



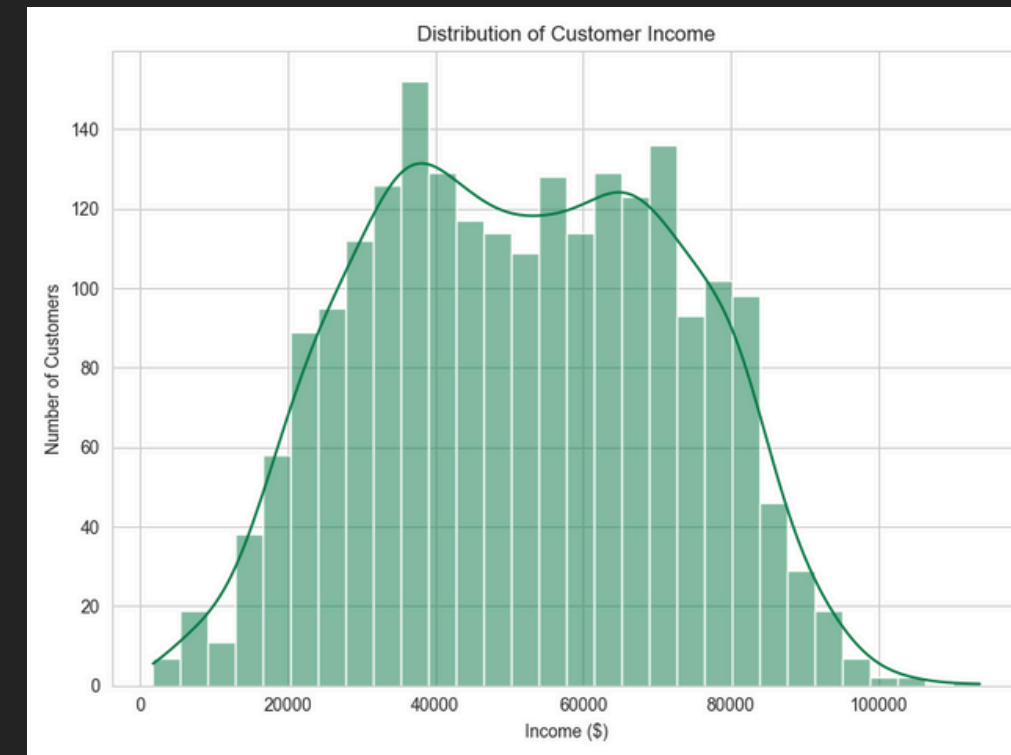
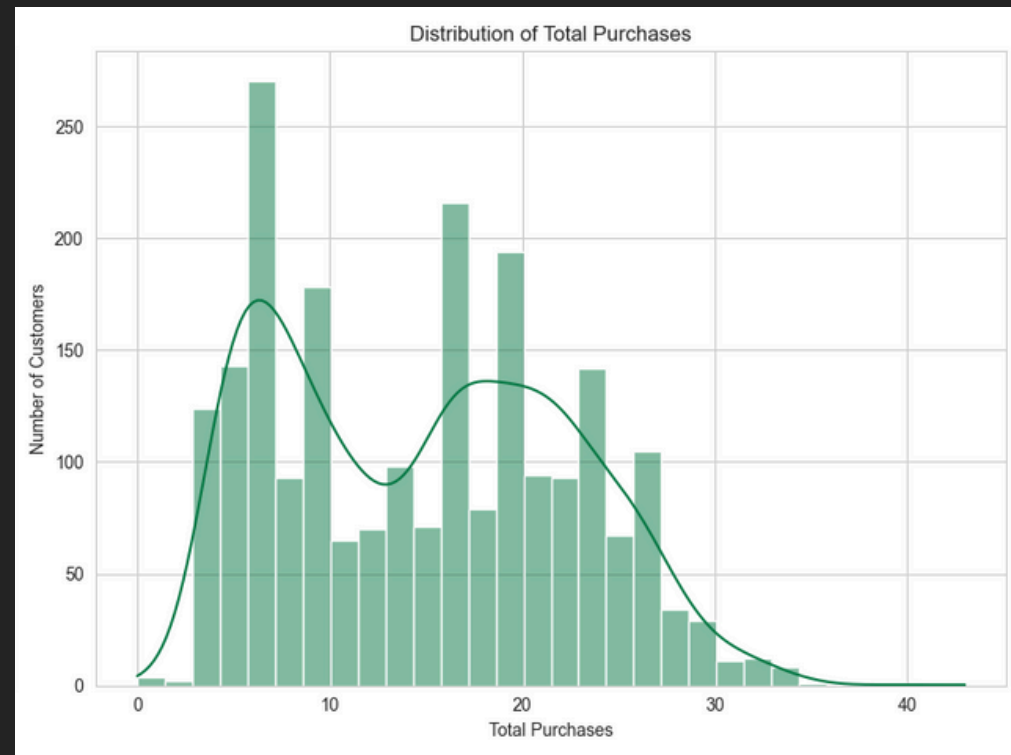
Customer Analytics: Insights, Segments & Targeting Playbook

Agenda:

- 1) Data Exploration & drivers
- 2) Customer Segments
- 3) Predictive model & profitability
- 4) Recommended next steps & pilot plan

DATA EXPLORATION

Income & Purchase Patterns



Median Income Range

\$30k–\$70k

Avg Purchases

~15 per customer

Sample Size

2205

- Income: Right-skewed; most customers between \$30k–\$70k, with a small high-income tail — prime target for premium offers.
- Purchases: Approximately normal distribution, clustering around 15 purchases — indicates stable purchasing behavior.
- Implication: Focus campaigns on high-income tail while nurturing average buyers for steady growth.

