



BIT BUSTERS

OPTIMIZING CUSTOMER EXPERIENCE AND SALES AT OMNIMART RETAILERS

To improve sales, increase customer retention, and optimize its marketing strategies.

14 SEPTEMBER, 2025 MANHATTAN PROJECT



SALES

OBJECTIVES

1

Overall Business Performance

Gives the big picture of when and where sales are happening

2

Customer Insights

Focuses on who the customers are and how they behave

3

Product & Category Performance

Highlights what products drive sales and cross-sell opportunities.

4

Operational Insights

Looks at logistics and fulfillment, a direct link to customer satisfaction

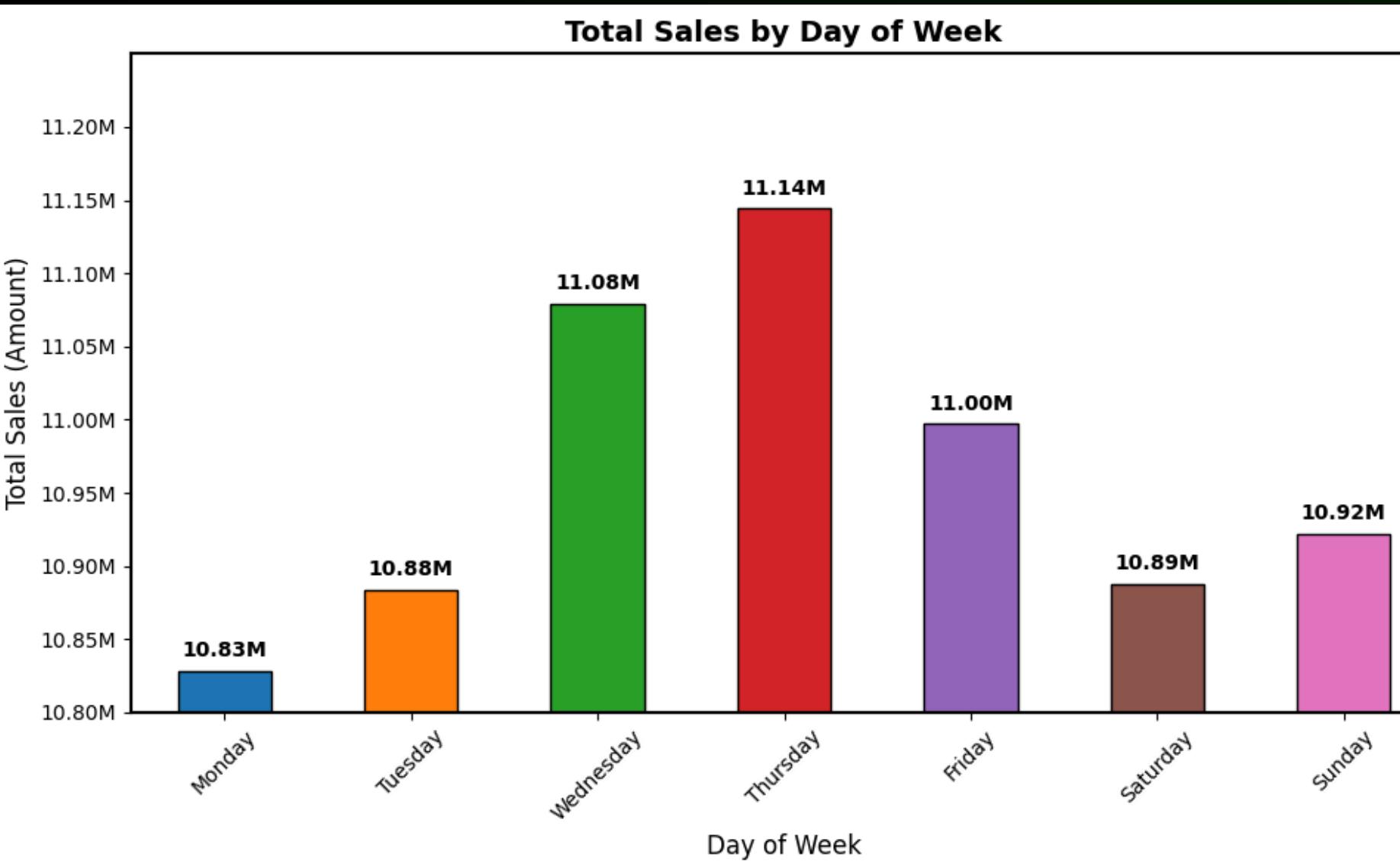
Overall Business Performance

- Total Sales by Day of Week
- Sales by Day of Week (by Category)
- Monthly Sales Trend
- Total Sales by U.S. States

TOTAL SALES BY DAY OF WEEK

WHAT IT TELLS US

Sales Trends: Thursday is the peak sales day (\$11.18M), closely followed by Wednesday (\$11.08M). Monday is the weakest performing day (\$10.86M).



INSIGHT

Staffing: Increase staff on Wednesday and Thursday to manage the highest customer volume and maintain service quality. Reduce staff hours on Monday to optimize labor costs, possibly using this time for training or administrative tasks.

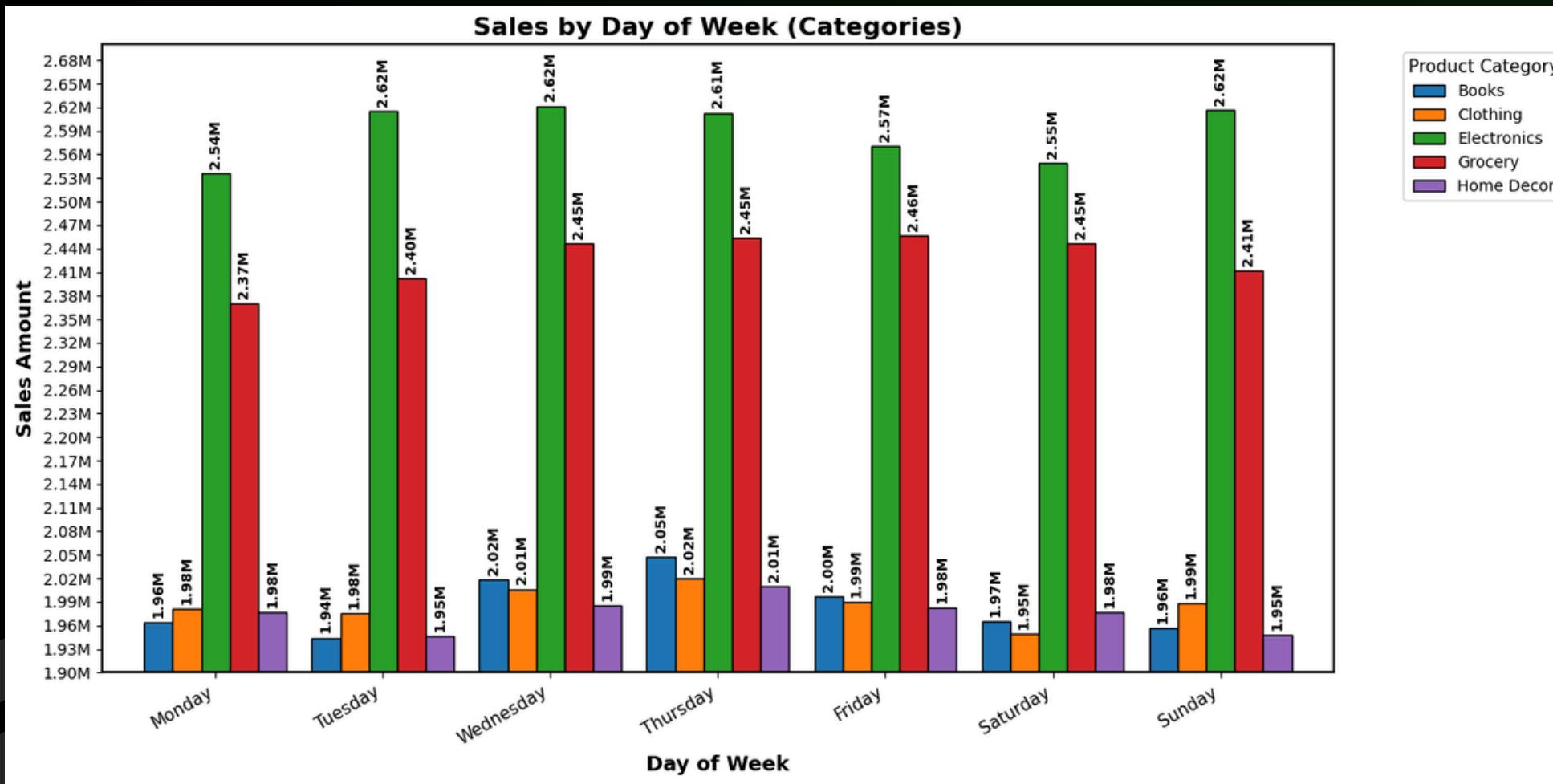
Inventory Management: Schedule major inventory restocking for Tuesday to be fully prepared for the mid-week sales peak.

Marketing & Promotions: Launch special offers like "Thursday Thrills" or mid-week flash sales to maximize revenue on days with high organic traffic. Introduce a "Monday Boost" discount or a loyalty-point multiplier to drive traffic on the slowest day of the week.

SALES BY DAY OF WEEK

WHAT IT TELLS US

Sales Trends: The primary sales driver is Electronics (Green), which consistently makes up the largest portion of sales every day. Grocery (Red) is the stable, second-largest category.



