



Top-of-Funnel Performance Review

Marketing Mix Model Insights for [Brand Name]



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Executive Summary

- 12 top-of-funnel channels were evaluated using Marketing Mix Modeling (MMM) results.
- Identified **\$263K+** in spend across underperforming channels ($ROI < 2$), including Facebook Promoting, Influencer Macro/Micro, and Snap.
- Reallocating this budget to high-performing channels (e.g., Pinterest, Adwords Non-Brand) could unlock up to **\$165K ~ \$221K (+104%)** incremental revenue.
- Channels like TikTok and Facebook AdvShopping show promise but require further testing and refinement.
- Next steps include reallocating spend, testing Watchlist channels, and reducing channel overlap.



Note: See Appendix for detailed estimation assumptions and calculations.

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Business Question & Objective

Business Context:

[Brand Name] is investing across multiple top-of-funnel (TOF) marketing channels to **acquire new customers** and **grow brand awareness**.

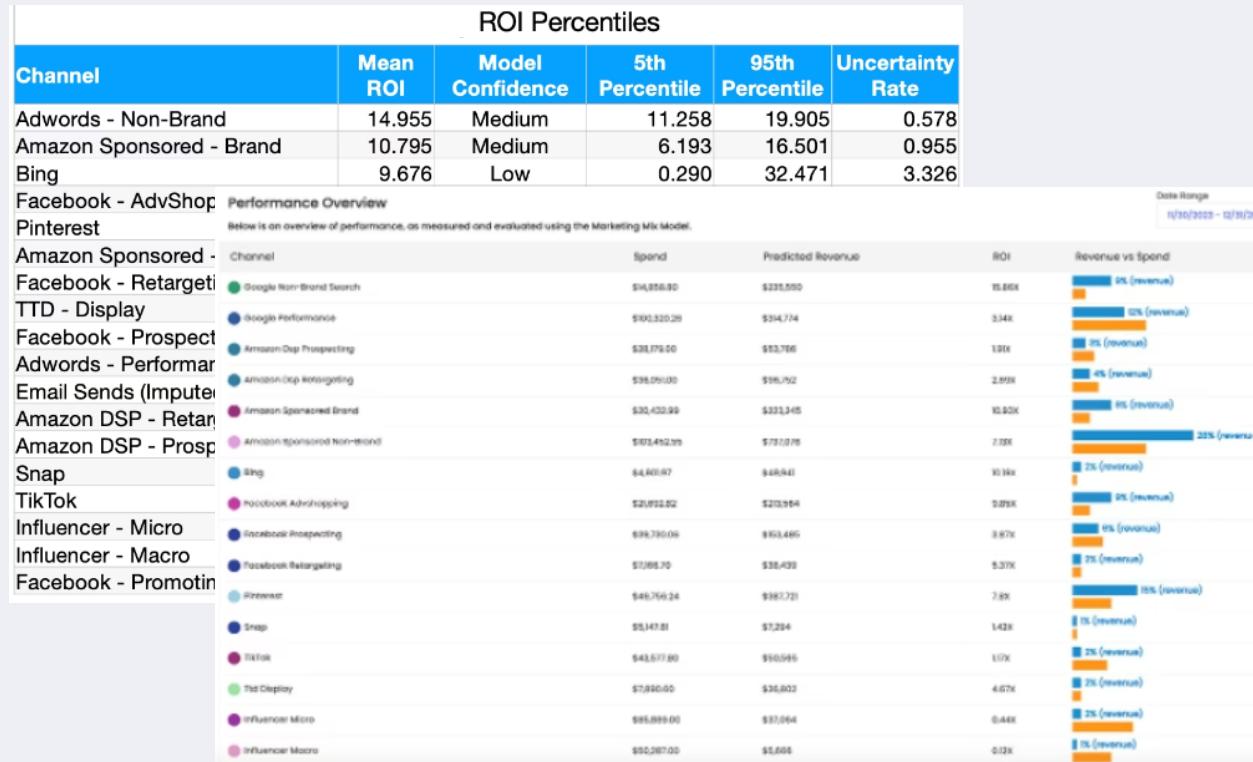
Key Business Questions:

- Which TOF channels are driving strong ROI and revenue?
- Are there any underperforming or inefficient channels?
- How can we optimize spend to improve marketing efficiency?