CORRELATION HEATMAP

Insights on Key Correlations Driving Customer Spend

≈ 0.8

Income ↔ Total Spend

Strong positive correlation. Higher-income customers spend significantly more.

$\approx 0.7+$

Purchases ↔ Spend

Frequency of purchases also matters. The more touchpoints, the higher the spend.

≈ 0.4

Campaign Acceptance ↔ Spend

Moderate positive. Campaigns are an effective tool for engaging high-value customers.

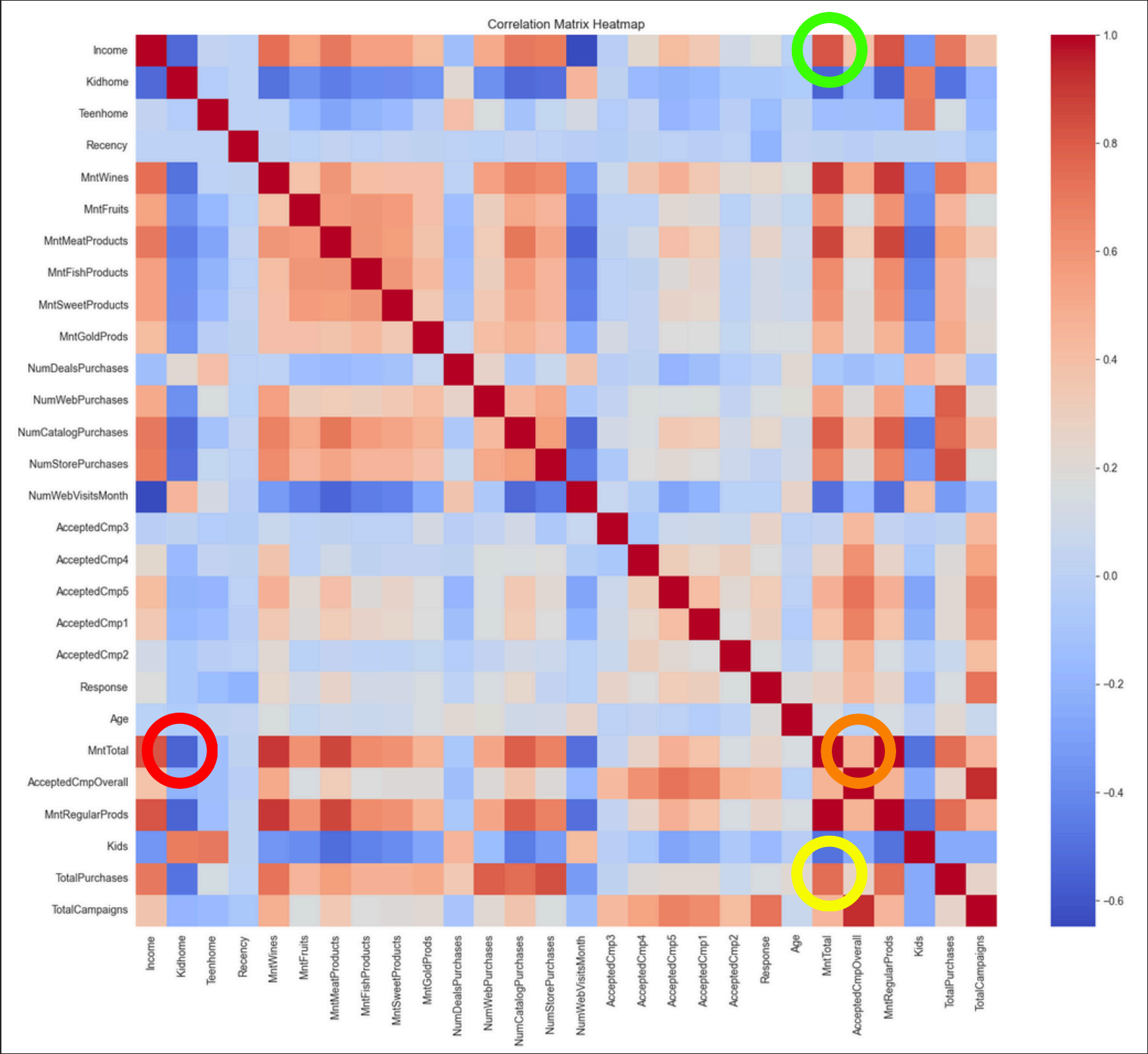
≈ -0.5

Kidhome ↔ Spend

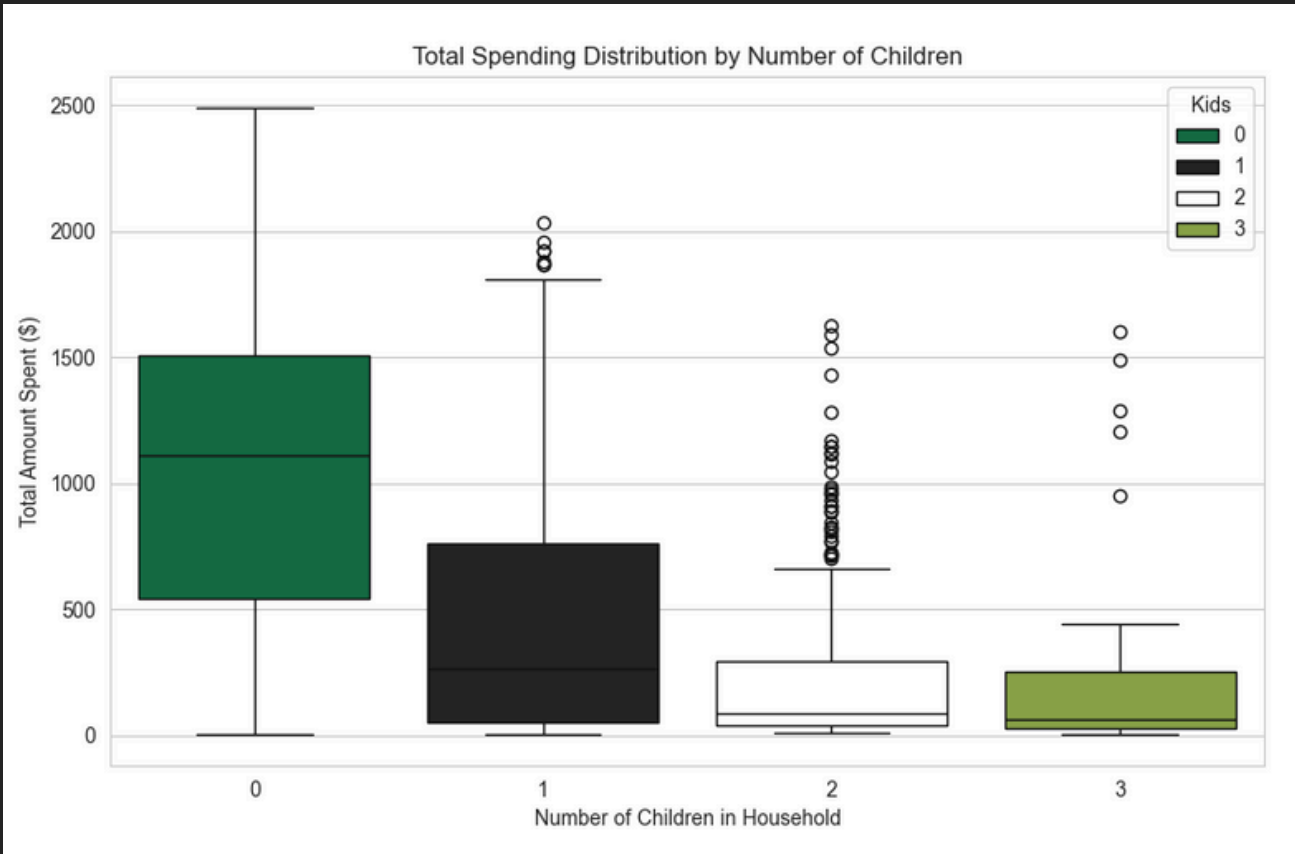
Negative correlation. Especially on certain products like Wines. Households with young children may have different spending priorities.

Implication:

Income and purchase frequency are the primary segmentation features for predicting and targeting high-value customers.