INSIGHT

Staffing & Inventory

Department-Specific Staffing: Prioritize having knowledgeable staff in the Electronics department throughout the week, with extra coverage on the peak days of Tuesday, Wednesday, and Sunday.

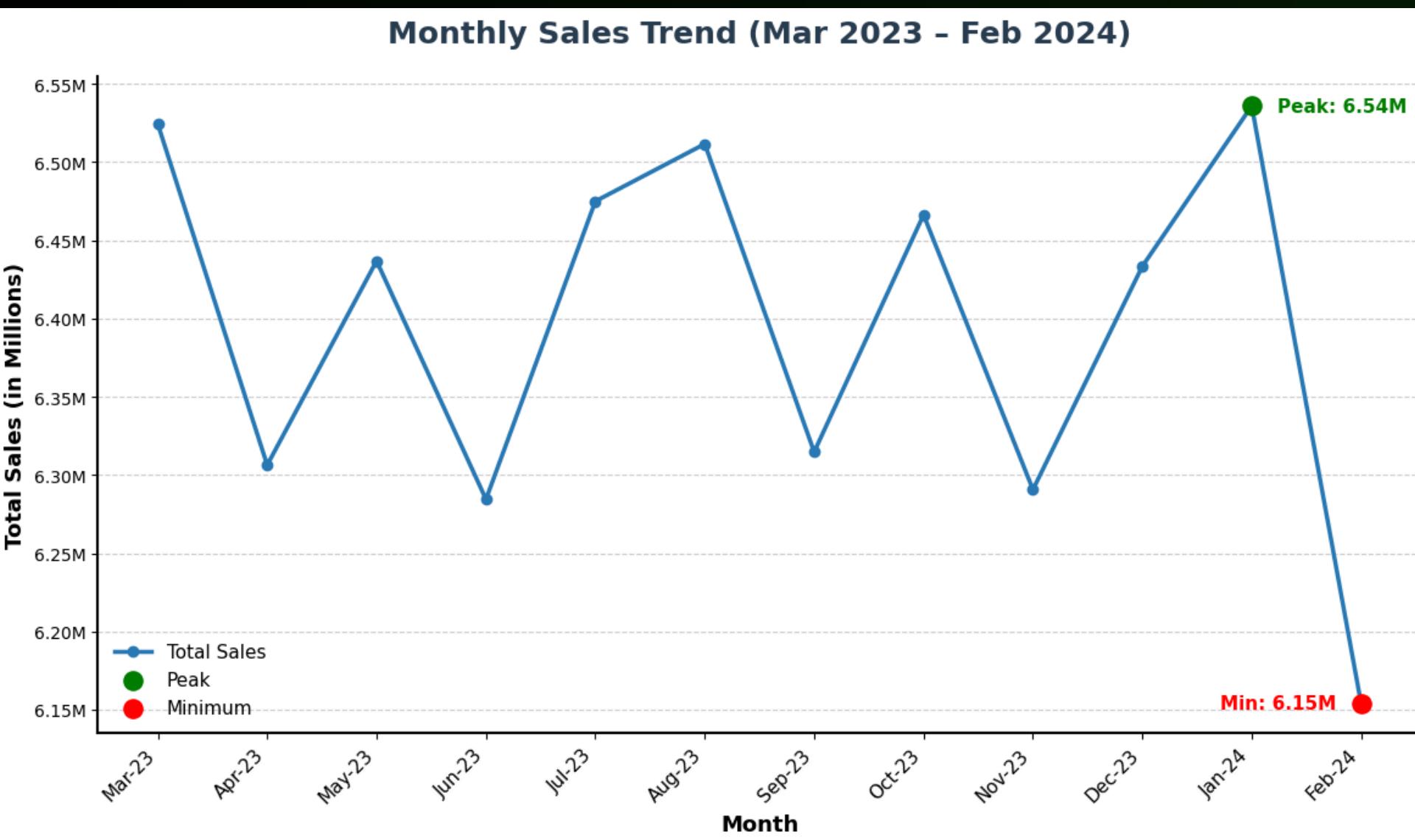
Inventory Management: The top priority is maintaining high stock levels for popular Electronics to prevent significant revenue loss. Grocery inventory requires consistent daily management to support its role as a secondary traffic driver.

Marketing & Promotions: Cross-Sell Strategy-> Leverage the high traffic in Electronics to boost other categories. Offer bundles like, "Purchase any major electronic device and get 20% off Home Decor" or "Tech Lovers' Grocery Deal."

MONTHLY SALES TREND

WHAT IT TELLS US

The overall trend is highly seasonal and volatile, with significant peaks and troughs each quarter. January is the absolute peak sales month at \$6.54M, while February is the lowest point at \$6.15M.



INSIGHT

Staffing & Inventory

Lean Operations: Reduce labor hours and inventory orders for expected slow months like February, April, and June to control operational costs.

Inventory Planning: Use this annual trend to create a predictive ordering model, ensuring stock arrives just in time for each sales upswing.

Marketing & Promotions

Trough Stimulation: Launch aggressive marketing campaigns and promotions (e.g., "February Clearance," "April Showers Sale") to drive traffic and lift revenue during the slowest periods.

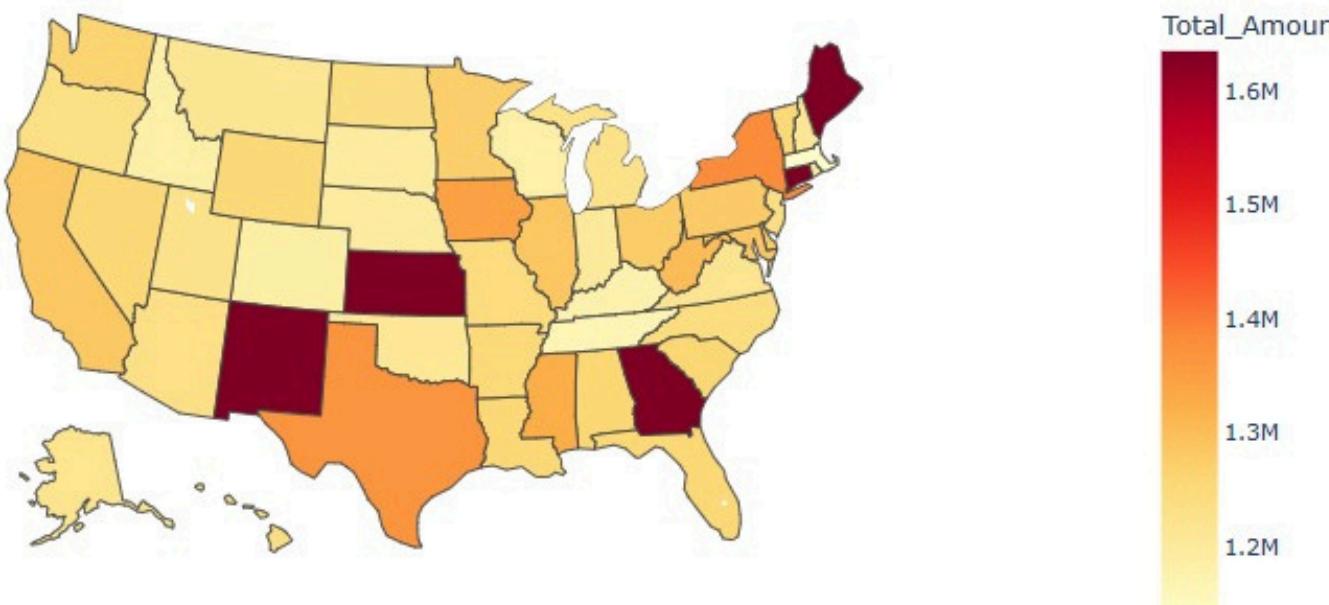
TOTAL SALES BY US STATES

WHAT IT TELLS US

Sales are extremely concentrated in a few outlier states, indicating a market driven by a handful of key locations. There are five clear top-performing states: Connecticut (\$29.26M), Maine (\$16.48M), Georgia (\$12.94M), Kansas (\$7.32M), and New Mexico (\$7.08M). The vast majority of other states perform at a similar, much lower baseline (around \$1.2M).

INSIGHT

Total Sales by U.S. State



Staffing & Inventory

Prioritize Key Markets: Allocate the most experienced staff, largest teams, and deepest inventory to the top 5 states. These are critical markets that must be protected and served flawlessly.

Standardize Operations: For the large group of states with similar baseline sales, implement a standardized, cost-efficient operational model. Avoid over-investing resources in these locations.

Hub-and-Spoke Logistics: Establish major inventory hubs in or near the top-performing regions (Northeast, Southeast, Midwest) to ensure high product availability for your most valuable customers.

Marketing & Promotions

High-Impact Campaigns: Dedicate the majority of the marketing budget to the top 3 states (CT, ME, GA) to focus on customer retention, loyalty, and maximizing market share.

Growth Campaigns: In the next tier of states (KS, NM), invest in targeted campaigns aimed at growth to determine if they can be elevated to the level of the top 3.

Broad-Scale Marketing: Use cost-effective national or wide regional campaigns for the remaining states, as state-specific efforts are not justified by the current sales volume.

Dynamic Pricing

Premium Strategy: In the top markets like Connecticut and Maine, there might be brand power to test premium pricing or focus on selling higher-margin products.

Competitive Pricing: In the majority of states, maintain competitive pricing to protect the market share against local competitors.