Analysis Objectives:

1. Evaluate performance of all [Brand Name]'s top-of-funnel (TOF) channels using MMM outputs
2. Identify overperforming and underperforming channels and classify each channel as GOOD, WATCHLIST, or WEAK
3. Identify high-cost low-return areas and recommend reallocation to improve ROI and revenue

Methodology & Data Fusion



No	Channel_x	Mean ROI	Model Confidence	5th Percentile	95th Percentile	Uncertainty Rate	Channel_y	Spend	Predicted Revenue	Predicted ROI
0	Adwords - Non-Brand	14.955	Medium	11.258	19.905	0.578	Google Non-Brand Search	14858.8	235550	15.86
1	Amazon Sponsored - Brand	10.795	Medium	6.193	16.501	0.955	Amazon Sponsored Brand	20432.99	223245	10.93
2	Bing	9.676	Low	0.290	32.471	3.326	Bing	4901.97	49941	10.19
3	Facebook - AdvShopping	9.622	Low	2.855	22.799	2.073	Facebook Advshopping	21692.82	213564	9.85
4	Pinterest	7.948	Medium	4.815	11.116	0.793	Pinterest	49756.24	387721	7.8
5	Amazon Sponsored - Non-Brand	7.338	Medium	5.669	9.067	0.463	Amazon Sponsored Non-Brand	103452.6	737076	7.13
6	Facebook - Retargeting	4.799	High	3.619	6.098	0.517	Facebook Retargeting	7166.7	38439	5.37
7	TTD - Display	4.476	Low	0.253	11.824	2.585	Ttd Display	7890.6	36802	4.67
8	Facebook - Prospecting	3.603	High	2.668	4.539	0.519	Facebook Prospecting	39730.06	153485	3.87
9	Adwords - Performance	3.207	Medium	2.173	4.338	0.675	Google Performance	100320.3	314774	3.14
10	Email Sends (Imputed Cost)	2.858	Medium	1.736	4.077	0.819				
11	Amazon DSP - Retargeting	2.602	Low	0.162	6.788	2.546	Amazon Dsp Retargeting	36051	96752	2.69
12	Amazon DSP - Prospecting	1.843	Low	0.099	5.066	2.695	Amazon Dsp Prospecting	28179	53786	1.91
13	Snap	1.246	Low	0.049	4.529	3.595	Snap	5147.81	7294	1.42
14	TikTok	1.136	Low	0.049	2.534	2.189	TikTok	43577.8	50565	1.17
15	Influencer - Micro	0.433	Medium	0.116	0.698	1.343	Influencer Micro	85889	37064	0.44
16	Influencer - Macro	0.115	Medium	0.01	0.312	2.629	Influencer Macro	50287	5666	0.12
17	Facebook - Promoting	0.059	High	0.004	0.165	2.724				

Integrated two core datasets to create a comprehensive view:

ROI Percentiles

Confidence levels and model uncertainty metrics for each channel

Performance Overview

Revenue and spend estimates based on marketing mix modeling

Uncertainty Rate Calculation:

$$\text{Uncertainty Rate} = \frac{95\text{th Percentile} - 5\text{th Percentile}}{\text{Mean ROI}}$$

- Measures how volatile the modeled ROI is
- The lower the rate, the more reliable the prediction.

Note: Channel names have been aligned across data sources for consistency.

Top-of-Funnel (TOF) Channels

- Narrowed focus to true top-of-funnel (TOF) channels: e.g., non-brand search, prospecting, influencer, display, etc.
- Excluded clear retargeting or conversion-focused platforms from this analysis.

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15	Influencer - Micro	0.433	Medium	0.116	0.698	1.343	Influencer Micro	85889	37064	0.44
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Included Channels

Focus on awareness, discovery, or prospecting:

- Adwords – Non-Brand
- Amazon Sponsored – Brand
- Amazon Sponsored – Non-Brand
- Bing
- Facebook – AdvShopping
- Facebook – Prospecting
- Influencer – Macro
- Influencer – Micro
- Pinterest
- Snap
- TTD – Display
- TikTok

Excluded Channels

Focus on retargeting, branded queries, or conversion:

- Adwords – Performance
- Amazon DSP – Prospecting
- Amazon DSP – Retargeting
- Email Sends (Imputed Cost)
- Facebook – Promoting
- Facebook – Retargeting



Evaluation Framework

Primary Metrics to Judge "Good vs Bad" Channels.



Expected ROI

Are returns strong enough to justify continued investment?
Higher ROI indicates better channel efficiency.



Channel Spend

Was investment substantial enough to generate meaningful results? Higher spend improves statistical significance.



Uncertainty Rate

Can we trust the modeled ROI? Lower uncertainty means more reliable predictions.



