Deel

Marketing Analytics Challenge

Executive Presentation | Tasks 1, 2 & 3

Period: Jul 2023 – Jun 2025 | 11,952 records | 7 teams | 17 programs

Tools: Python · Pandas · NumPy · Plotly · Streamlit · Matplotlib · python-pptx

Code Python

Link to Github

Dashboard Executive

Link to Extra Insights

Task 1

Sales Funnel Analysis

Task 2

Paid & Brand Channels

Task 3

Scenario Analysis

Who You're Presenting To

Two senior stakeholders with distinct focus areas

Paid Marketing Director

Cares about short-term ROI and performance of paid spend.

Key Questions:

→ Which channels generate the best CPA?

→ Where is budget being wasted?

→ How do we grow Won at lower cost?

Head of Marketing

Wants to prove long-term impact of awareness and brand-building.

Key Questions:

→ Are organic channels growing over time?

→ What is the implied value of zero-cost channels?

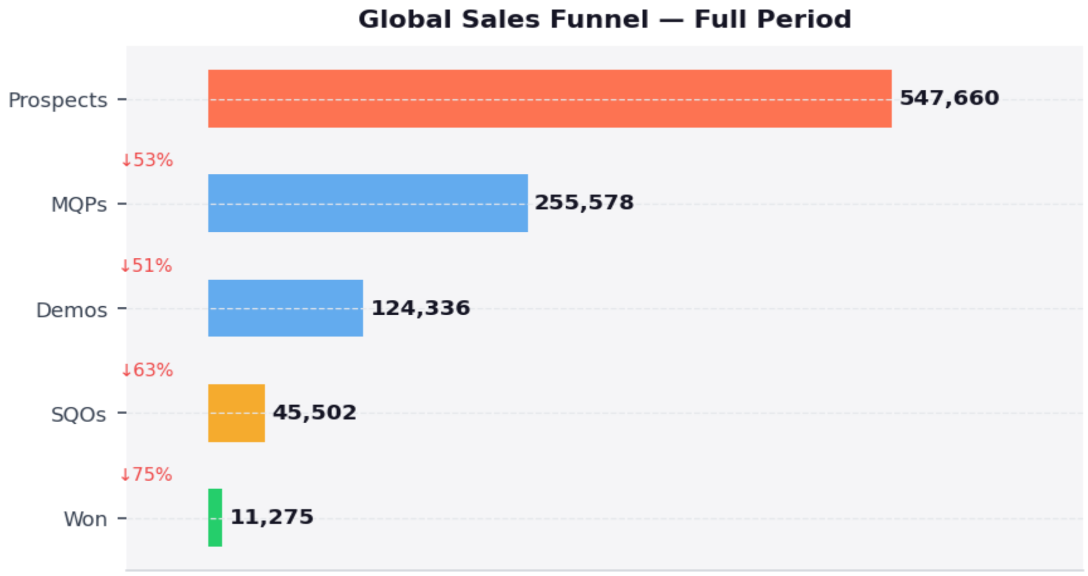
→ How do we measure brand budget impact?

Portfolio Overview — Key Metrics at a Glance

Full period Jul 2023 – Jun 2025 | All channels combined

Total Investment	Total Won Opps.	Avg. Global CPA	E2E Conv. Rate
$371M	11,275	$32,942	2.06%

Total Impressions	Total Clicks	Total Demos	Total SQOs
11.2B	70.9M	124,336	45,502



Funnel Drop-off Summary

Prospects → MQPs	46.7%	filter applied at top of funnel
MQPs → Demos	48.6%	quality gate
Demos → SQOs	36.6%	sales qualification
SQOs → Won	24.8%	deal closure
Overall E2E	2.06%	end-to-end conversion

