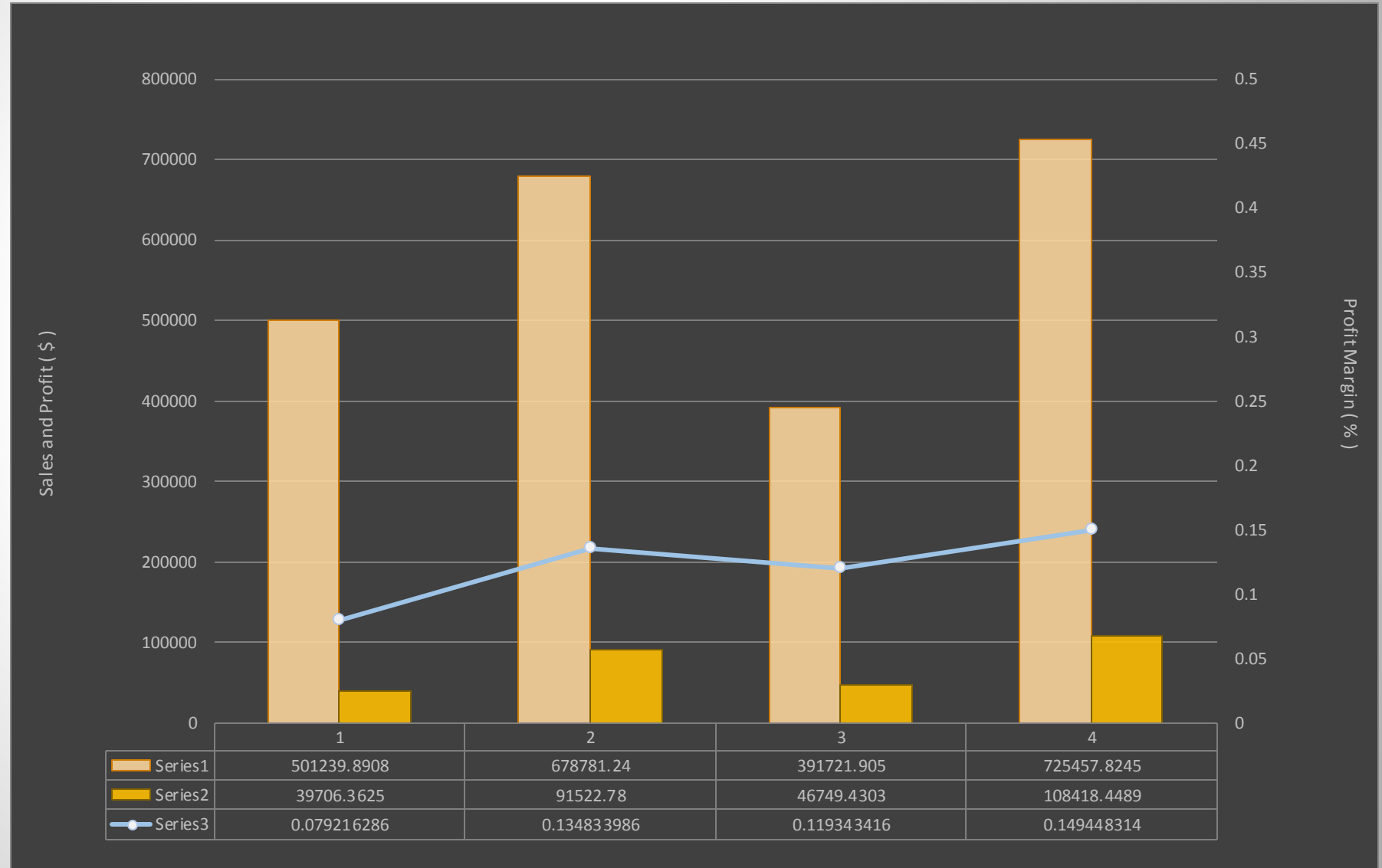
## **Summary:**

The analysis revealed imbalances in sub-category performance, including low-profit-margin products and un-optimized discounting in certain regions. A product-level profitability lens helped pinpoint underperformers and identify high-margin opportunities, laying the groundwork for a more data-driven and profitable portfolio strategy.