FAMILY SIZE & CHANNEL BEHAVIOR



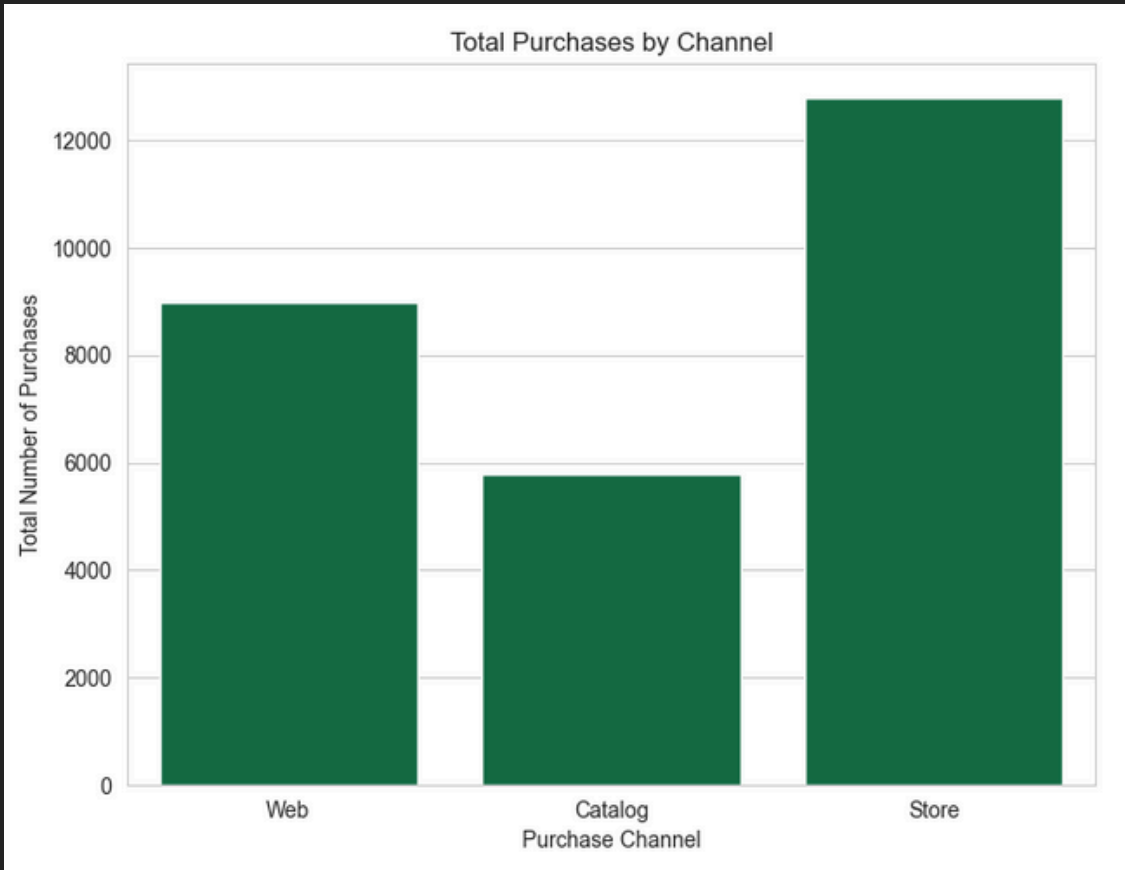
Spending by Number of Kids

Insights:

- Households without kids spend significantly more, likely due to higher disposable income and focus on premium or convenience products — premium, high-value customers
- Spending decreases with each child, priorities shift — more responsibilities
- Families with more children show lower average spend, suggesting stronger price sensitivity.

Business Proposals: Tailor Offers

1. Double Down on the "No-Kids" Segment → Premium single-portion or indulgence bundles
2. Families with kids → family packs, grocery bundles, loyalty discounts



Purchases by Channel

Insights:

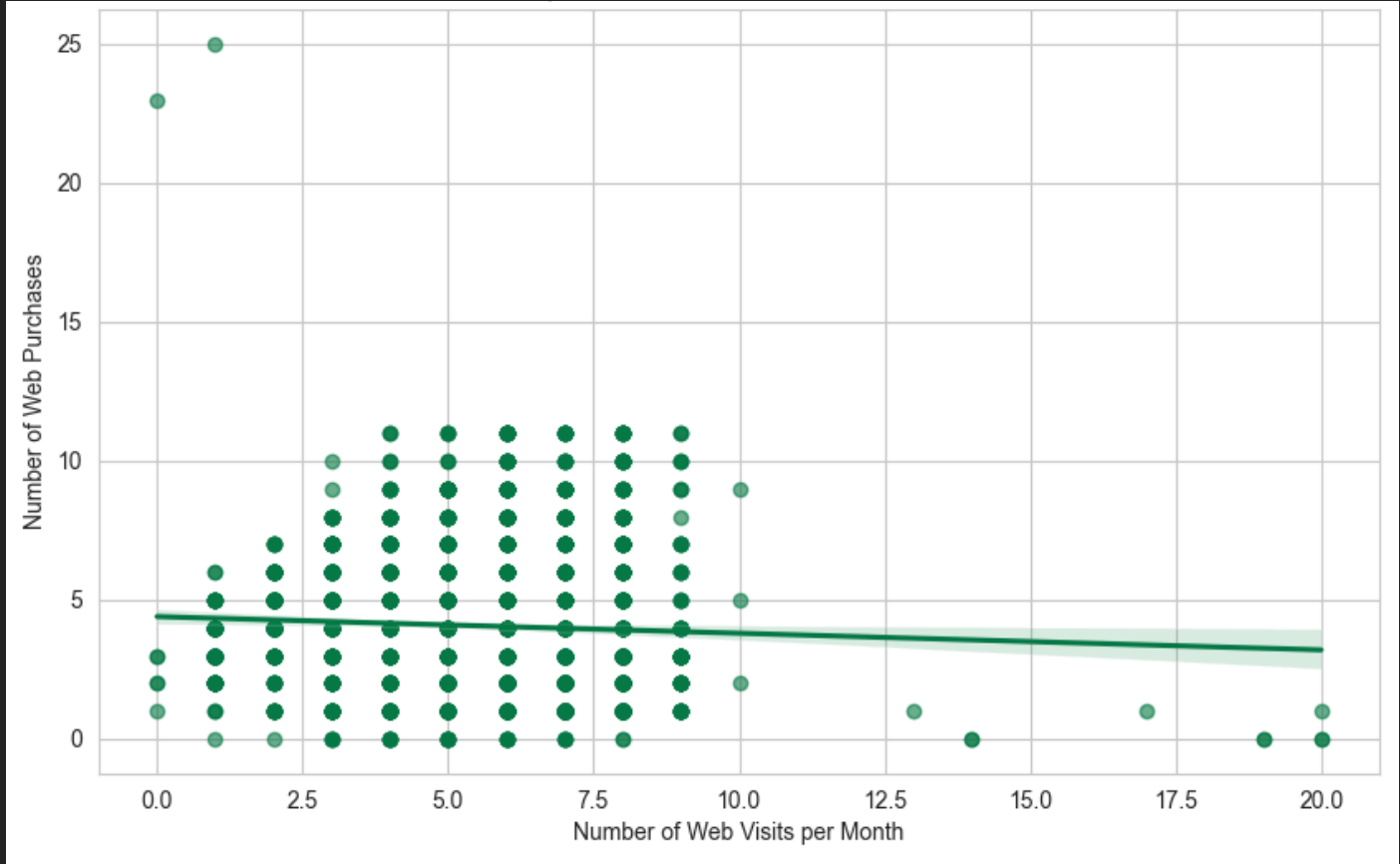
- Store purchases dominate overall, while Web is an important secondary channel.
- Catalog is underperforming — may be outdated or less effective