Predicted Revenue

Is the revenue contribution material to the business? Larger revenue impact means higher strategic value.

Evaluation Framework: Good vs. Weak Channels

Evaluation thresholds are customized based on this case's channel mix and spend scale.

Each KPI benchmark is grounded in observed model output and practical significance—ensuring the ROI is not only statistically reliable, but also business-meaningful.

GOOD Top-of-Funnel Channel

Metric	Threshold	Reason
Expected ROI	$\geq 3.0X$	Strong top-line return
Uncertainty	< 1.5	Reliable modeling
Spend	$\geq \$10K$	Statistically meaningful
Revenue	$\geq \$100K$	Substantial contribution

WEAK Top-of-Funnel Channel

Metric	Threshold	Reason
Expected ROI	$\leq 1.5X$	Low return
Uncertainty	> 1.5	Too noisy to rely on
Spend	$\leq \$5K$	Insufficient signal
Revenue	$< \$50K$	Minimal impact

Note: *Watchlist = mixed signals*

These benchmarks are tailored to the current brand's spend level and MMM output distribution. They help distinguish meaningful investment from statistical noise, aligning recommendations with business relevance.

Evaluation Framework: Good vs. Weak Channels

Channel	Uncertainty Rate	Spend	Predicted Revenue	Predicted ROI	Verdict	Reasoning
Adwords - Non-Brand	0.578	14858.8	235550	15.86	✓ GOOD	All 4 metrics meet GOOD thresholds
Amazon Sponsored - Brand	0.955	20432.99	223245	10.93	✓ GOOD	All 4 metrics meet GOOD thresholds
Amazon Sponsored - Non-Brand	0.463	103452.55	737076	7.13	✓ GOOD	All 4 metrics meet GOOD thresholds
Bing	3.326	4901.97	49941	10.19	✗ WEAK	Uncertainty > 1.5, Spend < 5K, Revenue < 50K
Facebook - AdvShopping	2.073	21692.82	213564	9.85	⚠ WATCHLIST	ROI & Spend ok, but Uncertainty > 1.5
Facebook - Prospecting	0.519	39730.06	153485	3.87	✓ GOOD	All 4 metrics meet GOOD thresholds
Influencer - Macro	2.629	50287	5666	0.12	✗ WEAK	ROI < 1.5, Revenue < 50K
Influencer - Micro	1.343	85889	37064	0.44	✗ WEAK	ROI < 1.5, Revenue < 50K
Pinterest	0.793	49756.24	387721	7.8	✓ GOOD	All 4 metrics meet GOOD thresholds
Snap	3.595	5147.81	7294	1.42	✗ WEAK	ROI < 1.5, Uncertainty > 1.5, Spend < 5K, Revenue < 50K
TikTok	2.189	43577.8	50565	1.17	⚠ WATCHLIST	ROI < 3, Uncertainty > 1.5, but Spend & Revenue acceptable
TTD - Display	2.585	7890.6	36802	4.67	⚠ WATCHLIST	ROI ok, Spend ≈ borderline, Uncertainty > 1.5