## 2. Domain 2 : Regional Performance & Strategic Realignment

- Pivot 4 : Sales and Profitability performance by Region

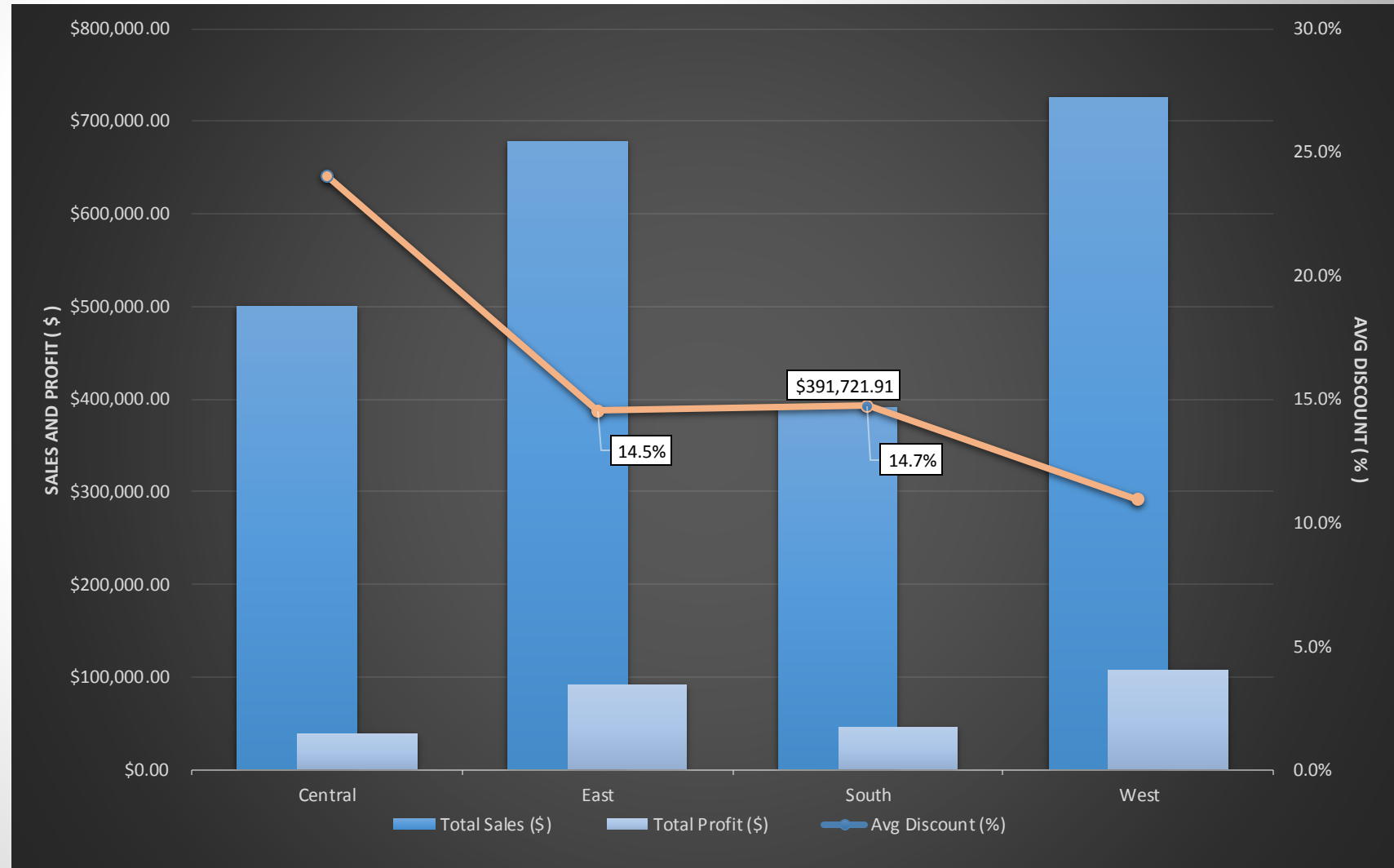
Row Labels	Total Sales (\$)	Total Profit (\$)	Profit Margin (%)
Central	\$501,239.89	\$39,706.36	7.92%
East	\$678,781.24	\$91,522.78	13.48%
South	\$391,721.91	\$46,749.43	11.93%
West	\$725,457.82	\$108,418.45	14.94%
Grand Total	\$2,297,200.86	\$286,397.02	12.47%



## 2. Domain 2 : Regional Performance & Strategic Realignment

- Pivot 4 : Sales and Profitability performance by Region
- Pivot Table ( a ) : Regional Sales, Profitability, & Discount Analysis