Business Proposals:

1. Need to re-allocate channel investment (catalog budget to other two channels)
2. More web presence or A/B testing on the website
3. Optimize the In-Store Experience

WEB FUNNEL & BEHAVIOR SIGNALS

Web Visits vs Web Purchases



High visits + low conversion = UX issue.

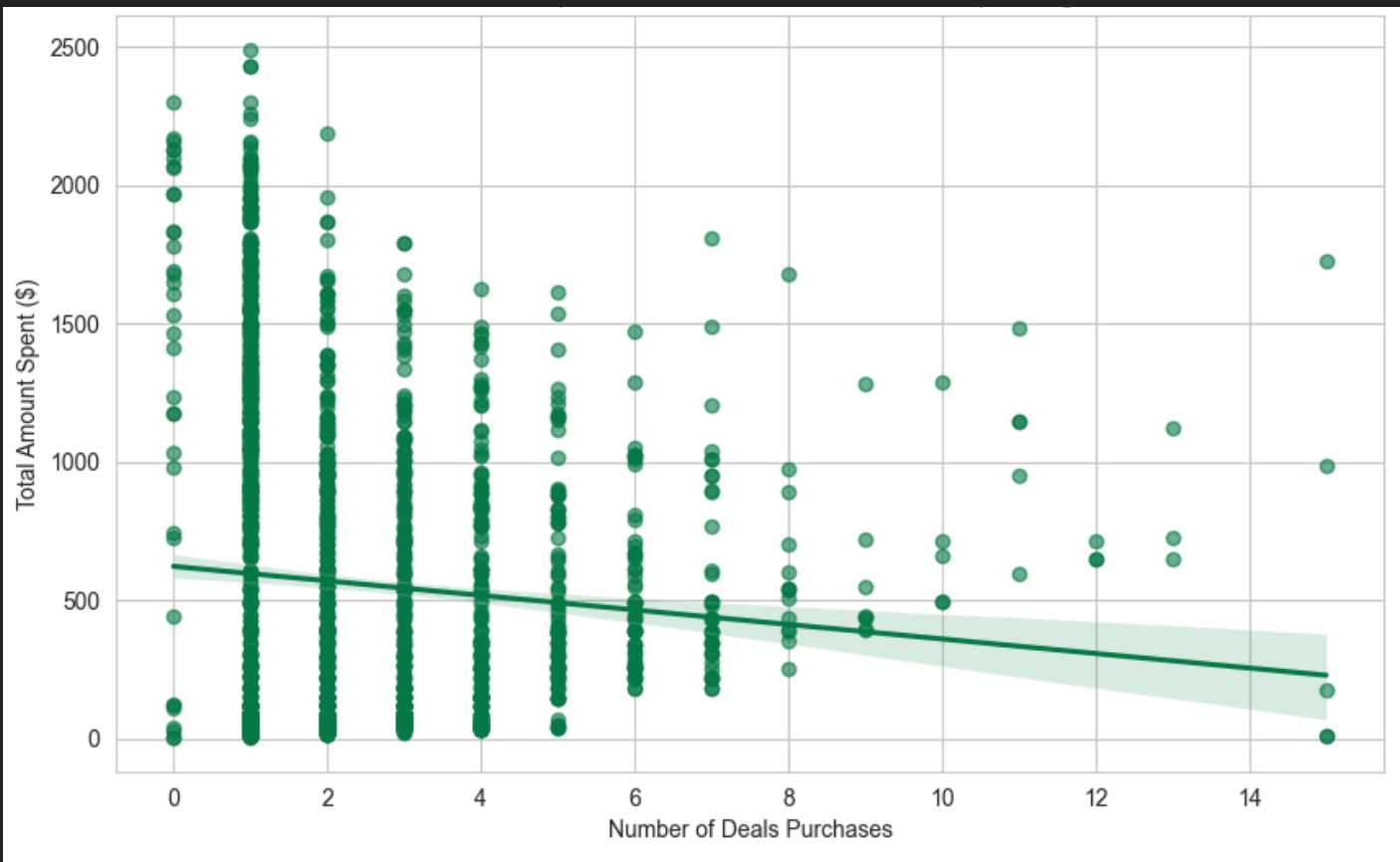
Insight:

- Signals a friction in checkout UX or mismatched product recommendations.