Penetration Pricing: In states with low sales but high potential (e.g., Massachusetts), consider using introductory offers or aggressive pricing to stimulate demand and capture new customers.

TOTAL SALES BY US STATES

WHAT IT TELLS US

STATE CODE - STATE - TOTAL AMOUNT TABLE with respect to the graph on previous page

State_Code	State	Total_Amount
KS	Kansas	7.32M
NM	New Mexico	7.08M
CT	Connecticut	29.26M
ME	Maine	16.48M
GA	Georgia	12.94M
WV	West Virginia	1.3M
NY	New York	1.38M
TX	Texas	1.37M
IA	Iowa	1.35M
MS	Mississippi	1.33M
IN	Indiana	1.2M
RI	Rhode Island	1.2M
NE	Nebraska	1.2M
IL	Illinois	1.29M
MD	Maryland	1.29M
DE	Delaware	1.28M
PA	Pennsylvania	1.28M
OH	Ohio	1.28M
CA	California	1.28M
MN	Minnesota	1.27M
NV	Nevada	1.26M
SC	South Carolina	1.26M

State_Code	State	Total_Amount
FL	Florida	1.26M
LA	Louisiana	1.26M
WA	Washington	1.26M
AL	Alabama	1.26M
VT	Vermont	1.25M
WY	Wyoming	1.25M
AR	Arkansas	1.25M
HI	Hawaii	1.24M
MO	Missouri	1.24M
NC	North Carolina	1.24M
ND	North Dakota	1.24M
NJ	New Jersey	1.24M
MI	Michigan	1.23M
AZ	Arizona	1.23M
OR	Oregon	1.23M
AK	Alaska	1.22M
VA	Virginia	1.22M
UT	Utah	1.22M
NH	New Hampshire	1.21M
MT	Montana	1.21M

Customer Insights

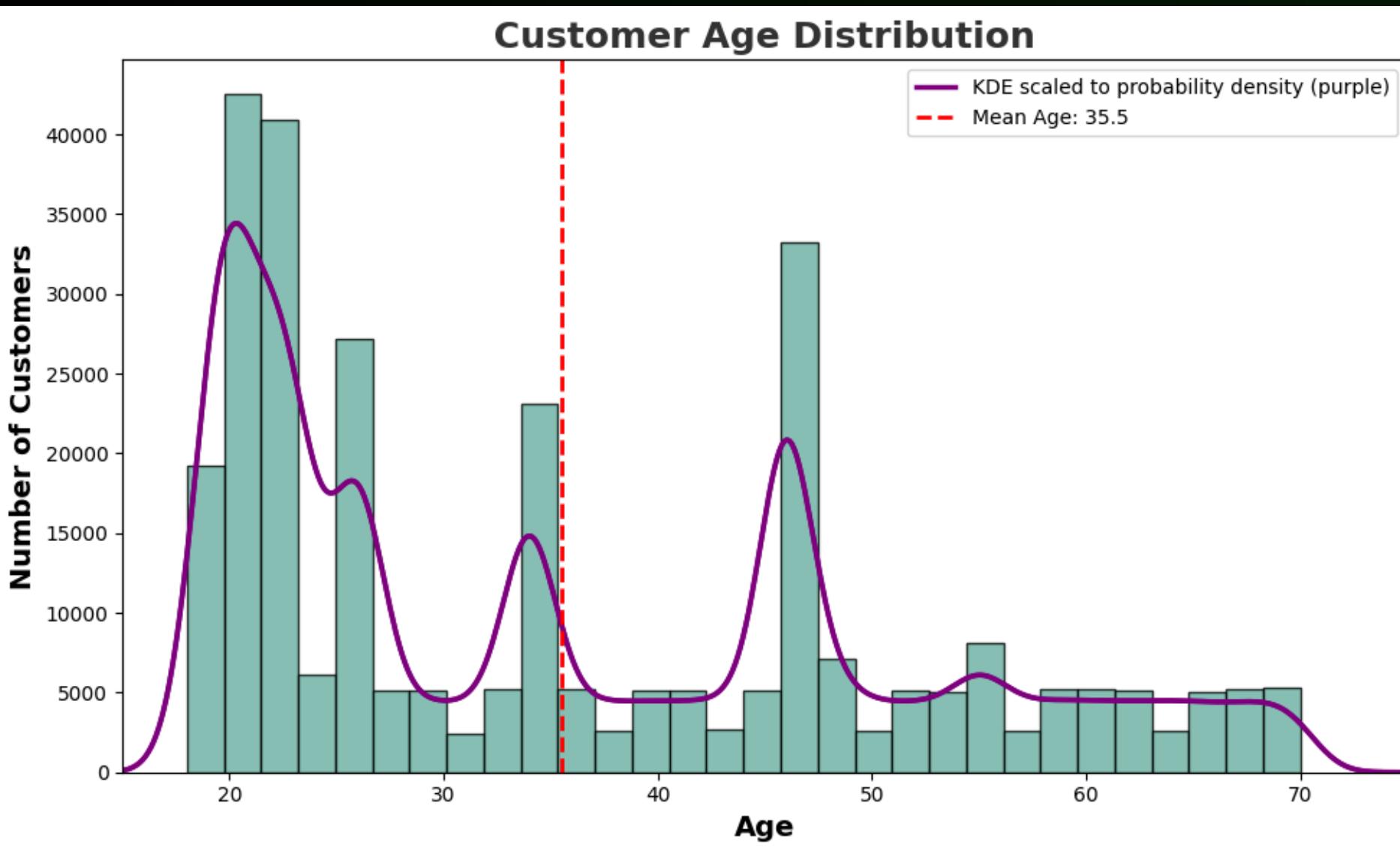
- Customer Age Distribution
- Total Spending by Gender
- Product Category Preference by Gender
- Customer Revenue Distribution (Pareto)
- Customer Monetary Value Distribution (Outliers)
- Customer Segmentation: Recency vs Frequency

CUSTOMER AGE DISTRIBUTION

WHAT IT TELLS US

The customer base is not one single group but is composed of at least three distinct and separate age segments

INSIGHT



Young Adults (~20-22 years old): This is the largest and most dominant customer group.

Young Professionals (~26-28 years old): A smaller, distinct peak.

Established Adults (~45-47 years old): A significant, high-value segment.

Crucially, the mean age of 35.5 is highly misleading. It falls into a "valley" between the core customer groups, so targeting an "average" customer would be a major strategic error.

Staffing & Inventory

Segmented Inventory: The product assortment must cater to these different groups simultaneously. Stock trendy, price-conscious items to serve the large ~21-year-old segment, and stock premium, quality-focused goods for the ~46-year-old segment.

Adaptive Service: Train staff to identify and serve these different demographics.

Younger customers may prefer self-service or tech-based interactions, while the established adult segment may value more personalized, expert advice.

Marketing & Promotions

Multi-Channel Marketing: Do not use a single marketing strategy. Create separate, targeted campaigns for each segment on the platforms they use most.

Young Adults: Target via TikTok and Instagram with influencer partnerships and user-generated content.

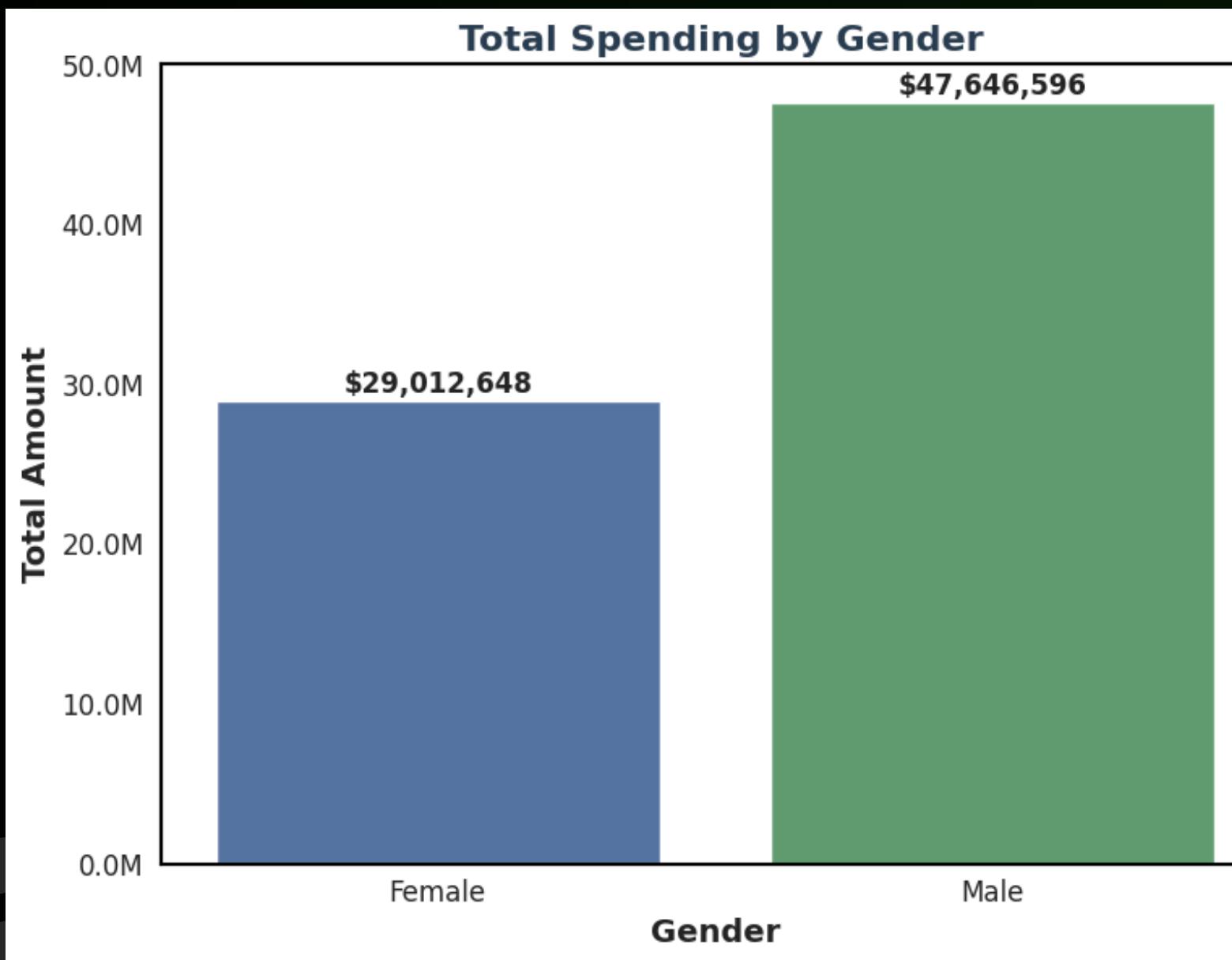
Established Adults: Target via Facebook and email marketing with campaigns focused on quality, testimonials, and long-term value.