Evaluation Framework: Good vs. Weak Channels

- **GOOD**

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- **WEAK**

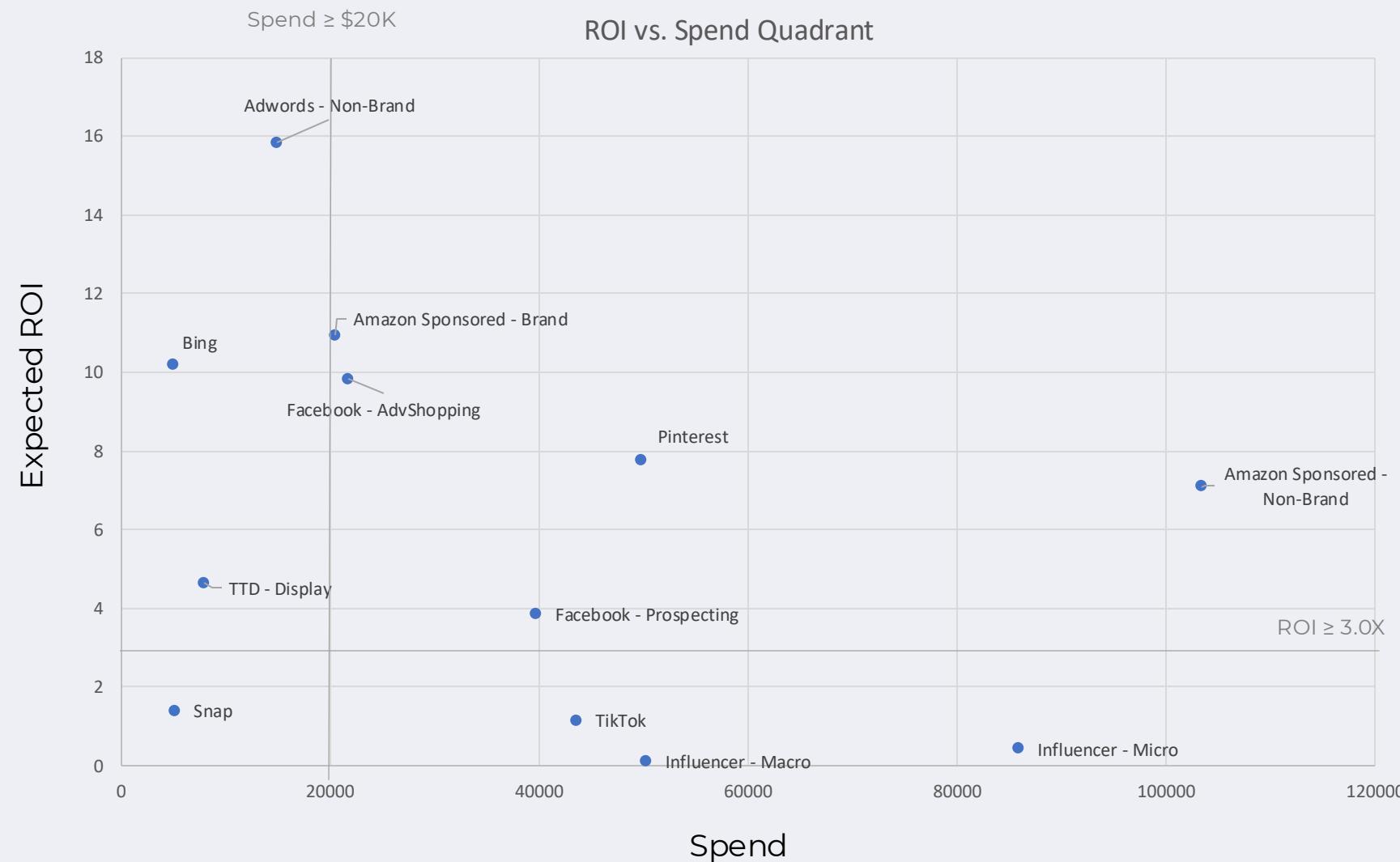
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- **WATCHLIST**

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ROI vs. Spend Quadrant Analysis

Identifies underperforming channels with high spend and low ROI



Key Insights:

This plot visualizes marketing efficiency:

- Top-left = High ROI, Low Spend → opportunity to scale (e.g., Adwords)
- Bottom-right = Low ROI, High Spend → risky or inefficient (e.g., TikTok, Influencer)
- Channels like Snap and Macro Influencer absorb significant budget but yield poor ROI.

Note:

While Bing appears high ROI here, it fails on other dimensions (e.g., Uncertainty & low Spend), so it's flagged as Weak in holistic evaluation.

Quadrant split lines are based on $ROI = 3.0$ and $Spend = \$20K$ thresholds.

Channel Spending Correlation & Insights

This heatmap reveals how our TOF channel spending levels move together — helping us spot overlap risks and diversification opportunities.