Business Proposals:

1. Need UX improvements, A/B test to raise web conversion
2. Shifting some marketing budget from website to channels that drive more purchases, such as in-store campaigns

Deals Used vs Total Spend



Discounts ≠ Higher purchases or Spend

Insights:

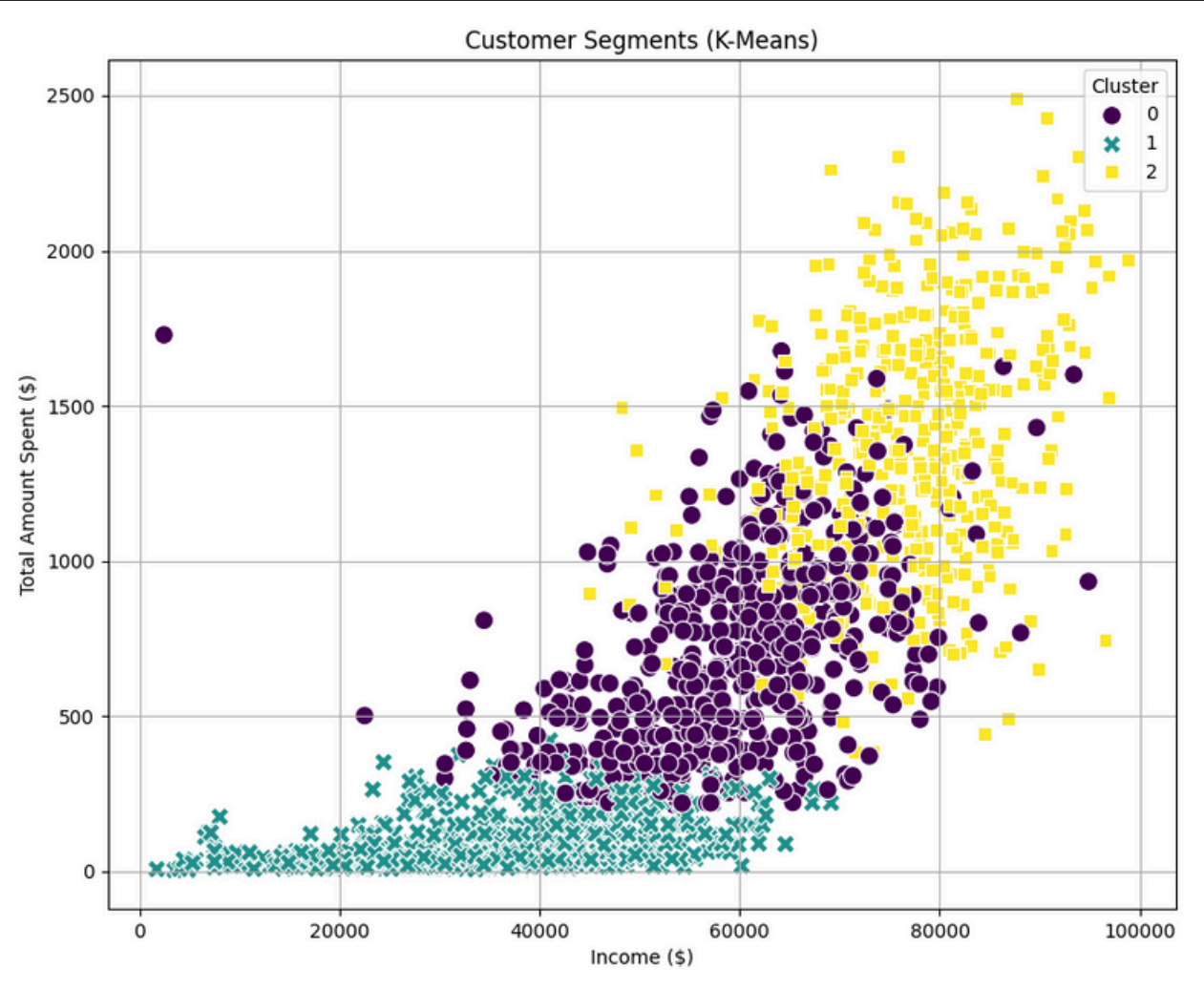