TOTAL SPENDING BY GENDER

WHAT IT TELLS US

Spending Trends & Demographics

The data reveals a significant revenue disparity between genders. Male customers generate substantially more total revenue (\$47.6M) than female customers (\$29.0M), accounting for approximately 64% more in aggregate spending. The immediate strategic priority is to determine the cause of this gap: is it driven by fewer female customers, or a lower average spend per visit?



INSIGHT

The current product assortment should be audited to see if it unintentionally favors male-oriented categories, potentially limiting options for female shoppers. Consider enhancing the store layout by increasing the visibility and strategic placement of products that are popular with the female demographic. Staff training could be updated to include modules on better engaging female customers to understand their needs and potentially increase basket size.

Dynamic Pricing

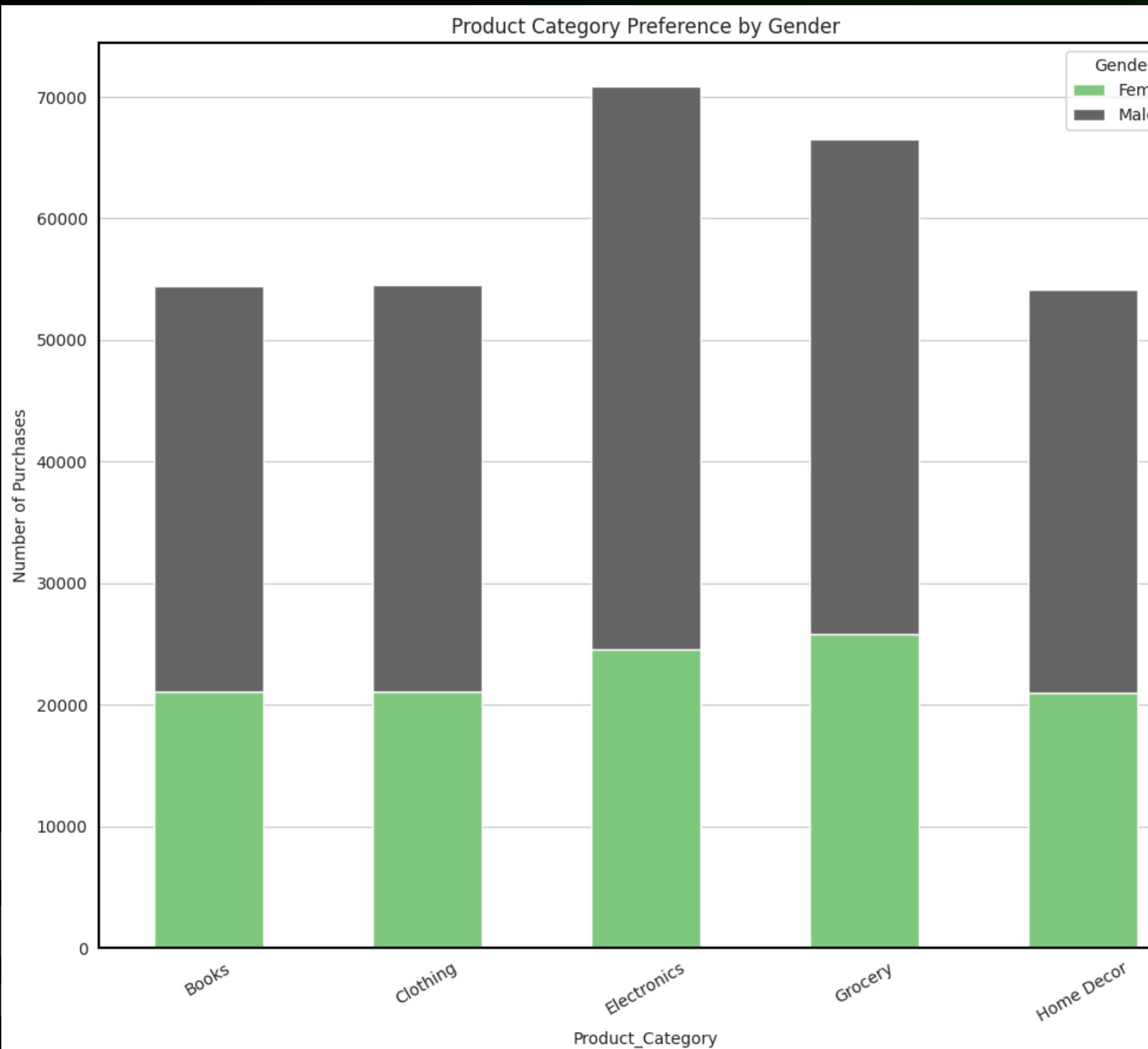
Analyze the best-selling products within each demographic. If female customers are disproportionately purchasing lower-margin items, it may indicate an opportunity to introduce more aspirational products for that segment. Instead of broad discounts, create compelling value bundles and "complete the look" offers for female-oriented categories to encourage a higher spend per transaction.

PRODUCT CATEGORY PREFERENCE BY GENDER

WHAT IT TELLS US

Demographics & Preferences

The revenue gap is explained by men's heavily concentrated purchasing in the highest-volume categories: Electronics and Grocery.



INSIGHT

Women represent a broad and consistent customer base that shops evenly across all departments, which is a key strategic opportunity.

Marketing & Engagement

Continue targeting the male audience with focused, category-specific advertising for tech and groceries.

Engage the female audience with holistic, brand-focused campaigns that reward their tendency to shop across multiple departments in a single trip.

Growth Strategy

The most direct path to revenue growth is to increase the average transaction value of the loyal female shoppers.

The primary goal should be to convert their browsing into buying by using tactics that add one more category to their basket before checkout.

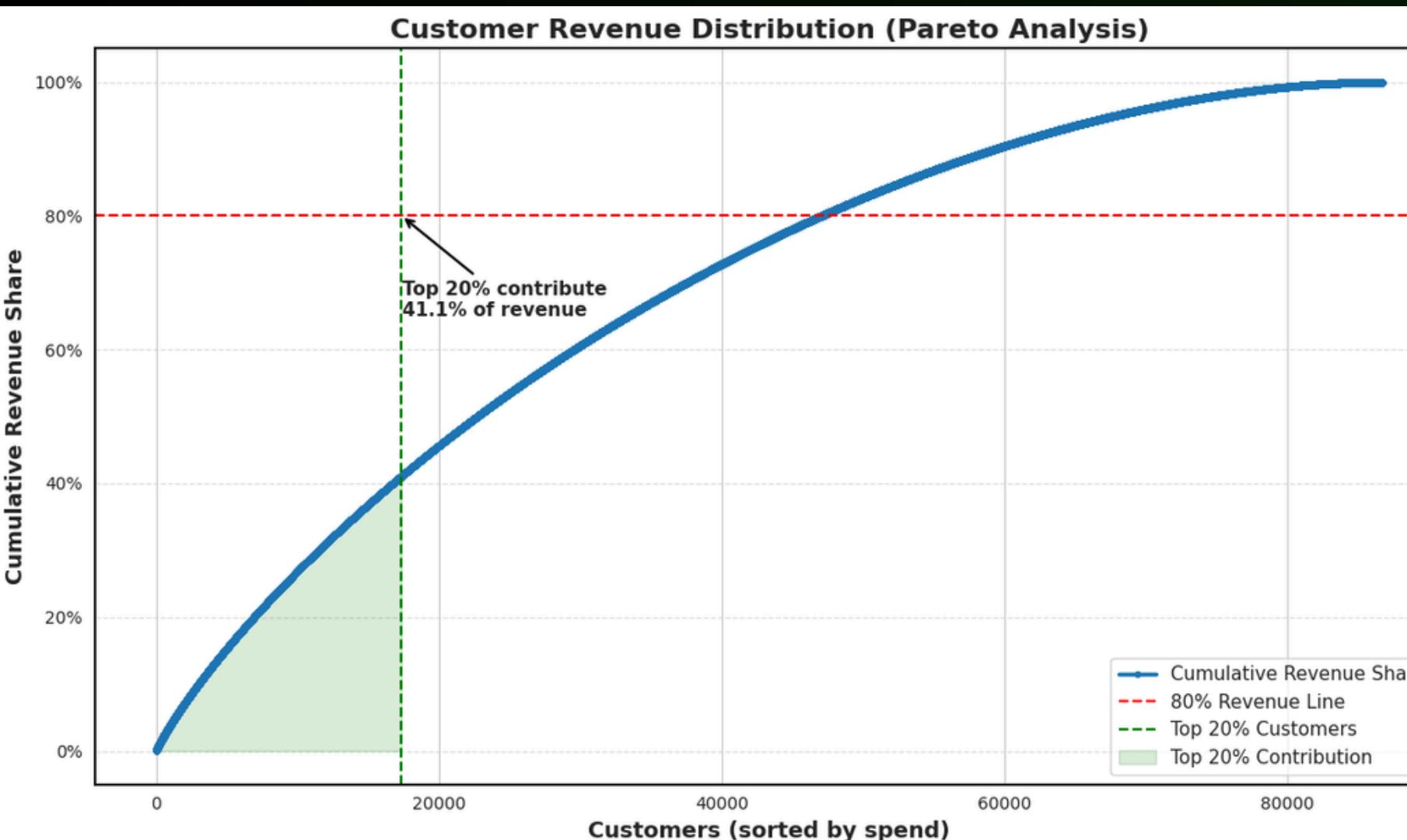
CUSTOMER REVENUE DISTRIBUTION (PARETO)