Feature Correlation ?	See how your features are correlated with each other and revenue.																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Google Non-Brand Search	1	0.61	0.23	0.24	0.29	0.18	0.25	0.33	0.35	-0.05	0.33	0.1	-0.02	0.05	0.62	0.26	0.5	0.34
2. Google Performance	0.61	1	0.26	0.24	0.34	0.29	0.12	0.39	0.47	-0.08	0.37	0.27	0.01	0.12	0.74	0.4	0.53	0.35
3. Amazon Dsp Prospecting	0.23	0.26	1	0.53	0.34	0.3	0.09	0.08	0.34	0.06	0.18	-0.03	0.05	0.09	0.23	0.04	0.21	0.33
4. Amazon Dsp Retargeting	0.24	0.24	0.53	1	0.43	0.51	0.4	0.14	0.51	-0.33	0.21	-0.2	0.06	0.08	0.25	0.11	0.23	0.5
5. Amazon Sponsored Brand	0.29	0.34	0.34	0.43	1	0.74	0.12	0.22	0.53	-0.2	0.2	-0.06	0.02	0.08	0.33	0.01	0.38	0.45
6. Amazon Sponsored Non-Brand	0.18	0.29	0.3	0.51	0.74	1	0.18	0.19	0.5	-0.18	0.14	-0.11	0.02	0.07	0.23	-0.02	0.27	0.37
7. Bing	0.25	0.12	0.09	0.4	0.12	0.18	1	0.23	0.07	-0.2	0.27	0.11	0.05	0.11	0.25	0.47	0.21	0.3
8. Email Sends	0.33	0.39	0.08	0.14	0.22	0.19	0.23	1	0.27	-0.08	0.32	0.25	-0.04	0.12	0.46	0.3	0.43	0.21
9. Facebook Advshopping	0.35	0.47	0.34	0.51	0.53	0.5	0.07	0.27	1	-0.26	0.16	-0.13	0	0.08	0.48	-0.05	0.49	0.54
10. Facebook Promoting	-0.05	-0.08	0.06	-0.33	-0.2	-0.18	-0.2	-0.08	-0.26	1	-0.08	0.23	-0.02	-0.05	-0.11	-0.11	-0.14	-0.3
11. Facebook Prospecting	0.33	0.37	0.18	0.21	0.2	0.14	0.27	0.32	0.16	-0.08	1	0.53	-0.02	0.1	0.42	0.53	0.61	0.23
12. Facebook Retargeting	0.1	0.27	-0.03	-0.2	-0.06	-0.11	0.11	0.25	-0.13	0.23	0.53	1	-0.06	0.09	0.24	0.43	0.25	-0.11
13. Influencer Macro	-0.02	0.01	0.05	0.06	0.02	0.02	0.05	-0.04	0	-0.02	-0.02	-0.06	1	0.24	-0.04	-0.02	-0.01	0.06
14. Influencer Micro	0.05	0.12	0.09	0.08	0.08	0.07	0.11	0.12	0.08	-0.05	0.1	0.09	0.24	1	0.12	0.1	0.11	0.15
15. Pinterest	0.62	0.74	0.23	0.25	0.33	0.23	0.25	0.46	0.48	-0.11	0.42	0.24	-0.04	0.12	1	0.56	0.67	0.43
16. Snap	0.26	0.4	0.04	0.11	0.01	-0.02	0.47	0.3	-0.05	-0.11	0.53	0.43	-0.02	0.1	0.56	1	0.33	0.24
17. TikTok	0.5	0.53	0.21	0.23	0.38	0.27	0.21	0.43	0.49	-0.14	0.61	0.25	-0.01	0.11	0.67	0.33	1	0.44
18. Ttd Display	0.34	0.35	0.33	0.5	0.45	0.37	0.3	0.21	0.54	-0.3	0.23	-0.11	0.06	0.15	0.43	0.24	0.44	1

Channel Spending Correlation & Insights

High Spend Correlation (0.50 ~ 0.75)

These pairs share tightly linked budgets — often used together to drive sequential touchpoints (prospecting then retargeting).

Next Step

Align budgets, pacing, and audience exclusions to minimize overlap and duplicated reach. Coordinate KPIs and avoid double counting

Example

- Sponsored Brand ↔ Non-Brand (0.74)
- Amazon DSP Prospecting ↔ Retargeting (0.53)
- Facebook Prospecting ↔ Retargeting (0.53)

Medium Spend Correlation (0.35 ~ 0.50)

These channels often scale together as part of a wider brand awareness push, especially for Gen Z and new customer segments.

Next Step

Run incrementality tests to confirm unique reach. Adjust spend splits to focus on channels delivering the clearest lift..

Example

- Snap ↔ TikTok (0.67)
- Snap ↔ Pinterest (0.56)
- Pinterest ↔ Google Non-Brand Search (0.62)

Low or Negative spending correlation (-0.30 ~ 0.30)

These spend lines move independently or inversely — useful for audience diversification but need to prove ROI.

Next Step

Track performance in isolation. Reallocate underperformers to stronger channels if they fail to deliver incremental value..

Example

- Facebook AdvShopping ↔ Prospecting (0.16)
- Influencer Macro ↔ Paid Channels (~0.00)
- Facebook Promoting ↔ Amazon DSP Retargeting (-0.33)

Top-of-Funnel (TOF) Channel Categorization



GOOD Channels

- Adwords - Non-Brand
- Amazon Sponsored – Brand
- Amazon Sponsored - Non-Brand
- Facebook – Prospecting
- Pinterest
- Bing

WATCHLIST Channels

- Facebook – AdvShopping
- TikTok
- TTD - Display

WEAK Channels

- Influencer – Macro
- Influencer - Micro, Snap

UPDATE:

Regarding Bing - Model confidence is low, the predicted ROI is high (10.19). Understanding that the spend cap is relatively low → Reassess the risk, which suggests it may still Even though be a worthwhile Good TOF channel to invest in.