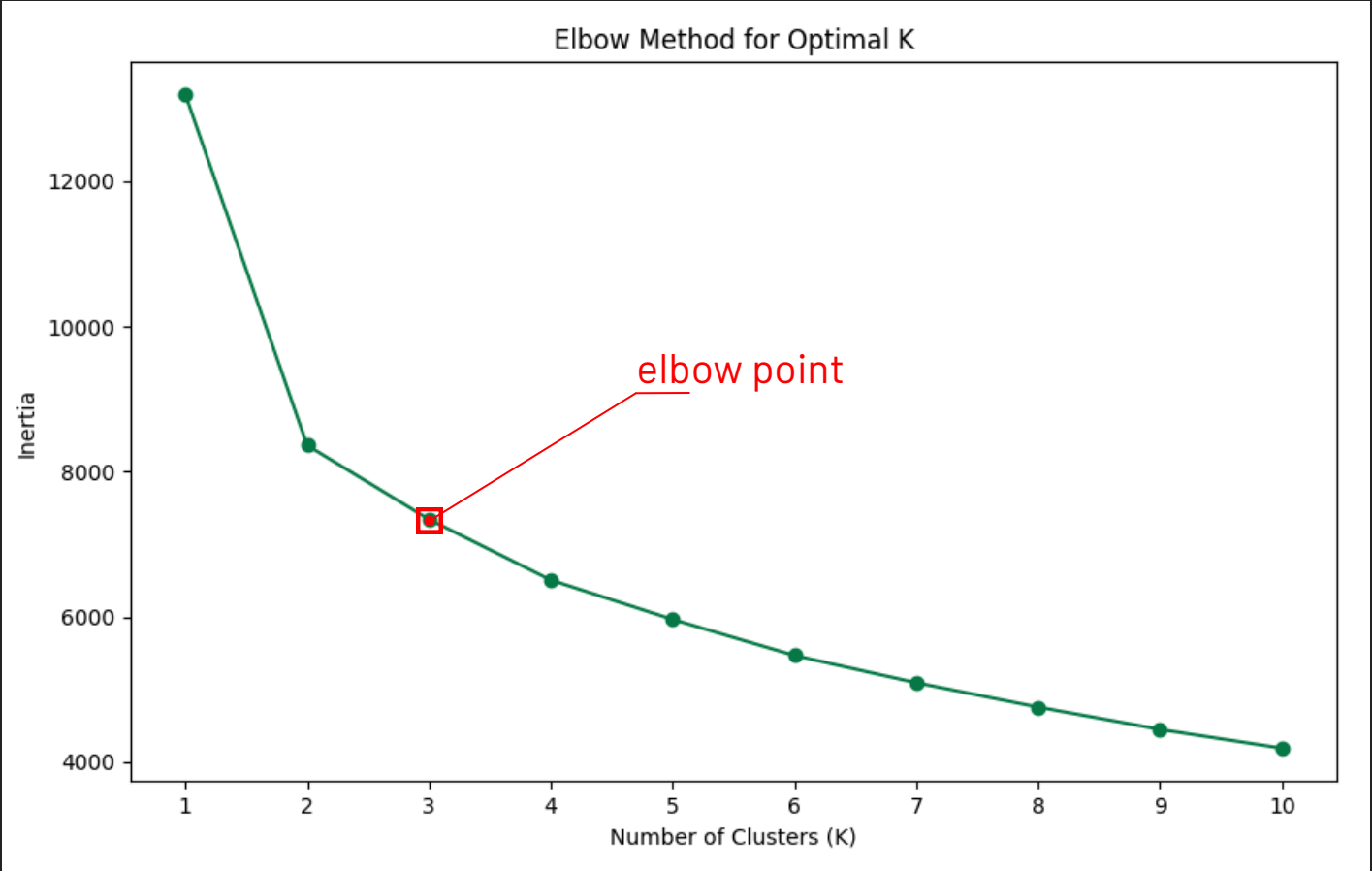
- Marked area- Investigate if the marketing cost of giving a deal is worth the revenue they generate
- “Deal Seekers” using low number of deals + have low total spend
- “Cherry Pickers” using only 2 or 3 deals, but spending consistently high