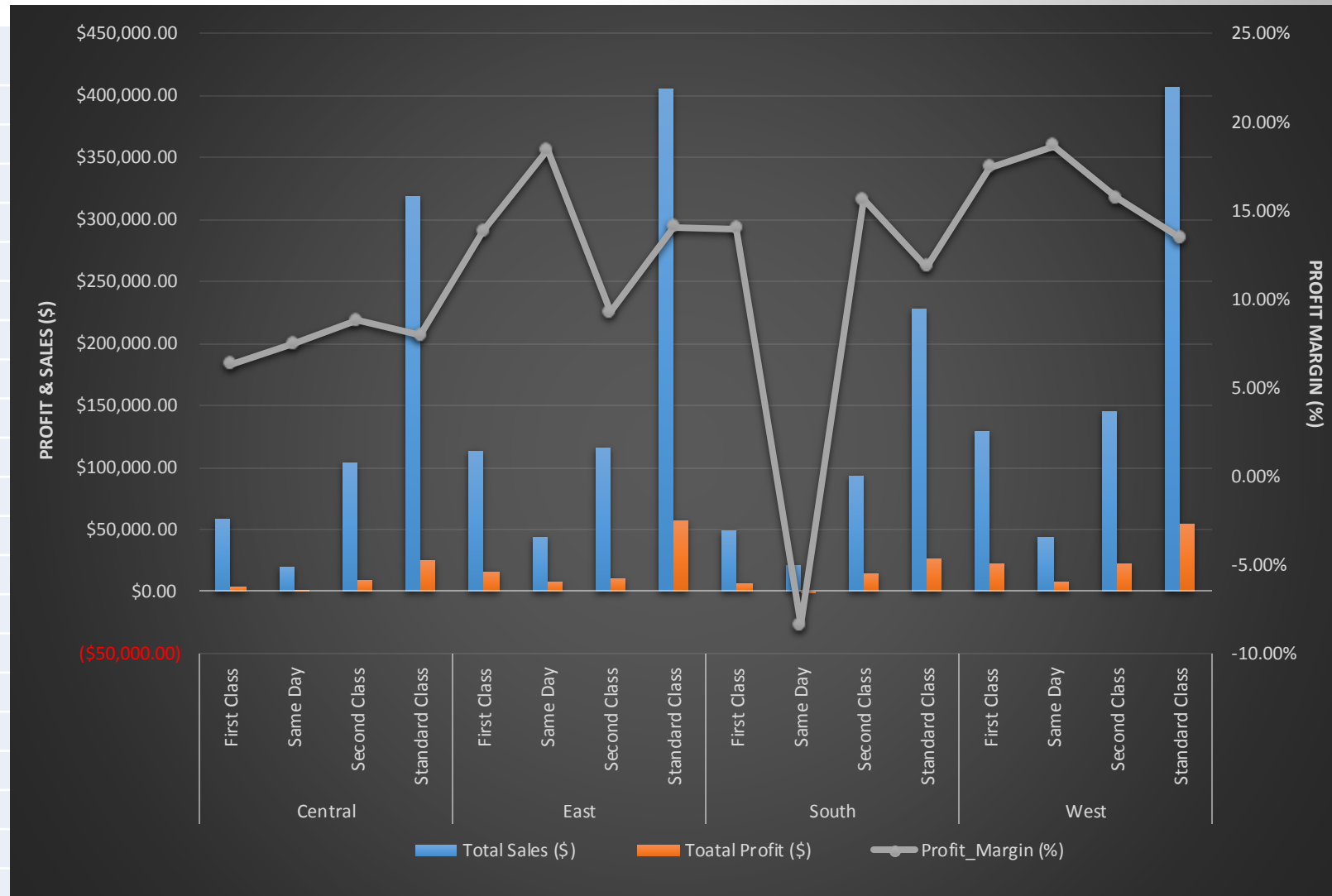
Row Labels	Avg Discount (%)	Total Sales (\$)	Total Profit (\$)
Central	24.0%	\$501,239.89	\$39,706.36
East	14.5%	\$678,781.24	\$91,522.78
South	14.7%	\$391,721.91	\$46,749.43
West	10.9%	\$725,457.82	\$108,418.45
Grand Total	15.6%	\$2,297,200.86	\$286,397.02



## 2. Domain 2 : Regional Performance & Strategic Realignment

- Pivot 4 : Sales and Profitability performance by Region
- Pivot Table ( b ) : Regional Sales and Profitability by Shipping Mode

Row Labels	Total Sales (\$)	Toatal Profit (\$)	Profit_Margin (%)
Central	\$501,239.89	\$39,706.36	7.92%
First Class	\$58,746.92	\$3,707.27	6.31%
Same Day	\$20,415.41	\$1,531.88	7.50%
Second Class	\$103,550.01	\$9,114.83	8.80%
Standard Class	\$318,527.56	\$25,352.38	7.96%
East	\$678,781.24	\$91,522.78	13.48%
First Class	\$113,587.05	\$15,732.01	13.85%
Same Day	\$43,326.83	\$7,980.27	18.42%
Second Class	\$116,545.52	\$10,787.29	9.26%
Standard Class	\$405,321.83	\$57,023.21	14.07%
South	\$391,721.91	\$46,749.43	11.93%
First Class	\$49,332.57	\$6,892.39	13.97%
Same Day	\$21,017.17	(\$1,762.34)	-8.39%
Second Class	\$93,758.61	\$14,667.15	15.64%
Standard Class	\$227,613.55	\$26,952.23	11.84%
West	\$725,457.82	\$108,418.45	14.94%
First Class	\$129,761.89	\$22,638.17	17.45%
Same Day	\$43,603.71	\$8,141.95	18.67%
Second Class	\$145,339.43	\$22,877.36	15.74%
Standard Class	\$406,752.80	\$54,760.97	13.46%
Grand Total	\$2,297,200.86	\$286,397.02	12.47%



## 2. Domain 2 : Regional Performance & Strategic Realignment

- **Pivot 4 :** Sales and Profitability performance by Region
- **Pivot Table ( c ) :** Category & Sub-Category Profitability Analysis