WHAT IT TELLS US

Customer Value & Sales Trends

The business does not follow the classic 80/20 rule. This is a critical insight into the company's health.

INSIGHT



The top 20% of the customers generate only 41.1% of total revenue. This means the sales are remarkably democratic and evenly distributed across a very broad customer base

Customer Relationship Management

Avoid a tiered, VIP-focused service model. Instead, the strategy should be to provide excellent and consistent service to every customer who walks in the door.

Empower all staff to resolve issues and build relationships, as the "average" customer is the true backbone of the revenue.

Loyalty & Pricing Strategy

Design a loyalty program that rewards consistency over total spend. For example, a program that gives a reward after every 5th purchase will resonate better than one that requires a high spending threshold.

Focus on providing consistent value rather than offering deep discounts that only benefit a small segment of bulk purchasers.

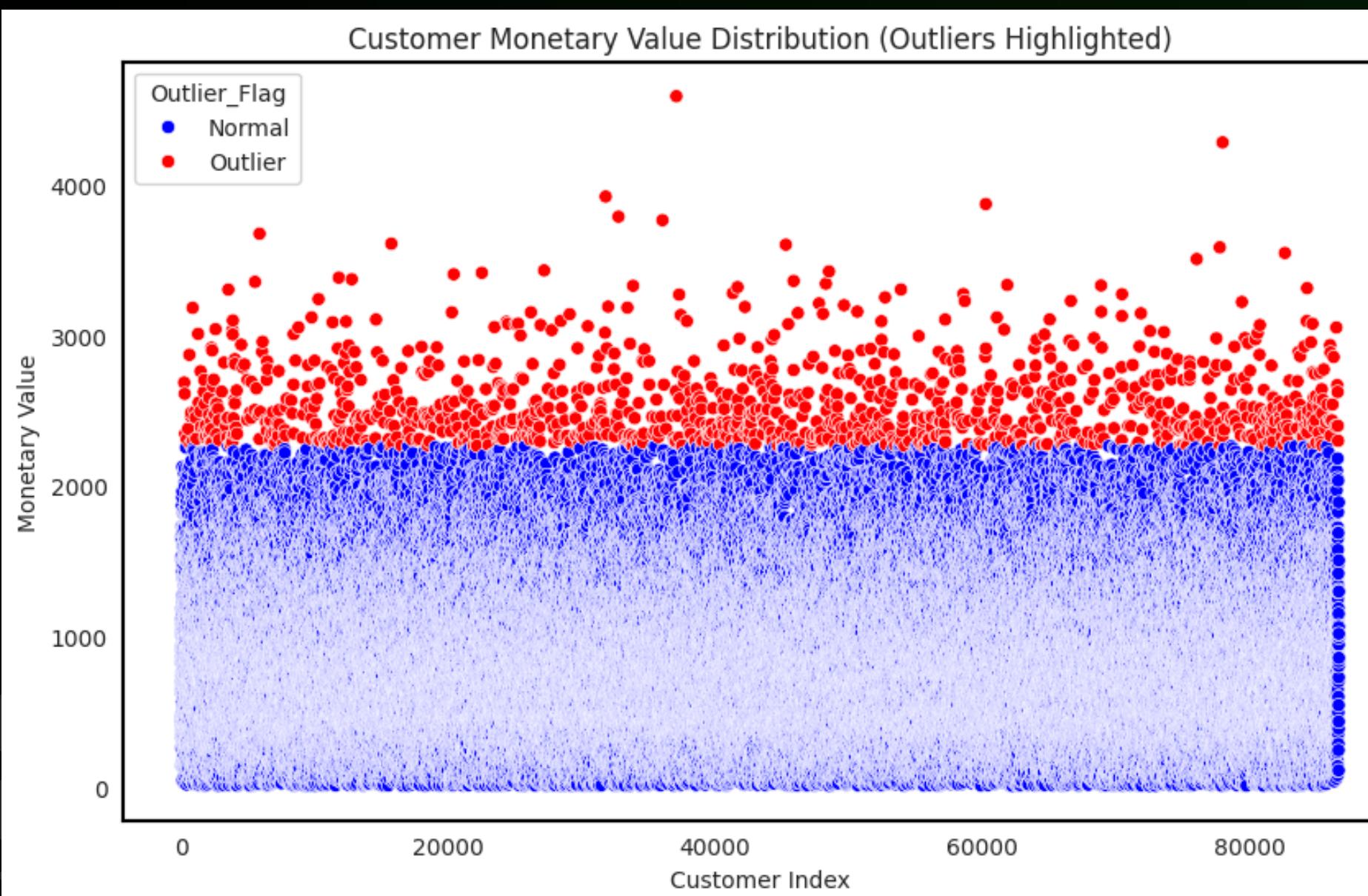
CUSTOMER MONETARY VALUE DISTRIBUTION [OUTLIERS]

WHAT IT TELLS US

Customer Segmentation & Value

This analysis identifies a clear spending threshold. The customers are divided into the vast majority of "normal" spenders (blue dots) and a smaller, but highly valuable, group of "outlier" high-spenders (red dots).

INSIGHT



The data flags a customer as an outlier once their total spending surpasses approximately \$2,300. These are the most valuable customers on an individual basis.

While the business isn't overly reliant on them, these outliers represent a key group that can be nurtured for retention and advocacy.

Customer Relationship Management

For core "normal" customers (blue), the strategy remains the same: provide consistently excellent and efficient service to maintain the health of the broad customer base.

For outlier customers (red), consider a "white glove" service approach. This doesn't have to be costly—it could be a personal thank-you email, a dedicated support contact, or priority access to solve any issues.

Loyalty & Growth Strategy

The primary loyalty program should continue to reward frequency and consistency for all customers.

The strategic goal for the outliers is advocacy—make them feel so valued they become brand ambassadors. The goal for top-tier "normal" customers is growth—identify those nearing the \$2,300 threshold and use targeted offers to nudge them into becoming outliers.

CUSTOMER SEGMENTATION: RECENCY VS FREQUENCY

WHAT IT TELLS US

Customer Health & Segments

A failure to retain the best customers is being demonstrated by the business. A notable emptiness is observed in the top-left quadrant (recent, frequent shoppers), while the top-right quadrant (lapsed, frequent shoppers) is heavily populated.

INSIGHT

Segment 1: At-Risk Champions (Top-Right): This segment is identified as the most valuable, characterized by high frequency and large spending. However, it is noted that these customers all have a high churn risk (dark red) and have not made a purchase in 200-500+ days. They are considered to be hibernating and at risk of being lost permanently.

Segment 2: New & Casual Shoppers (Bottom-Left): This is the largest group of active customers. While they have shopped recently, their purchase frequency is low. They are seen as the future of the business but are at risk of becoming inactive if not properly nurtured.