Business Proposals:

1. Avoid giving blanket discounts (discounts to all customers)
2. Shift from generic deals to more personalized, targeted offers
3. Develop a strategy to target different customer segments with different types of deals

CUSTOMER SEGMENTATION

Identifying Customer Segments with K-Means Clustering



These three clusters form the foundation for differentiated marketing strategies.

3
Optimal Clusters




Behavioral + Demographic
Segmentation

6
Features Used

Income, spend across
categories, purchase
frequency, recency
kids, and age.

Cluster	0 – Mid-Tier Families	1 – Low Spenders	2 – High-Value Shoppers
Avg Income	~\$58,745	~\$34,292	~\$76,366
Avg Total Spend	~\$685	~\$83	~\$1,351
Avg Purchases	~21	~8	~18
Avg Kids	1-2	0-1	0-1

GO-TO-MARKET PLAYBOOK BY SEGMENT

Segments	Objective	Tactics	KPIs
 <p>Cluster 0 : Mid-Tier Families</p>	Increase frequency & basket size	<ul style="list-style-type: none">• Family packs• Grocery bundles• BOGO• Loyalty programs• Targeted campaigns	<ul style="list-style-type: none">• Campaign Response Rate ↑• Incremental Revenue / Cost Ratio ↑
 <p>Cluster 1 : Low-Spender, Low-Engager</p>	Drive re-engagement at low cost	<ul style="list-style-type: none">• Last priority,• Entry-level offers• SMS coupons• Re-engagement nudges.	<ul style="list-style-type: none">• Avg Basket Size ↑• Repeat Purchase Rate ↑
 <p>Cluster 2 : High-Value, High-Spender</p>	Retain and maximize LTV	<ul style="list-style-type: none">• Premium bundles• Early access• Cross-sell wine & meat• Personalized communication	<ul style="list-style-type: none">• Avg Order Value (AOV) ↑• Customer Lifetime Value (CLV) ↑