Row Labels	Total Sales (\$)	Total Profit (\$)	Profit Margin (%)
Central	\$501,239.89	\$39,706.36	7.9%
Furniture	\$163,797.16	(\$2,871.05)	-1.8%
Bookcases	\$24,157.18	(\$1,997.90)	-8.3%
Chairs	\$85,230.65	\$6,592.72	7.7%
Furnishings	\$15,254.37	(\$3,906.22)	-25.6%
Tables	\$39,154.97	(\$3,559.65)	-9.1%
Office Supplies	\$167,026.42	\$8,879.98	5.3%
Appliances	\$23,582.03	(\$2,638.62)	-11.2%
Art	\$5,765.34	\$1,195.16	20.7%
Binders	\$56,923.28	(\$1,043.64)	-1.8%
Envelopes	\$4,636.87	\$1,777.53	38.3%
Fasteners	\$778.03	\$236.62	30.4%
Labels	\$2,451.47	\$1,073.08	43.8%
Paper	\$17,491.90	\$6,971.90	39.9%
Storage	\$45,930.11	\$1,969.84	4.3%
Supplies	\$9,467.37	(\$661.89)	-7.0%
Technology	\$170,416.31	\$33,697.43	19.8%
Accessories	\$33,956.08	\$7,251.63	21.4%
Copiers	\$37,259.57	\$15,608.84	41.9%
Machines	\$26,797.38	(\$1,486.07)	-5.5%
Phones	\$72,403.28	\$12,323.03	17.0%

Row Labels	Total Sales (\$)	Total Profit (\$)	Profit Margin (%)
East	\$678,781.24	\$91,522.78	13.5%
Furniture	\$208,291.20	\$3,046.17	1.5%
Bookcases	\$43,819.33	(\$1,167.63)	-2.7%
Chairs	\$96,260.68	\$9,357.77	9.7%
Furnishings	\$29,071.38	\$5,881.41	20.2%
Tables	\$39,139.81	(\$11,025.38)	-28.2%
Office Supplies	\$205,516.06	\$41,014.58	20.0%
Appliances	\$34,188.47	\$8,391.41	24.5%
Art	\$7,485.76	\$1,899.94	25.4%
Binders	\$53,498.00	\$11,267.93	21.1%
Envelopes	\$4,375.87	\$1,812.41	41.4%
Fasteners	\$819.72	\$263.99	32.2%
Labels	\$2,602.93	\$1,129.28	43.4%
Paper	\$20,172.60	\$9,015.37	44.7%
Storage	\$71,612.58	\$8,389.37	11.7%
Supplies	\$10,760.12	(\$1,155.14)	-10.7%
Technology	\$264,973.98	\$47,462.04	17.9%
Accessories	\$45,033.37	\$11,195.86	24.9%
Copiers	\$53,219.46	\$17,022.84	32.0%
Machines	\$66,106.17	\$6,928.64	10.5%
Phones	\$100,614.98	\$12,314.69	12.2%



## 2. Domain 2 : Regional Performance & Strategic Realignment

- Pivot 4 : Sales and Profitability performance by Region
- Pivot Table ( c ) : Category & Sub-Category Profitability Analysis