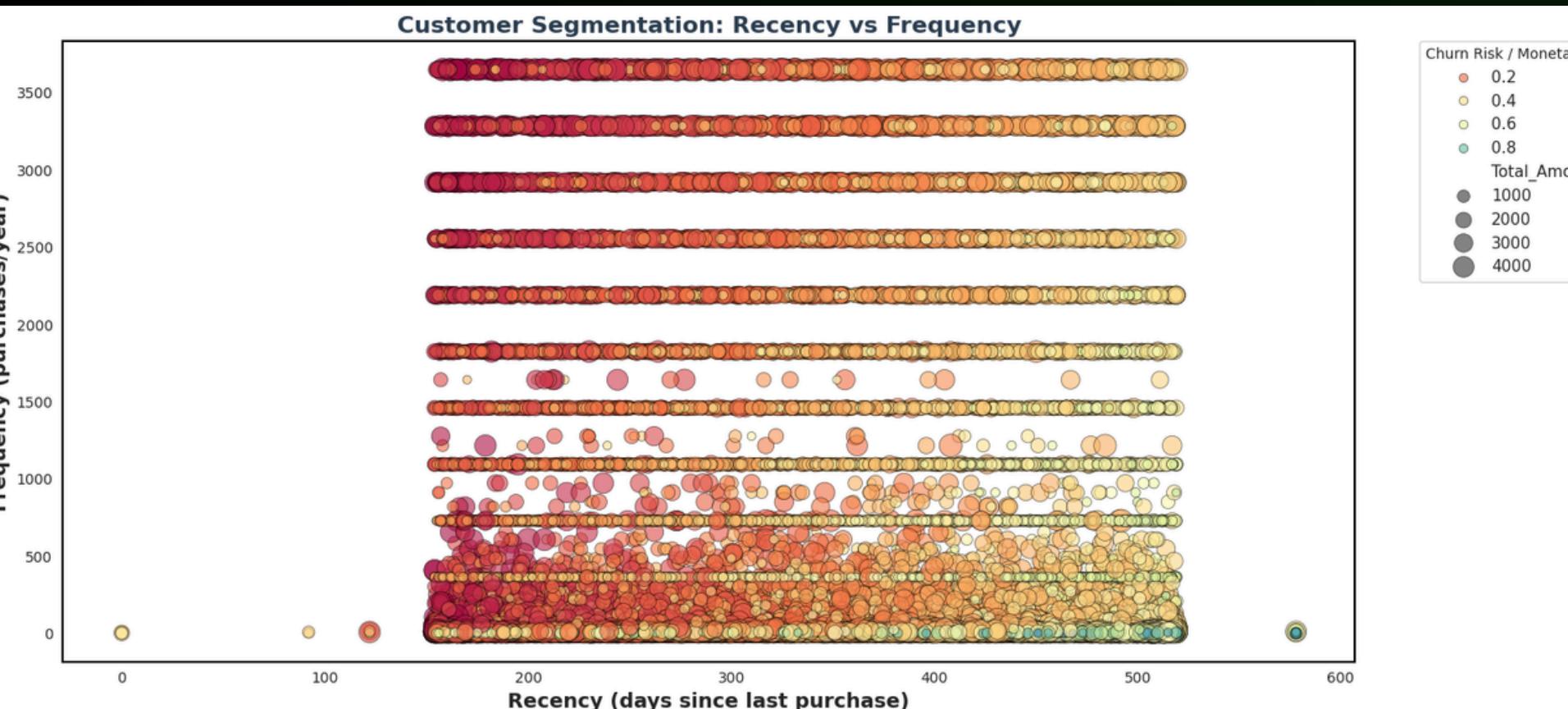
Triage-kit Immediate Actions & Triage

It is strongly advised that the number one priority be an immediate and aggressive win-back campaign. This campaign should be targeted at the "At-Risk Champions" in the top-right quadrant, as this situation is considered a business emergency.

The campaign must be made compelling. The use of strong offers, personalized outreach, or direct communication is recommended to understand why these customers left and to incentivize their return. Action on this segment should be taken with urgency.

Long-Term Loyalty & Growth

The underlying "leaky bucket" problem must be fixed. A proactive loyalty program needs to be built. This program should be designed to keep customers in the top-left quadrant by rewarding their continued high frequency before a lapse occurs.



Product & Category Performance

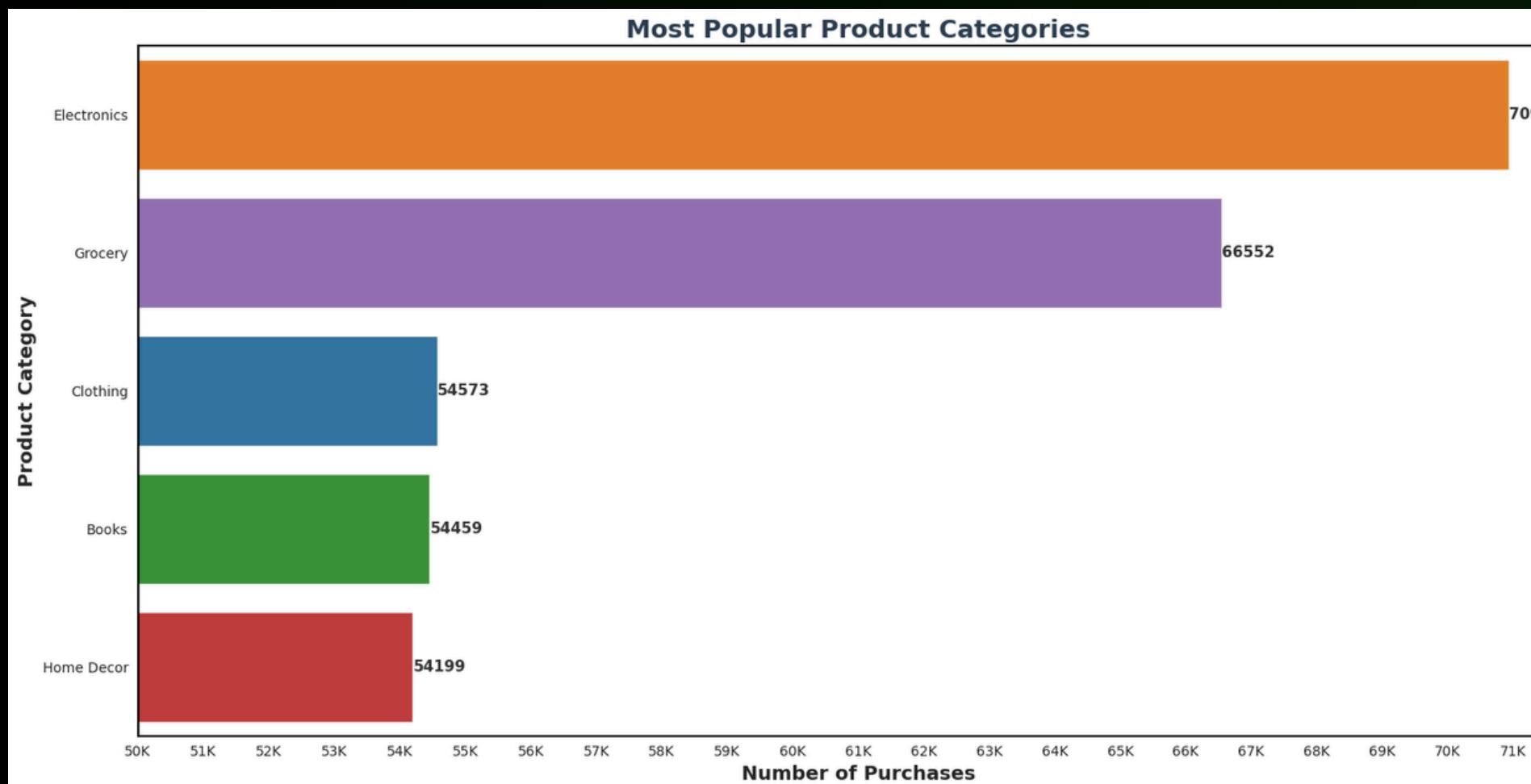
- Most Popular Product Categories
- Spending Distribution by Product Category
- Correlation Matrix by Key Features
- Category Affinity Network with Communities

MOST POPULAR PRODUCT CATEGORIES

WHAT IT TELLS US

There are two clear tiers of product popularity. Electronics is the undisputed top category by purchase volume (70,944), followed by Grocery as a strong second (66,552). Clothing, Books, and Home Decor form a close-knit second tier, with nearly identical purchase numbers, indicating they have a similar level of demand.

INSIGHT



Staffing & Inventory

Resource Allocation: Prioritize staffing and inventory for the Tier 1 categories. Allocate the most knowledgeable staff to Electronics to assist with high-consideration purchases and ensure Grocery is always stocked and staffed for high-frequency shopping.

Inventory Strategy: Maintain deep and diverse stock for Electronics and Grocery. For the Tier 2 categories, consider a more lean inventory model to reduce holding costs, focusing only on the best-selling items within each.