Spend Reallocation Opportunity

Estimated Incremental Revenue Uplift — Reallocation Impact

Baseline

Underperforming TOF Channels (ROI < 2)

- Total Spend: \$263,368
- Current Average ROI: ~0.6034
- Current Expected Revenue: \$158,926

Target ROI (High-Performing Benchmark): ~9

- Theoretical Expected Revenue: $\$263,368 \times 9 = \$2,370,312$
- Gross Incremental Uplift: $\$2,370,312 - \$158,926 = \$2,211,386$

Adjustments for Realistic Delivery

- Apply marginal diminishing returns: $\div 2$
- Apply realization factor: $\times 15\text{--}20\%$

Estimated Realistic Incremental Revenue = $(\$2,370,312 - \$158,926) \div 2 \times 15\% \sim 20\% \approx \$165K \sim \$221K$

Uplift % = Incremental Revenue/Original Revenue = $\$2,211,386 / \$158,926 \div 2 \times 15\% \sim 20\% \approx 104\%$

Note: See Appendix for detailed estimation assumptions and calculations.

- Identified **\$263K+** in spend across underperforming channels (ROI < 2), including Facebook Promoting, Influencer Macro/Micro, and Snap.
- Reallocating this budget to high-performing channels (e.g., Pinterest, Adwords Non-Brand) could unlock up to **\$165K ~ \$221K (+104%)** incremental revenue.

Key Strategic Actions



Scale High-Performing Channels

- Increase spend on top performers like **Adwords - Non-Brand**, **Amazon Sponsored - Brand**, and **Pinterest**, which consistently meet ROI, reliability, and revenue thresholds.
- Closely monitor marginal ROI to identify any diminishing returns as spend scales up.
- Leverage strong revenue correlations. **Pinterest** (0.66) and **Adwords Non-Brand** (0.62) to prioritize during peak demand periods.



Refine & Monitor Watchlist Channels

- For channels like **Facebook AdvShopping** and **TikTok**, consider:
 - Running A/B tests or segment-specific campaigns to reduce performance uncertainty.
 - Investigating creative, audience, or placement strategies to stabilize ROI and reduce volatility.
 - Use upcoming model refreshes to reassess classification based on improvements or degradation.



Pause or Reallocate Budget from Underperformers

- Reduce or pause spend on **Snap**, **Influencer - Macro**, **Facebook Promoting**, and **Facebook Retargeting**, which show either low ROI or negative correlation with revenue (e.g., Facebook Promoting: -0.16).
- Shift investment toward higher-performing or testable channels to improve media efficiency.



Reduce Channel Overlap & Cannibalization

- Coordinate between overlapping campaigns (e.g., **Facebook AdvShopping & Prospecting**, correlation = 0.64) to avoid audience cannibalization or duplicated attribution.
- Reassess mix of **Amazon DSP Prospecting** and **Amazon Sponsored Brand** (correlation = 0.74) to streamline spend across prospecting and retargeting efforts.