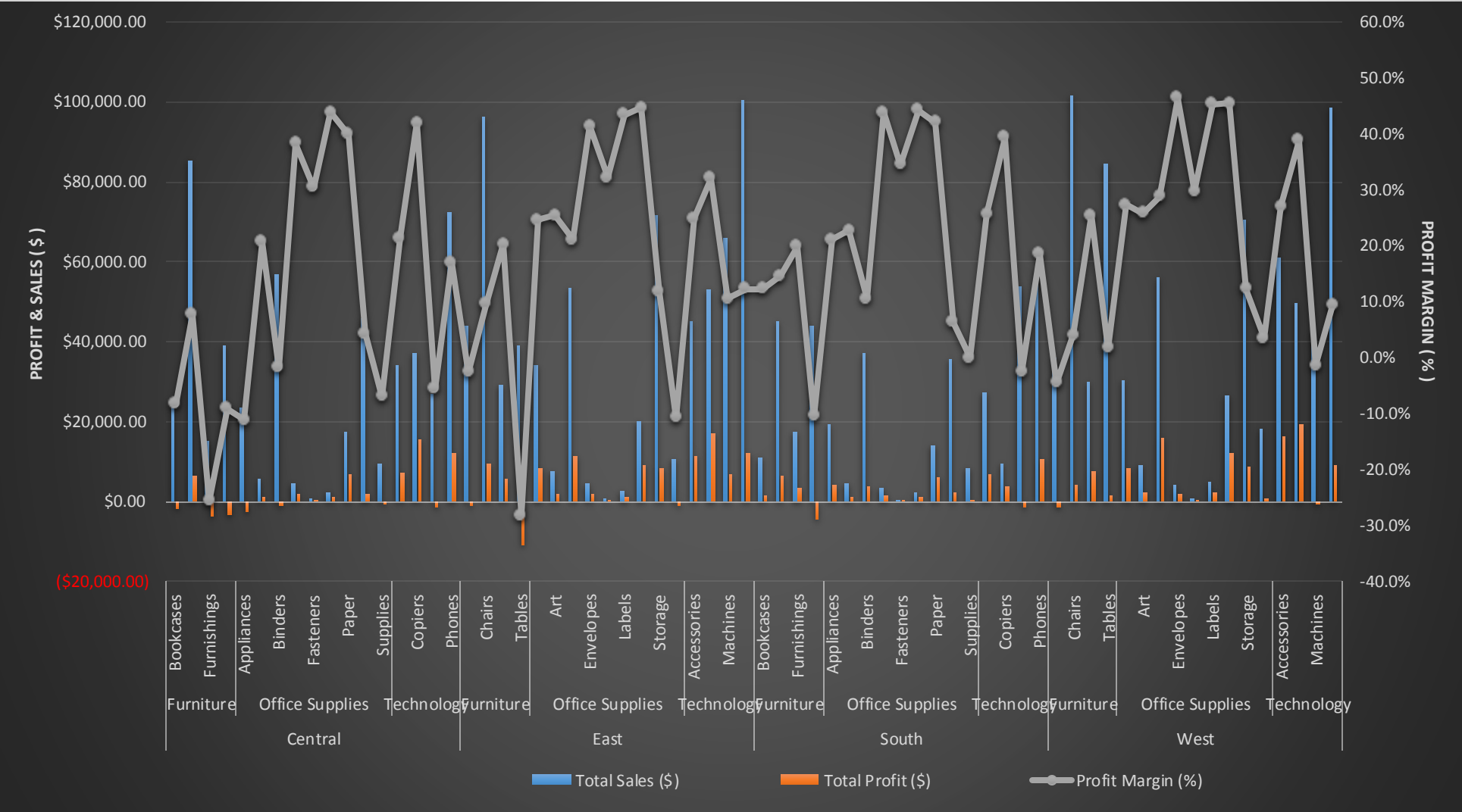
Row Labels	Total Sales (\$)	Total Profit (\$)	Profit Margin (%)
South	\$391,721.91	\$46,749.43	11.9%
Furniture	\$117,298.68	\$6,771.21	5.8%
Bookcases	\$10,899.36	\$1,339.49	12.3%
Chairs	\$45,176.45	\$6,612.09	14.6%
Furnishings	\$17,306.68	\$3,442.68	19.9%
Tables	\$43,916.19	(\$4,623.06)	-10.5%
Office Supplies	\$125,651.31	\$19,986.39	15.9%
Appliances	\$19,525.33	\$4,123.94	21.1%
Art	\$4,655.62	\$1,058.59	22.7%
Binders	\$37,030.34	\$3,900.66	10.5%
Envelopes	\$3,345.56	\$1,465.48	43.8%
Fasteners	\$503.32	\$173.72	34.5%
Labels	\$2,353.18	\$1,040.77	44.2%
Paper	\$14,150.98	\$5,947.06	42.0%
Storage	\$35,768.06	\$2,274.30	6.4%
Supplies	\$8,318.93	\$1.88	0.0%
Technology	\$148,771.91	\$19,991.83	13.4%
Accessories	\$27,276.75	\$7,004.54	25.7%
Copiers	\$9,299.76	\$3,658.91	39.3%
Machines	\$53,890.96	(\$1,438.89)	-2.7%
Phones	\$58,304.44	\$10,767.28	18.5%

Row Labels	Total Sales (\$)	Total Profit (\$)	Profit Margin (%)
West	\$725,457.82	\$108,418.45	14.9%
Furniture	\$252,612.74	\$11,504.95	4.6%
Bookcases	\$36,004.12	(\$1,646.51)	-4.6%
Chairs	\$101,781.33	\$4,027.58	4.0%
Furnishings	\$30,072.73	\$7,641.27	25.4%
Tables	\$84,754.56	\$1,482.61	1.7%
Office Supplies	\$220,853.25	\$52,609.85	23.8%
Appliances	\$30,236.34	\$8,261.27	27.3%
Art	\$9,212.07	\$2,374.10	25.8%
Binders	\$55,961.11	\$16,096.80	28.8%
Envelopes	\$4,118.10	\$1,908.76	46.4%
Fasteners	\$923.22	\$275.19	29.8%
Labels	\$5,078.73	\$2,303.12	45.3%
Paper	\$26,663.72	\$12,119.24	45.5%
Storage	\$70,532.85	\$8,645.32	12.3%
Supplies	\$18,127.12	\$626.05	3.5%
Technology	\$251,991.83	\$44,303.65	17.6%
Accessories	\$61,114.12	\$16,484.60	27.0%
Copiers	\$49,749.24	\$19,327.24	38.8%
Machines	\$42,444.12	(\$618.93)	-1.5%
Phones	\$98,684.35	\$9,110.74	9.2%
Grand Total	\$2,297,200.86	\$286,397.02	12.5%



## 2. Domain 2 : Regional Performance & Strategic Realignment

- Pivot 4 : Sales and Profitability performance by Region
- Pivot Table ( c ) : Category & Sub-Category Profitability Analysis



## **Objective :**

Understand and improve regional profitability with a focus on the Central Region.

## **Key Issues Identified :**

- Central region shows significantly lower total profit compared to others.
- Overuse of unprofitable sub-categories, excessive discounting, and reliance on low-margin shipping methods.
- Lack of regional differentiation in business strategy.

## **Recommendations :**

- Implement a quarter-wise regional strategy focusing on product mix, discount policy, and shipping optimization.
- Restrict deep discounting and shift to more profitable logistics in Central.
- Reallocate marketing budget to promote higher-margin sub-categories.

## **Quantifiable Measures :**

- Limit discounts to a maximum of 20% for Central.
- Shift 10-15% of sales volume to higher margin shipping methods.
- Increase Central's profit margin by 4-6 percentage points over two quarters.