Marketing & Promotions

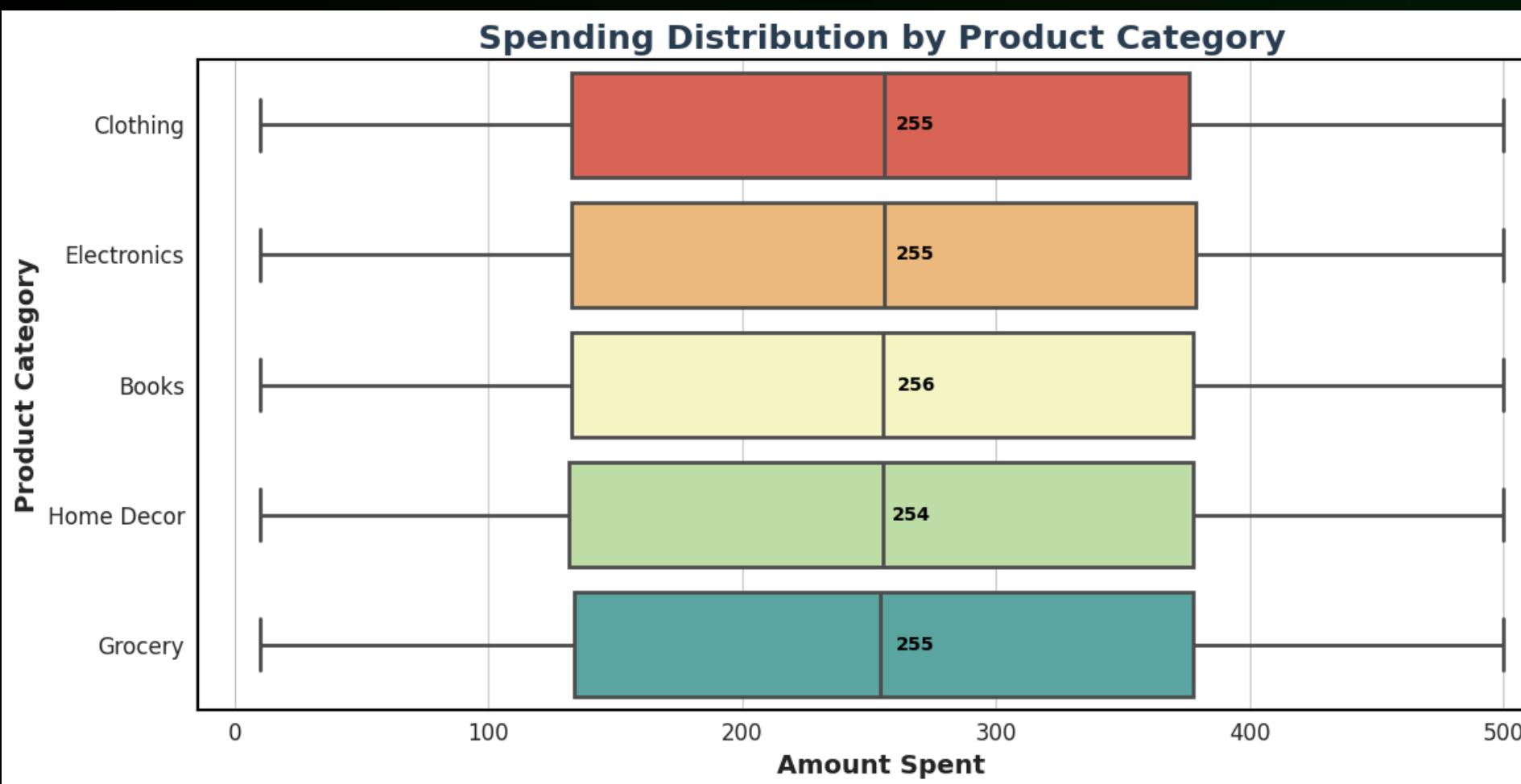
"Hero" Category Marketing: Use Electronics as the "hero" in marketing campaigns to attract customers. Its popularity makes it the primary traffic driver.

SPENDING DISTRIBUTION BY PRODUCT CATEGORY

WHAT IT TELLS US

The key insight is that the median spend per transaction is remarkably consistent across all product categories, hovering around \$255. However, the variability in spending differs significantly. Clothing and Grocery exhibit the widest spending range, indicating a mix of both small and very large purchases. In contrast, spending on Electronics, Books, and Home Decor is much more predictable and tightly clustered around the median.

INSIGHT



Staffing & Inventory

Inventory Mix: Stock a wide range of price points in Clothing and Grocery to cater to all customers, from budget shoppers to big spenders. For Electronics, focus on having the best products within the popular and consistent \$200-\$375 price range.

Marketing & Promotions

Tiered Offers: In Clothing and Grocery, implement tiered promotions that reward higher spending, such as "Spend \$200, get 10% off; Spend \$400, get 20% off." This encourages customers to move towards the higher end of the spending range.

Bundling Strategy: For categories with predictable spending like Books and Home Decor, focus on bundling to increase the total transaction value (e.g., "Buy 3, get 1 free" or "Complete the look" packages).

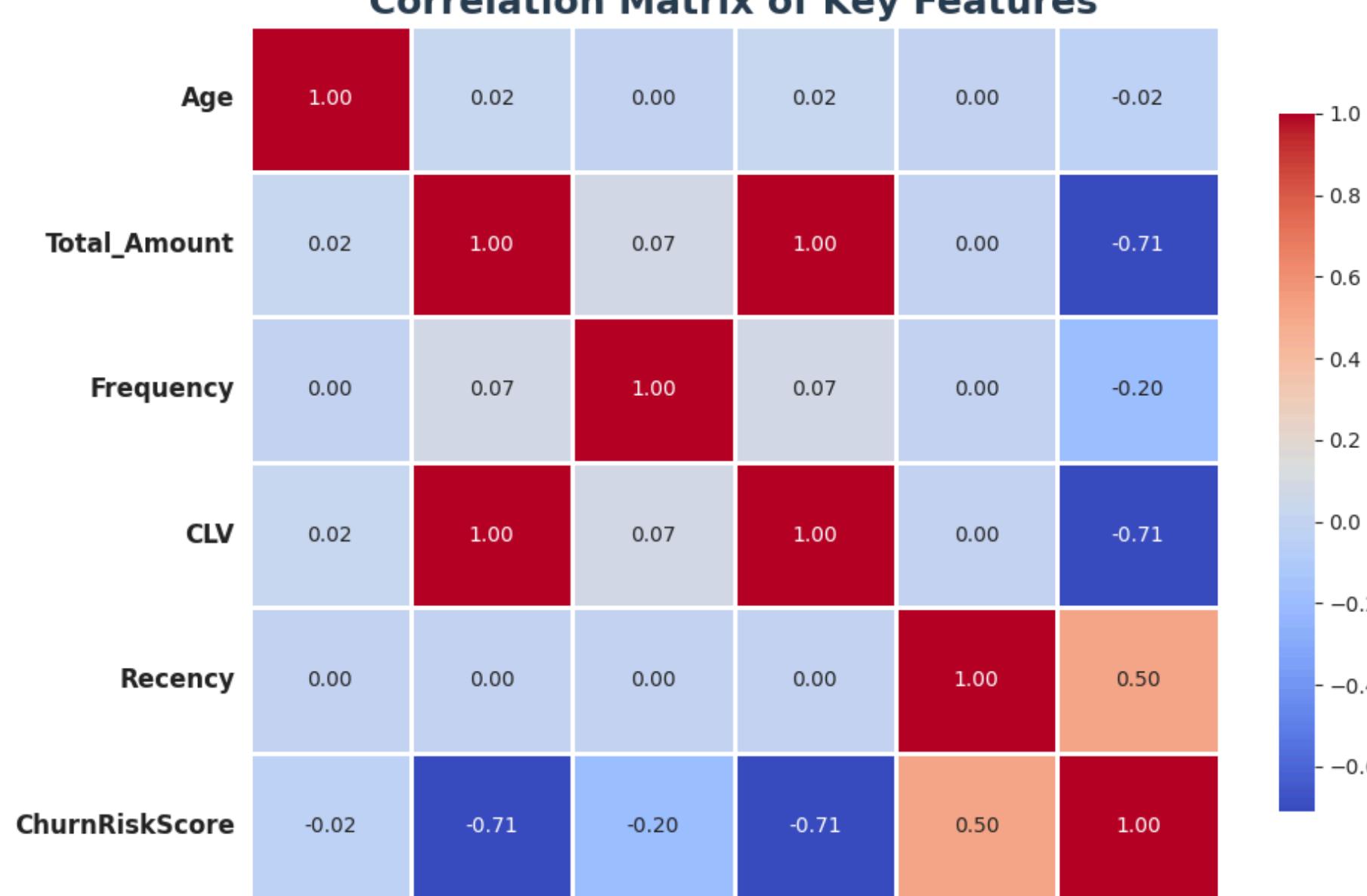
CORRELATION MATRIX BY KEY FEATURES

WHAT IT TELLS US

Key Business Drivers & Insights

Higher Total Spend is the strongest predictor of loyalty, as it dramatically lowers Churn Risk (-0.71).

Correlation Matrix of Key Features



INSIGHT

Higher Recency (more days since last purchase) directly increases Churn Risk (0.50).

Age is not a useful predictor of customer value or behavior and can be ignored for strategic targeting.

Growth & Loyalty Programs

Design the loyalty program to primarily reward high Total Spend (CLV).