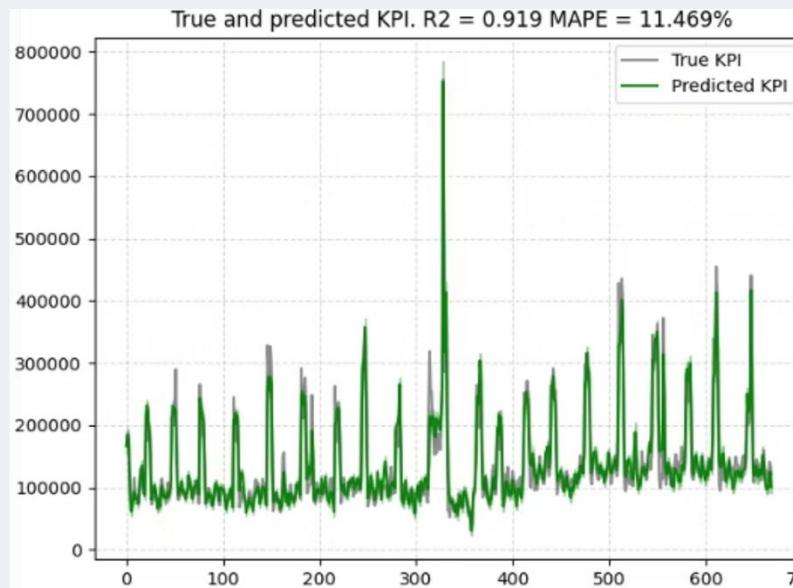


Improve Model Confidence Inputs

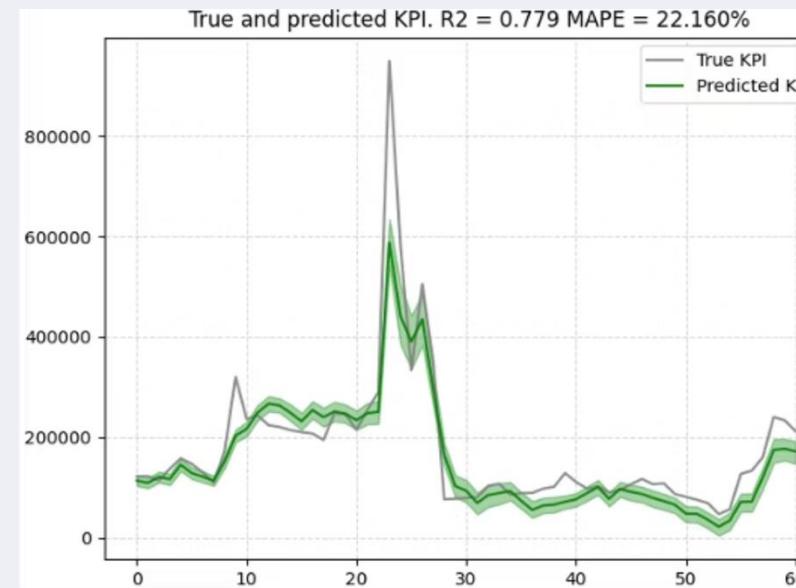
- For low-confidence channels, ensure robust data feeds and accurate attribution tagging.
- Prioritize high-spend, high-impact channels for frequent MMM updates to improve forecasting accuracy.

Model Accuracy & Fit Overview

Training Set



Testing Set



Metric	What It Means	Interpretation (Rule of Thumb)
R ²	% of variance explained by the model	> 0.75 = Good > 0.90 = Excellent
MAPE	Avg. % prediction error vs. reality	< 10% = Very accurate < 25% = Acceptable

- **R² = 0.919** → The model explains ~92% of the variance in revenue.
- **MAPE = 11.47%** → Low average prediction error, high alignment with true performance.

- **R² = 0.779, MAPE = 22.16%**
- Acceptable accuracy on out-of-sample data, indicating good generalizability.

The MMM model is sufficiently accurate to evaluate **top-of-funnel channel ROI** and inform budget decisions.

Appendix

Estimated Incremental Revenue Uplift — Reallocation Impact.

Channel	Spend (\$)	ROI (< 2)	Expected Revenue
Facebook Promoting	50,287	0.059	2966
Influencer - Macro	50,287	0.12	6035
Influencer - Micro	85,889	0.44	37791
Snap	5,148	1.42	7316
TikTok	43,578	1.17	50988
Amazon DSP Prospecting	28,179	1.91	53830
Total	\$263,368	0.6034	\$158,926

Underperforming TOF Channels (ROI < 2)

- Total Spend: \$263,368
- Current Average ROI: ~0.6034
- Current Expected Revenue: \$158,926

Channel	Mean ROI	Spend(\$)	Predicted Revenue (\$)	Predicted ROI
Adwords - Non-Brand	14.955	14858.8	235550	15.86
Amazon Sponsored - Brand	10.795	20432.99	223245	10.93
Amazon Sponsored - Non-Brand	7.338	103452.55	737076	7.13
Facebook - Prospecting	3.603	39730.06	153485	3.87
Pinterest	7.948	49756.24	387721	7.8

Target high-performing channel average **ROI ≈ 9**

- Average Mean ROI: 8.9278
- Average Predicted ROI: 9.118

Appendix

Channel	Spend (\$)	Target ROI	Expected Revenue (\$)
Facebook Promoting	50,287	9	452583
Influencer – Macro	50,287	9	452583
Influencer – Micro	85,889	9	773001
Snap	5,148	9	46332
TikTok	43,578	9	392202
Amazon DSP Prospecting	28,179	9	253611
Total	\$263,368	9	\$2370312