## **Expected Business Impact :**

- Significant improvement in Central's net profitability.
- More controlled discounting with better margin protection.
- Strong regional performance aligning with business goals.

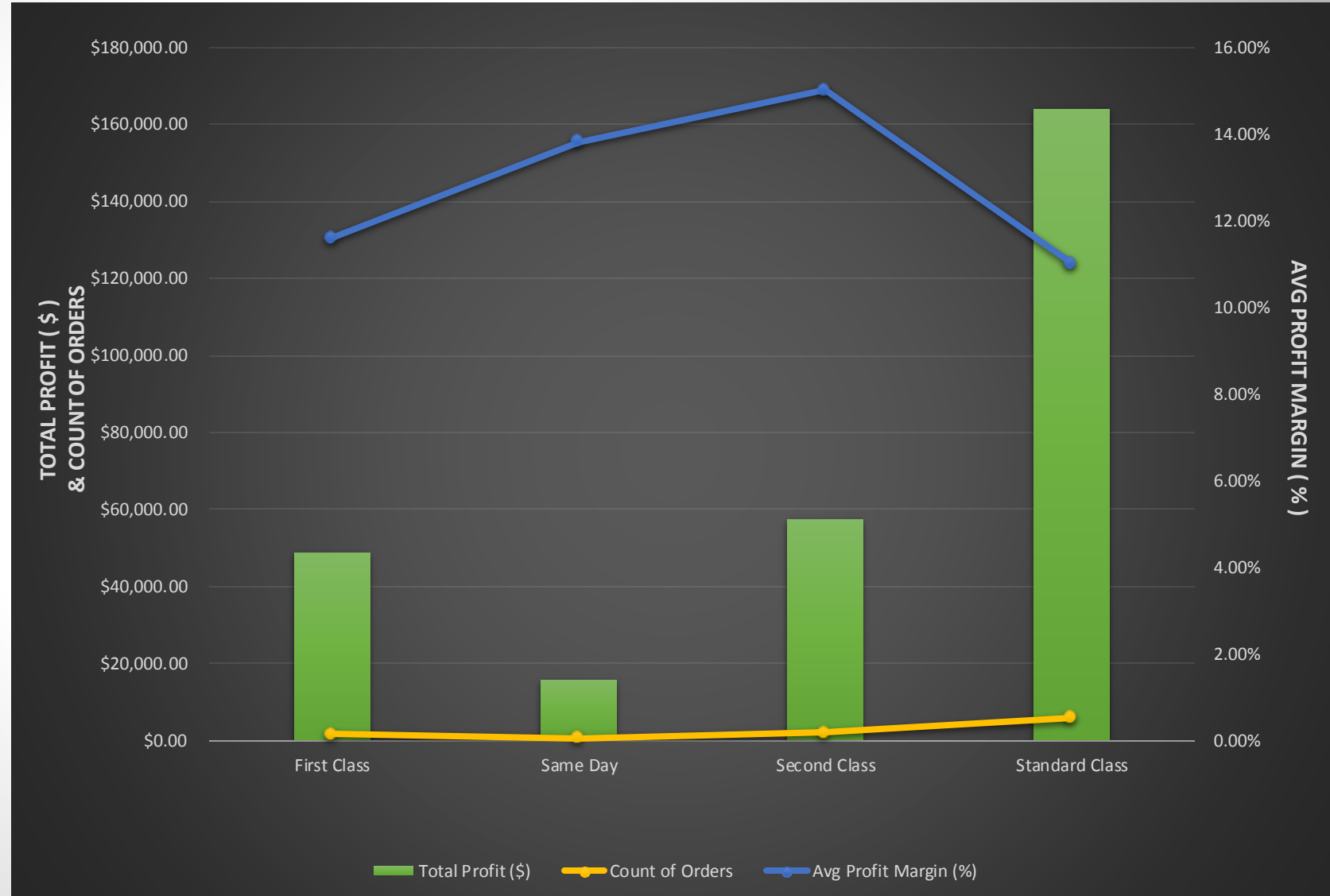
## **Summary:**

Significant regional disparities in profitability, especially within the Central region, were identified. This prompted a deep dive to uncover root causes such as excessive discounting and underperforming product segments, enabling focused corrective strategies at the regional level.

### 3. Domain 3 : Shipping Mode Profitability Optimization

- Pivot 5 : Shipping Mode Performance Analysis

Row Labels	Total Profit (\$)	Avg Profit Margin (%)	Count of Orders
First Class	\$48,969.84	11.59%	1,538
Same Day	\$15,891.76	13.82%	543
Second Class	\$57,446.64	15.02%	1,945
Standard Class	\$164,088.79	11.01%	5,968
Grand Total	\$286,397.02	12.03%	9,994



## **Objective :**

Assess shipping mode impact on profit margins.

## **Key Issues Identified :**

- Standard Class is overused despite being the least profitable shipping method.
- High cost modes ( e.g., Same Day ) show better margins but are underutilized .

## **Recommendations :**

- Rebalance shipping mix to reduce overdependence on Standard Class.
- Introduce incentives on pricing models to shift volume to more efficient modes.

