SuperStore dataset Analysis

Team Members	Analysis Role
Erjon Brucaj	Customer Behavior Analyst
Kunal Ghosh	Product Performance Analyst
Pavan Kalyan Reddy Meka	Product Performance Analyst
Sai Nuka	Regional/Operational Analyst
Rakesh Prusty	Sales & Revenue Analyst

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Problem Statement

Analyze performance disparities in a retail organization to identify regional/operational inefficiencies, strategic misalignments, and growth opportunities that impact profitability and competitive positioning.

Key findings from each analyst

Analyst	Role	Key finding
Erjon Brucaj	Customer Behavior	• High-value customers generate up to 5× more profit per order than others, even with fewer transactions — demonstrating the importance of prioritizing order size and product mix over frequency. • Frequent purchasers with 12+ orders may still yield low or negative profit margins, especially when average discounts hover around 15.6%, suggesting inefficiencies in discounting or product targeting. • Sales peak by over 30% in November and December, with November alone bringing in $118,000+, indicating strong seasonal trends and a need for holiday-focused marketing and stock planning.
Kunal Ghosh	Product Performance	• Best performers product sub-category are Copiers (18%), Phones (14.4%), Accessories (13.6%), paper (11%). Loss leader product sub-category are Tables (79%), Bookcases (15%), Supplies (5.3%). • Fasteners and Envelopes are cash cows (+30% profit margin, nil YoY sales growth), Machines, Tables are under-performers (<0% profit margin, <0% growth). Appliances, Art, Appliances, copiers, paper are Star performers (>20% Profit Margin, >20% growth). Binders & Applicance question mark. • Main driver of **Profitability is discounting.** No discount has contributed to 72% Total profit. More than 20% discount across all products have led to 75% of Total loss. Every product is profitable without Discounting.
Pavan Kalyan Reddy Meka	Product Performance	• Canon Copiers and the Technology category are top performers, showing strong sales and high profit margins (e.g., 38% for Canon, 15.6% for Technology), while subcategories like Labels and Paper exceed 40% margins. • Discounting heavily impacts profitability — 0% discounts lead to 34% margins, whereas discounts over 20% result in significant losses (−78%), making it the most critical factor to control. • Customer and regional insights reveal that the Home Office and Corporate segments are more profitable than Consumer, and while the West region performs well, the Central region consistently loses money.
Sai Nuka	Regional/ Operational	• Performance Gap Crisis: West ($108K) outperforms Central ($40K) by 272% - clear 2:1 performance hierarchy exists with systematic operational dysfunction in bottom regions • Economic Hub Dominance: California ($76K) + New York ($74K) generate 53% of total company profit despite being only 2 states - business model thrives in dense, affluent markets • Central Region Value Destruction: 24% discount rate (2x other regions) creates -86% margins on Binders and -$9,464 furniture losses - highest volume but lowest profitability due to failed pricing strategy
Rakesh Prusty	Sales & Revenue	• Sales peak significantly in November and December, contributing 29.5% of total sales. • Technology and Furniture are the top-performing categories, contributing 36.3% and 32.2% of total sales respectively. • The East and West regions and the Consumer segment are key drivers of sales contributing 29.5% and 31.5% of total sales. • Even though there is no direct correlation between Discount and Sales, highest Sales occur at 50% discount level. Beyond 50%, there is significant sales drop (more than 89%)

Integrated Insights

- **Discounting as the Core Risk and Lever**
  - Discounts >20% account for most profit loss; 0% discounts yield 72% of profit
  - Frequent buyers still generate losses when paired with high discounts
  - Discount depth affects all functions: pricing, marketing, retention, and product
- **Volume ≠ Value**
  - High-frequency customers often underperform vs. fewer, high-margin orders
  - Profitable product categories can be dragged down by poor discounting or growth
  - Sales growth without margin discipline leads to misleading performance
- **Regional & Seasonal Mismatches**
  - Some regions (e.g., Central) heavily discount and underperform
  - Others (e.g., California, New York) generate majority of profit with discipline
  - November–December drive 30%+ of sales; opportunity magnified or lost based on strategy
- **Strategic Misalignment in Product Portfolio**
  - Cash cows (e.g., fasteners) bring stable margin but flat growth
  - High-growth categories (e.g., appliances, binders) often lose money under current discounting
  - Poor lifecycle and promotion alignment harms category ROI

Key Takeaway: A unified, margin-first strategy is needed to link customer targeting, discount control, regional execution, and product lifecycle. Profitability depends on cross-functional alignment, especially during seasonal peaks.

Top 3 Recommendations

S. No.	Recommendations

1	**Optimize Discounting strategy** - Implement a targeted discount strategy to limit discounts on low-margin and low-growth products and increase discounts on high-margin, high-growth products.
	
	• Cut losses by limiting max discount on Binders = 0.2, Machines = 0.3, Tables = 0.0, Storage = 0.0, phone = 0.2.
	• Limit max discount on low growth products
	  o Cash-cow products (high profit margin) such as Fasteners and Envelopes
	  o Under-performers (loss making with low growth) such as Machines, Tables
	• Promotion by discounting needs to be more targeted towards product sub-categories with high growth such as Appliances, Art, Appliances, copiers, paper. Increase total profit by more than 10% approx.

2	**Capitalize on End-of-Year Seasonality** - Leverage the proven sales peak in November and December through targeted marketing, inventory optimization, and strategic promotions. • Plan and develop targeted marketing campaigns for the end-of-year season to increase sales by 25%. • Optimize inventory levels to reduce in stockouts during peak season by 50%. • Launch end-of-year promotions to increase in customer acquisition by 20% and monitor sales performance.
3	**Enhance Cross-Selling and Upselling** - Promote complementary and higher-margin products within high-performing categories to increase average transaction value. • Identify key complementary products and create promotional bundles. • Train sales teams on cross-selling and upselling techniques. • Launch cross-selling and upselling campaigns. This recommendation should increase average transaction value by 15% and improve customer satisfaction score by 10%.

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Expected Impacts

- **Improve Overall Profitability by 15–20%**
  Driven by tighter control on discounting, especially eliminating >20% discounts that account for most losses.
- **Reduce Unprofitable Orders by 30%**
  Achieved by re-aligning pricing strategy to prioritize high-margin, low-frequency customers over high-frequency, low-value ones.
- **Increase Q4 Margin Capture**
  Leveraging historical seasonal peaks by synchronizing regional execution and marketing during November–December.
- **Boost ROI of High-Growth Products**
  Addressing loss-making categories like appliances and binders through better discount policies and lifecycle-based promotions.
- **Enhance Cross-Functional Synergy**
  Aligning pricing, marketing, regional strategy, and product lifecycle management under a unified margin-first framework.
- **Lower Margin Erosion Across Key Categories**
  By phasing out underperforming SKUs (e.g., heavily discounted furniture) and refocusing on profitable niches.
- **Increase Regional Profitability Consistency**
  Through discount discipline in regions like Central and replication of best practices from high-performing areas like California and New York.
- **Strengthen Customer Lifetime Value (CLV)**
  By discouraging discount-driven behavior and fostering loyalty from high-margin, low-discount customers.
- **Improve Product Mix Efficiency**
  Through better alignment of promotions with lifecycle stages—reducing marketing waste on low-ROI products.
- **Capture Missed Revenue Opportunities During Peak Seasons**
  By coordinating supply chain, promotions, and pricing ahead of Q4 to meet demand without margin sacrifice.

Thank you