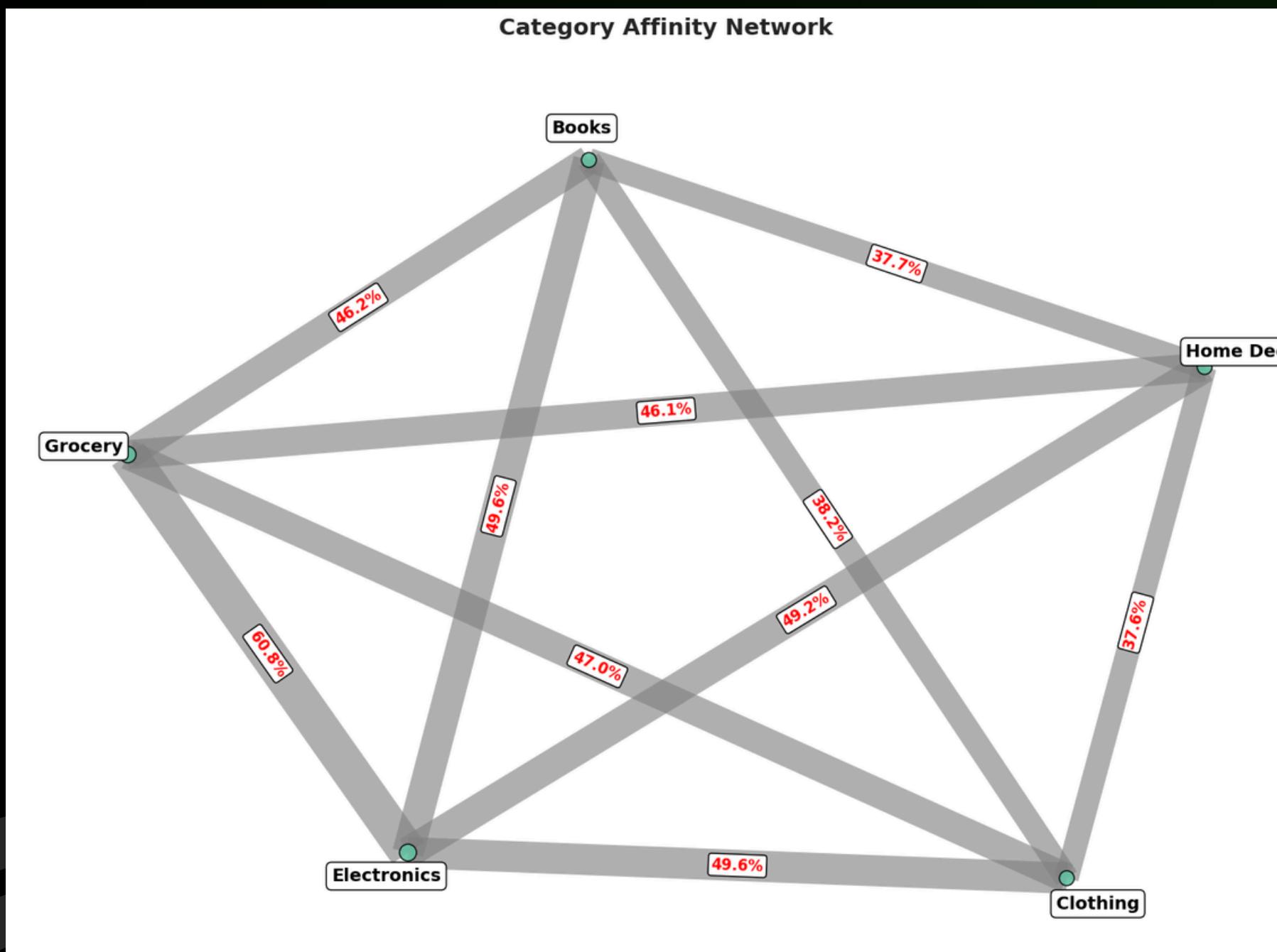
A tiered system based on lifetime spending ("Silver," "Gold," etc.) will be far more effective at reducing churn than any age-based discounts.

CATEGORY AFFINITY NETWORK WITH COMMUNITIES

WHAT IT TELLS US

Customer Behavior & Basket Insights

This network shows which products are "shopping buddies"—the items most frequently bought in the same transaction



INSIGHT

The Power Couple: The strongest connection by far is between Grocery and Electronics (60.8%). When a customer buys from one of these categories, there's a greater than 6 in 10 chance they'll buy from the other.

The Central Hub: Electronics is the undisputed center of the sales universe. It has powerful connections to nearly every other category, including Books (49.6%), Clothing (49.6%), and Home Decor (49.2%).

The Weakest Links: Conversely, categories like Home Decor and Clothing (37.6%) are the least likely to be purchased together.

Growth Strategy

The growth strategy should have two main goals: exploiting the strengths and strengthening the weaknesses.

Exploit the Power Couple: Maximizing the Grocery-Electronics connection is the primary growth lever. Every single grocery shopper should be made aware of a compelling electronics offer during their visit.

Strengthen Weak Links: Create opportunities for customers to associate less-connected categories. A "New Season, New Look" campaign that bundles Clothing and Home Decor can build a new mental link for shoppers, boosting sales in both.

Operational Insights

- Order Status Distribution by Shipping Method
(Heatmap)
- Order Status Distribution by Shipping Method
(Sunburst)

ORDER STATUS DISTRIBUTION BY SHIPPING METHOD (HEATMAP + SUNBURST)

WHAT IT TELLS US

Operational Insight

The data shows a critical operational flaw: backlog of Pending, Processing, and Shipped orders is nearly identical across all shipping methods. Failing to process Express and Same-Day orders any faster than Standard, despite charging a premium for them.

INSIGHT

Immediate Priority

Top priority is to fix this service failure. Must immediately implement a priority queue in the fulfillment process to expedite premium orders. Customers are paying for speed which isn't delivering, which is a direct threat to customer trust and the value of the premium offerings.

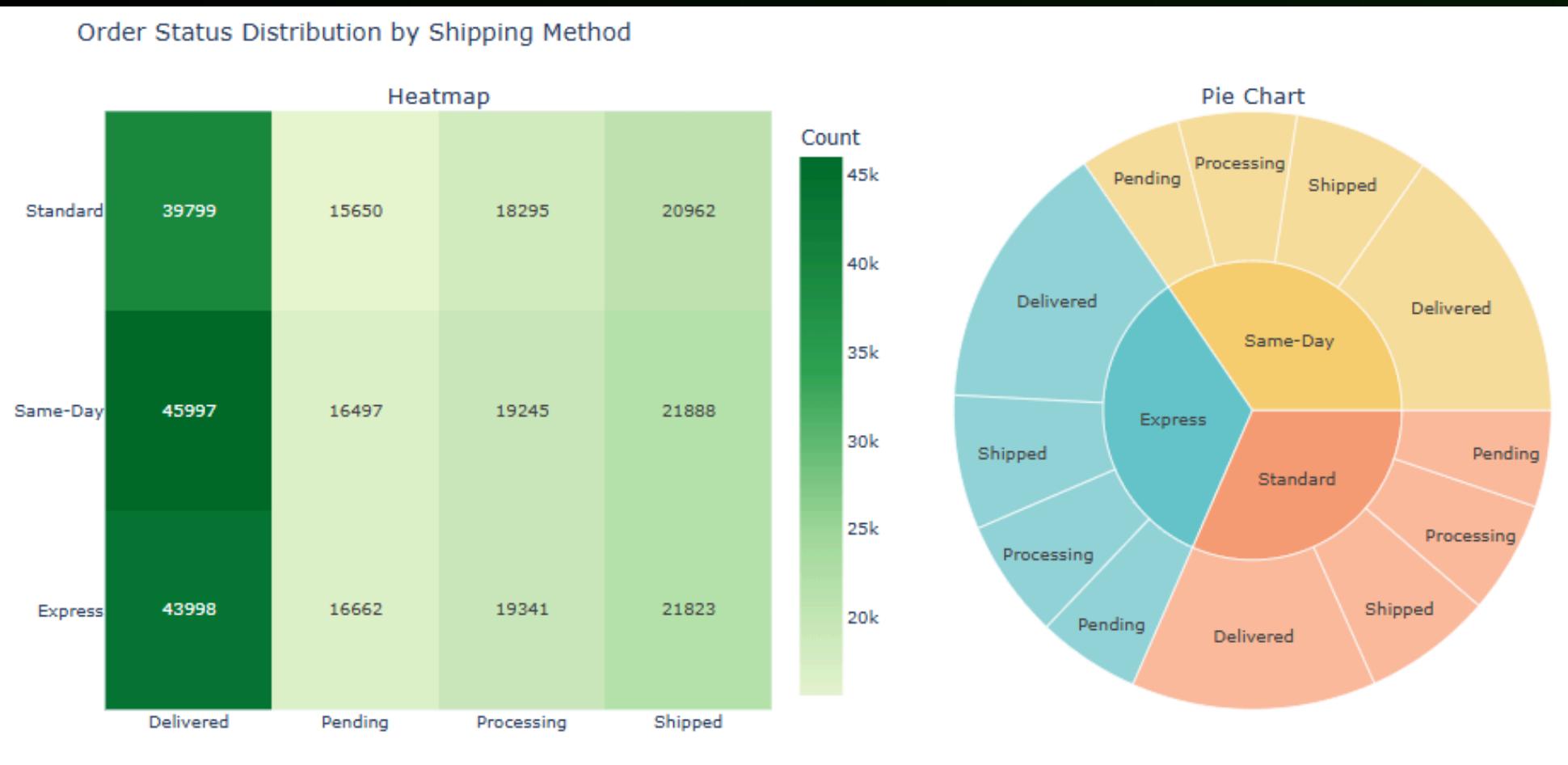
Customer Communication

Proactively update all customers whose orders are in the backlog, but pay special attention to Express customers stuck in 'Processing.' They represent the biggest complaint risk and require immediate communication to manage their expectations while the internal delays are fixed.

Strategic Goal

The number one goal is simple: deliver on the promise of premium shipping. The fix is operational—flag and fast-track premium orders. Success will be measured when a future version of this chart shows a dramatically smaller backlog for Express and Same-Day shipping compared to Standard.

Order Status Distribution by Shipping Method



CONCLUSION

The retail sales analysis provides a holistic 360° view of business performance across time, customers, products, and operations. This comprehensive approach reveals both the strengths driving growth and the challenges requiring attention.

SALES TREND

Sales Trend: Monthly sales from March 2023 to February 2024 reflect clear seasonality, with distinct peak and low points. These insights enable better demand forecasting, promotional planning, and resource allocation during high-demand and lean periods.

CUSTOMER SEGMENTATION (RFM & CHURN RISK)

Loyal and high-value customers remain the core revenue drivers, while "at-risk" segments highlight potential churn. Implementing targeted retention campaigns, loyalty programs, and personalized marketing will help safeguard Customer Lifetime Value (CLV).

DEMOGRAPHIC INSIGHTS

Younger customers drive purchase frequency, while female customers contribute higher spending in key categories. These insights support more personalized promotions and targeted channel strategies.

OPERATIONAL EFFICIENCY

Inconsistencies in shipping methods and order statuses reveal a need for logistics optimization. Streamlined fulfillment and improved delivery reliability will enhance customer satisfaction and retention.



THANK YOU

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