## **Quantifiable Measures :**

- Reduce Standard Class usage by 10-15%.
- Increase higher-margin shipping modes by 8-10%.

### Expected Business Impact :

- Improved overall shipping profitability.
- Reduced operational costs and better delivery time alignment.

### Summary:

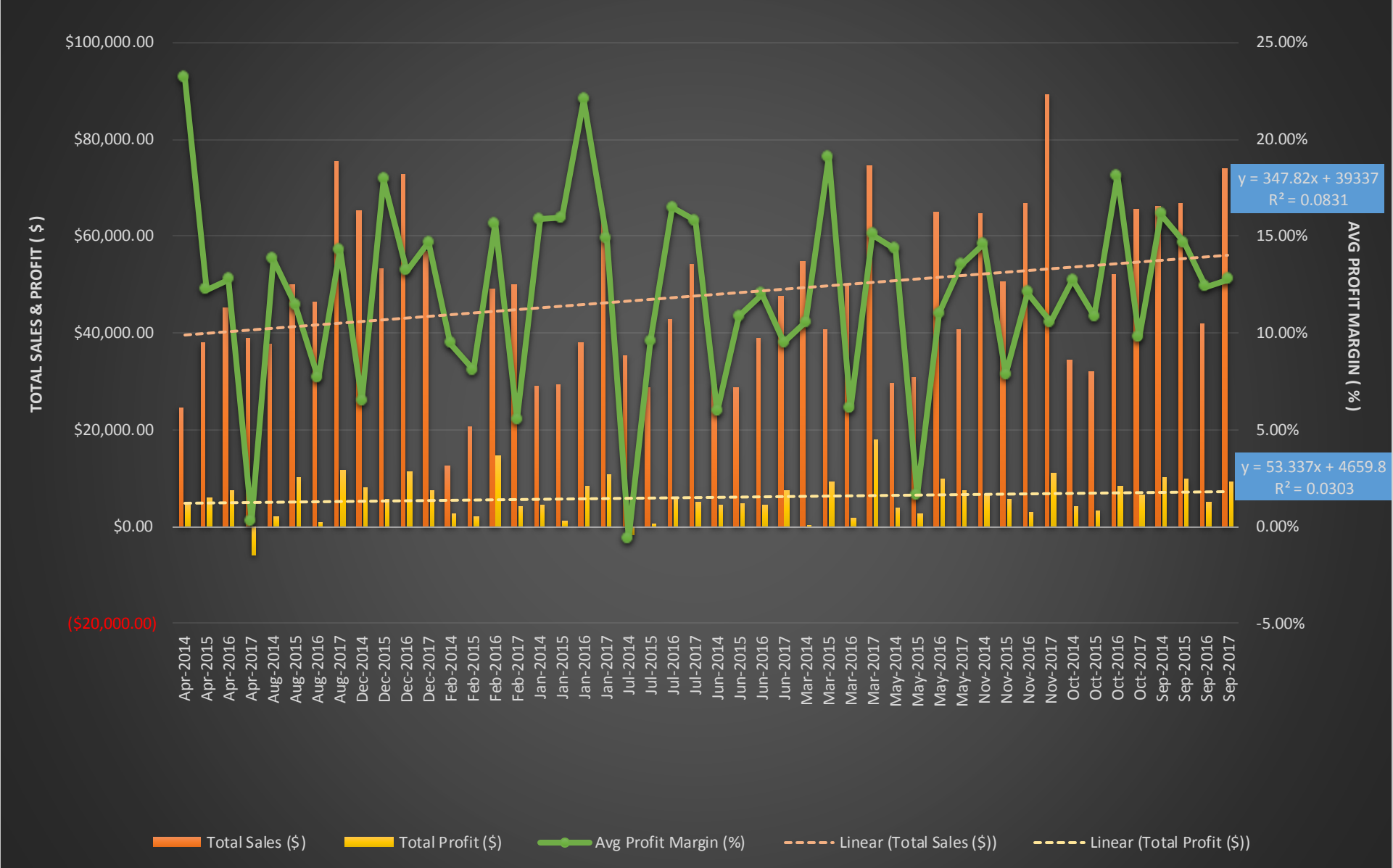
While Standard Class is the dominant shipping method. It contributes the least to profit. This analysis provided insights into how shifting towards more profitable shipping modes can enhance overall shipping efficiency and margin contribution without sacrificing customer satisfaction.