PREDICTIVE MODEL PERFORMANCE

Model Accuracy & Business Implications



85% Accuracy

51% Precision

1 in 2 predicted responders actually respond

30% Recall

Model misses ~70% of responders

Model Performance:				
	precision	recall	f1-score	support
0	0.88	0.95	0.91	558
1	0.51	0.30	0.38	102
accuracy			0.85	660
macro avg	0.69	0.63	0.65	660
weighted avg	0.82	0.85	0.83	660

Insights:

- The model is very good at spotting customers who are unlikely to respond (85%), which helps us avoid spending on the wrong people.
- When it predicts someone will respond, it's right about half the time (51%) – so those predictions are worth acting on.
- The trade-off is that Recall is lower at 0.30, meaning we miss many potential responders (70%)

Business Implications:

- Overall, this model is cost-efficient: we avoid wasting budget on uninterested customers and increases the efficiency of marketing campaigns.
- But we do not reach all possible responders. For a marketing campaign where cost per customer matters, this trade-off is acceptable.

PROFIT IMPACT: BLIND VS TARGETED CAMPAIGNS

Scenario	Outreach Cost	Profit	Key Takeaway
Blind (all customers)	\$660	\$9,540	High reach, but costly
Model-Targeted	\$61	\$3,039	Lower profit, but cost reduced ~91%
Ideal Model	\$102	\$10,098	Maximum efficiency

Model reduces cost dramatically

\$61 vs \$660
(~91% savings).

Profit efficiency

Each \$1 spent on targeting brings ~\$50 profit.

Trade-off

Lower total profit than blind targeting

but much higher ROI per marketing dollar

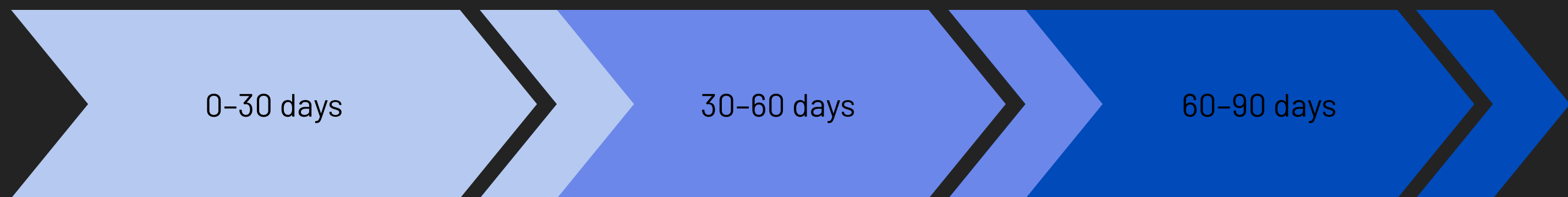
Path forward

Adjust targeting threshold to balance reach vs profit

Target if:
Outreach cost < Profit per responder × Probability of response

Assumptions for the company:
-Cost per Campaign: The cost to run one campaign (e.g., email, SMS, ad spend) per customer is a small, fixed cost, let's assume \$1.
-Average Revenue per Responding Customer: The average profit from a customer who responds to a campaign is much larger. Based on our TotalSpend analysis, let's assume a profit of \$100.

PILOT CAMPAIGN & NEXT STEPS



Pilot



- Run targeted campaign to ~61 customers flagged by model.
- Measure real-world lift vs small blind-control group.
- Keep campaign cost minimal to test ROI.

Evaluate & Calibrate



- Compare predicted vs actual profit.
- Fine-tune model probabilities & targeting threshold.
- Identify best balance between reach and cost efficiency.

Scale & Test



- Roll out A/B test:
 1. Group A = Model-targeted
 2. Group B = Model-targeted + enhanced offer
 3. Group C = Blind targeting control
- Track incremental revenue and ROI.

KPIs to Track



Incremental Revenue



ROI per \$ spent



Conversion Rate



Precision@K
(Accuracy of Top-Targeted Customers)

Our recommendation is to run a 90-day pilot. First, we'll test the model on a small, targeted group and measure actual uplift against a control. Then, we'll recalibrate the model and refine thresholds based on what we see. Finally, we'll scale the campaign through structured A/B tests to maximize both reach and ROI. The key KPIs we'll track are incremental revenue, ROI, and conversion rate — ensuring we have both cost efficiency and business impact.

RISKS ANALYSIS



Class imbalance

Fewer responders make it harder for the model to learn.



Model decay

Behavior may shift over time, reducing accuracy.



Over-subsidizing high value customers

Campaigns may reward customers who would have purchased anyway.

Next Analytics Steps



Uplift Modeling:
Identify customers whose behavior changes because of the campaign, not just likely buyers.



Explainability:
Show which features drive predictions.



Calibration & Monitoring:
Regularly adjust model thresholds and track performance over time.

Web Funnel Testing:
Run A/B tests to fix conversion gaps identified in browsing vs purchase analysis.

KEY TAKEAWAY

Data Exploration

Income & purchase frequency are the strongest drivers of customer value.

Segmentation

Three clear customer clusters — each with distinct needs and marketing strategies.

Predictive Model

Enables **cost-efficient targeting**, saving ~91% in outreach costs while delivering strong ROI.

Target the right customers, at the right cost, with the right offer to maximize profit and long-term value.



Thank you

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