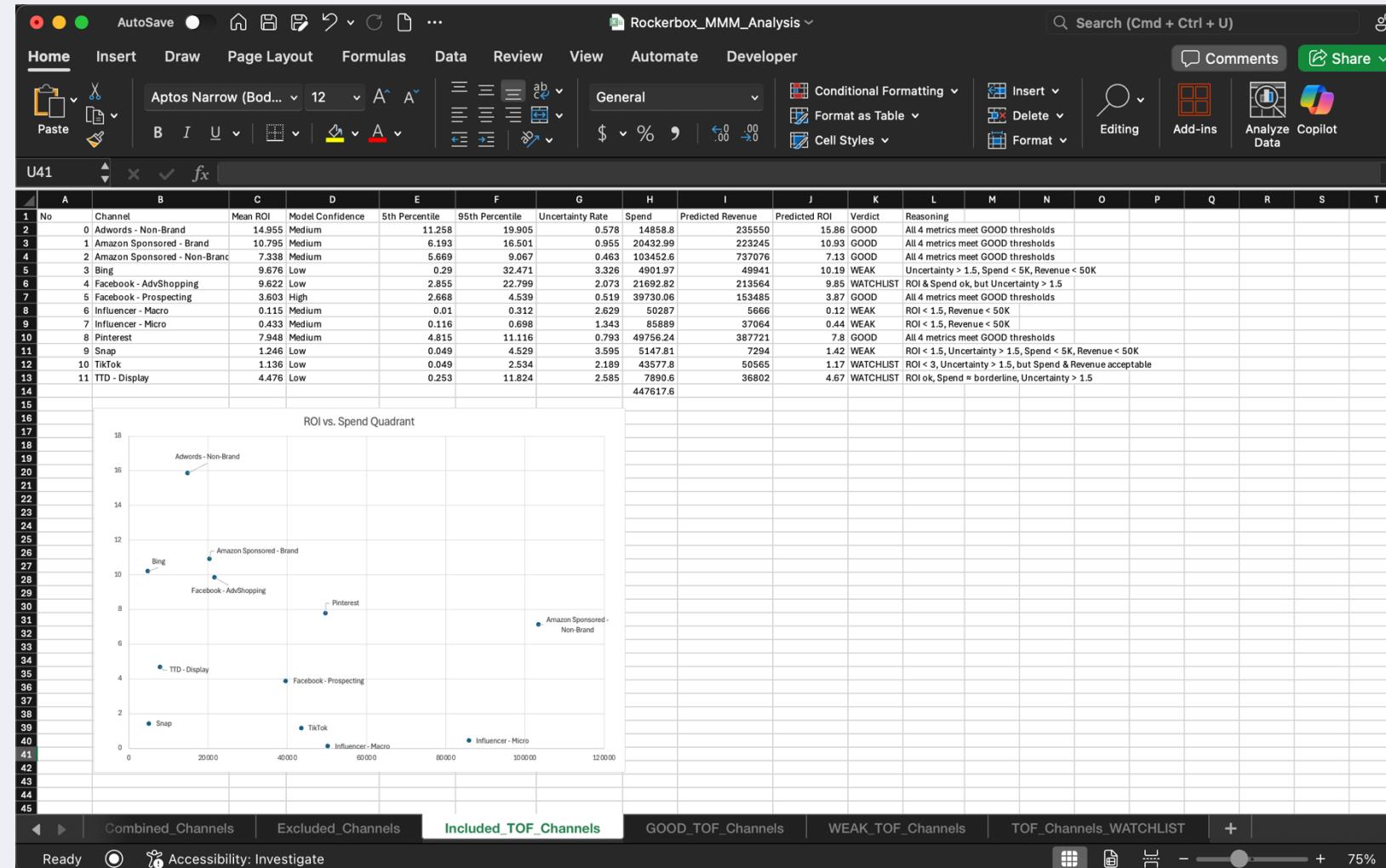
Sum of Expected Revenue if reallocated to ROI = 9: \$2370312

- Apply marginal diminishing returns (÷2)
- Apply realization factor (e.g., × 15–20%)
- Uplift Amount = $(\$2370312 - \$158,926) \div 2 \times 15\text{--}20\% = \$165K - \$221K$
- Uplift (%) $\approx (\$2370312 - \$158,926) / \$158,926 \div 2 \times 0.15 \approx 1.04$

With assumptions (15–20% effectiveness after discounting for diminishing returns), this reallocation could drive an estimated **\$165K - \$221K incremental revenue**, or approximately **104% uplift** based on current predicted revenue.

* This represents a conservative scenario for this spend block only.

Appendix



MMM_Analysis.xlsx

Click to Download!



Thanks !

Looking forward to discussing these findings further.