## 4. Domain 4 : Time-Based Sales and Profitability Analysis

- Pivot 6 : Time-Base Profitability Trends

Order Month-Year	Total Sales (\$)	Total Profit (\$)	Avg Profit Margin (%)
Apr-2014	\$24,710.02	\$4,601.07	23.17%
Apr-2015	\$38,056.97	\$6,132.88	12.25%
Apr-2016	\$45,192.28	\$7,423.28	12.77%
Apr-2017	\$39,072.00	(\$5,890.04)	0.28%
Aug-2014	\$37,854.55	\$2,081.27	13.80%
Aug-2015	\$50,094.53	\$10,112.28	11.46%
Aug-2016	\$46,339.99	\$859.45	7.68%
Aug-2017	\$75,675.30	\$11,767.35	14.28%
Dec-2014	\$65,426.31	\$7,975.78	6.52%
Dec-2015	\$53,415.66	\$5,614.71	17.94%
Dec-2016	\$72,954.16	\$11,313.17	13.20%
Dec-2017	\$56,969.20	\$7,413.63	14.68%
Feb-2014	\$12,743.11	\$2,654.56	9.46%
Feb-2015	\$20,728.35	\$2,171.40	8.09%
Feb-2016	\$49,238.41	\$14,683.72	15.64%
Feb-2017	\$50,011.49	\$4,243.97	5.52%
Jan-2014	\$28,953.71	\$4,549.45	15.86%
Jan-2015	\$29,347.39	\$1,237.06	15.92%
Jan-2016	\$38,048.18	\$8,501.17	22.05%
Jan-2017	\$64,734.31	\$10,879.42	14.85%
Jul-2014	\$35,341.25	(\$1,783.54)	-0.60%
Jul-2015	\$28,730.38	\$671.80	9.59%
Jul-2016	\$42,773.40	\$6,122.45	16.46%
Jul-2017	\$54,382.09	\$4,997.94	15.78%

Order Month-Year	Total Sales (\$)	Total Profit (\$)	Avg Profit Margin (%)
Jun-2014	\$29,287.03	\$4,499.74	5.93%
Jun-2015	\$28,862.20	\$4,788.45	10.83%
Jun-2016	\$38,991.94	\$4,480.34	12.00%
Jun-2017	\$47,742.33	\$7,396.38	9.52%
Mar-2014	\$54,801.91	\$92.70	10.53%
Mar-2015	\$40,876.61	\$9,165.68	19.09%
Mar-2016	\$49,612.05	\$1,950.35	6.10%
Mar-2017	\$74,774.08	\$18,127.86	15.07%
May-2014	\$29,639.83	\$3,912.25	14.33%
May-2015	\$30,933.71	\$2,779.40	1.62%
May-2016	\$64,964.32	\$9,975.37	11.00%
May-2017	\$40,882.45	\$7,567.39	13.51%
Nov-2014	\$64,817.62	\$6,653.28	14.60%
Nov-2015	\$50,732.31	\$5,582.40	7.83%
Nov-2016	\$66,837.59	\$3,057.52	12.09%
Nov-2017	\$89,306.24	\$11,141.88	10.54%
Oct-2014	\$34,561.95	\$4,075.15	12.71%
Oct-2015	\$32,025.08	\$3,433.24	10.83%
Oct-2016	\$52,268.15	\$8,256.47	18.12%
Oct-2017	\$65,501.16	\$6,572.07	9.77%
Sep-2014	\$66,110.22	\$10,232.26	16.15%
Sep-2015	\$66,729.33	\$9,929.30	14.65%
Sep-2016	\$41,985.14	\$5,171.90	12.37%
Sep-2017	\$74,164.61	\$9,221.42	12.77%
Grand Total	\$2,297,200.86	\$286,397.02	12.03%





## **Objective :**

Analyze monthly sales and profit trends to identify performance patterns and gaps.

## **Key Issues Identified :**

- Sales are fairly consistent, but monthly profits show volatility, with multiple months underperforming.
- Lack of targeted strategies for historically low-performing months.

## **Recommendations :**

- Launch seasonal campaigns and promotions in underperforming months.
- Optimize product and shipping combinations during peak and dip periods.

## **Quantifiable Measures :**

- Increase profit in low months ( e.g., January, February ) by 8-10%.
- Maintain a rolling average profit margin of >10% monthly.

### Expected Business Impact :

- Smoothed monthly profitability trend.
- More predictable revenue and profit cycles to support forecasting.

### Summary:

The monthly trendline analysis showed erratic fluctuations in both sales and profit, with low  $R^2$  values indicating inconsistent growth. These findings highlight the need for stronger forecasting, demand planning, and sales optimization strategies to ensure long-term stability.

# Assumptions & Limitations

## Assumptions :

- The dataset is assumed to be clean, complete, and accurately reflective of business operations during the recorded period.
- Discount levels, shipping modes, and delivery timelines are treated as consistent and comparable across all regions and categories.
- Customer behavior and market dynamics are assumed to remain stable during the analysis period.
- All calculated fields, ( e.g., profit margin, shipping time ) are assumed to represent the intended business metrics.

## Limitations :

- The analysis is confined to internal transactional data; external factors such as market trends, seasonality, or competitor influence were not considered.

- Lack of customer demographic , marketing expenditure, and operational cost data limits deeper segmentation and cost-efficiency evaluations.
- Certain assumptions, such as shipping delays being solely derived from order and ship dates, may oversimplify real-world logistics variability.
- Findings and recommendations are based on historical performance and may require revaluation under different business conditions.

# Conclusion & Way Forward

This project demonstrates a structured approach to extracting actionable business insights using Excel as a business analysis tool.

Through focused domain-level recommendations, the analysis identifies key areas for profit optimization, and targeted regional strategies.

The Central region, due to its scale and underperformance in profit margins, was prioritized for a deep dive-leading to actionable simulations and corrective recommendations.

Thank you for your time.