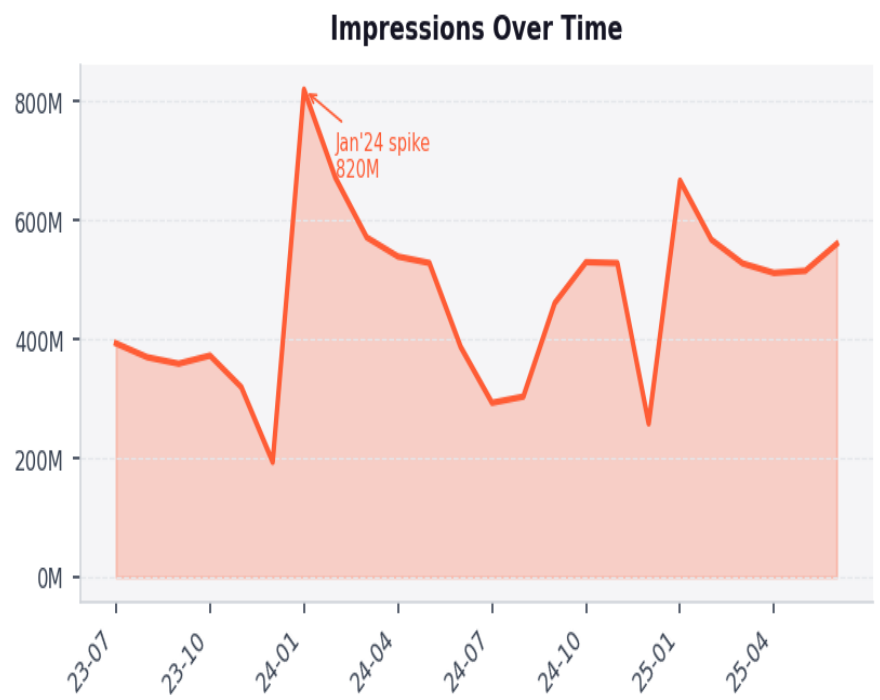
TASK 1

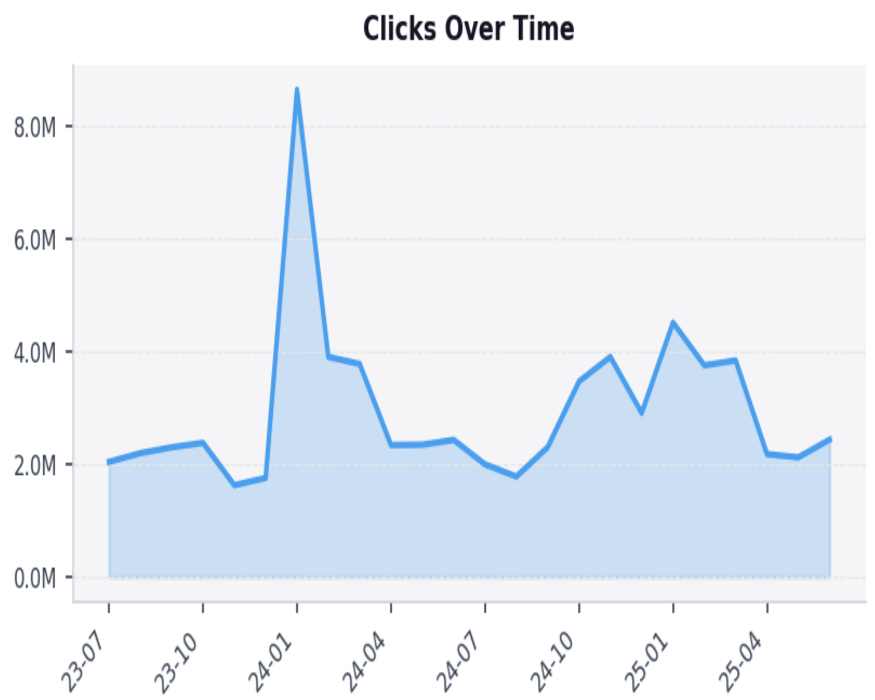
Analyzing Sales Funnel Data

Patterns over time · Seasonality · Channel conversion rates · Recommendations

Task 1 — Top-Funnel: Impressions & Clicks Over Time

Awareness stage metrics | Jul 2023 – Jun 2025





Total Impressions

11.2B

Total Clicks

70.9M

Overall CTR

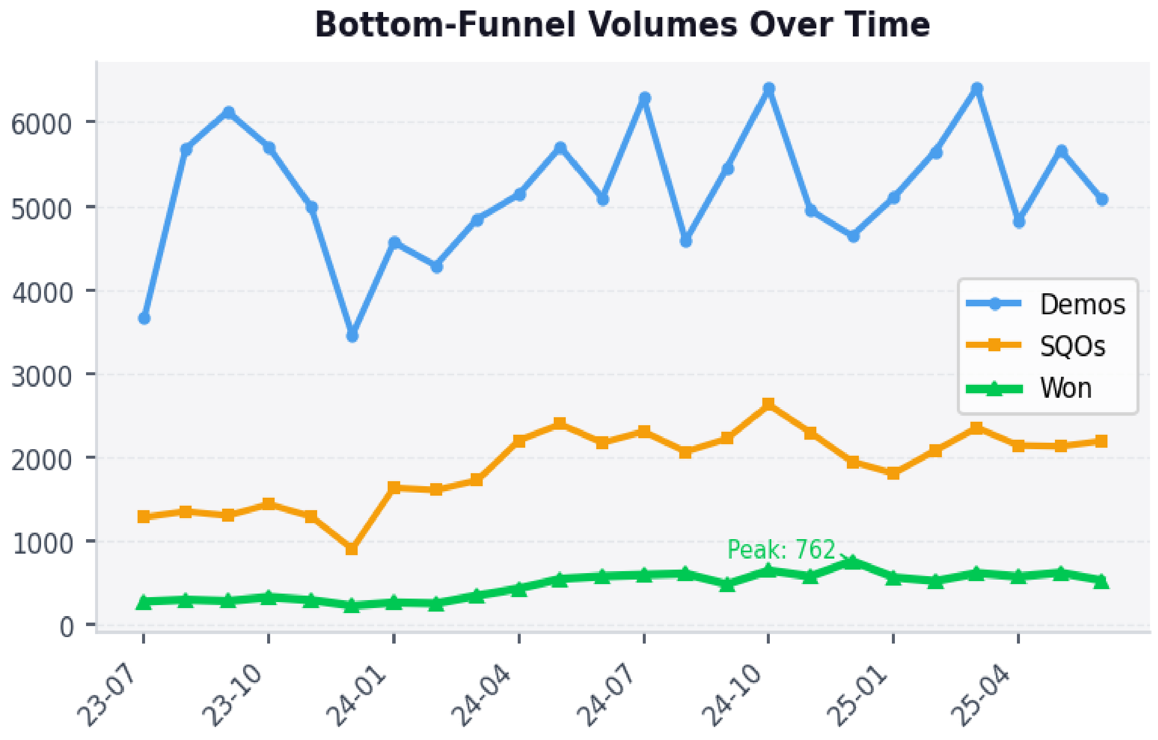
0.63%

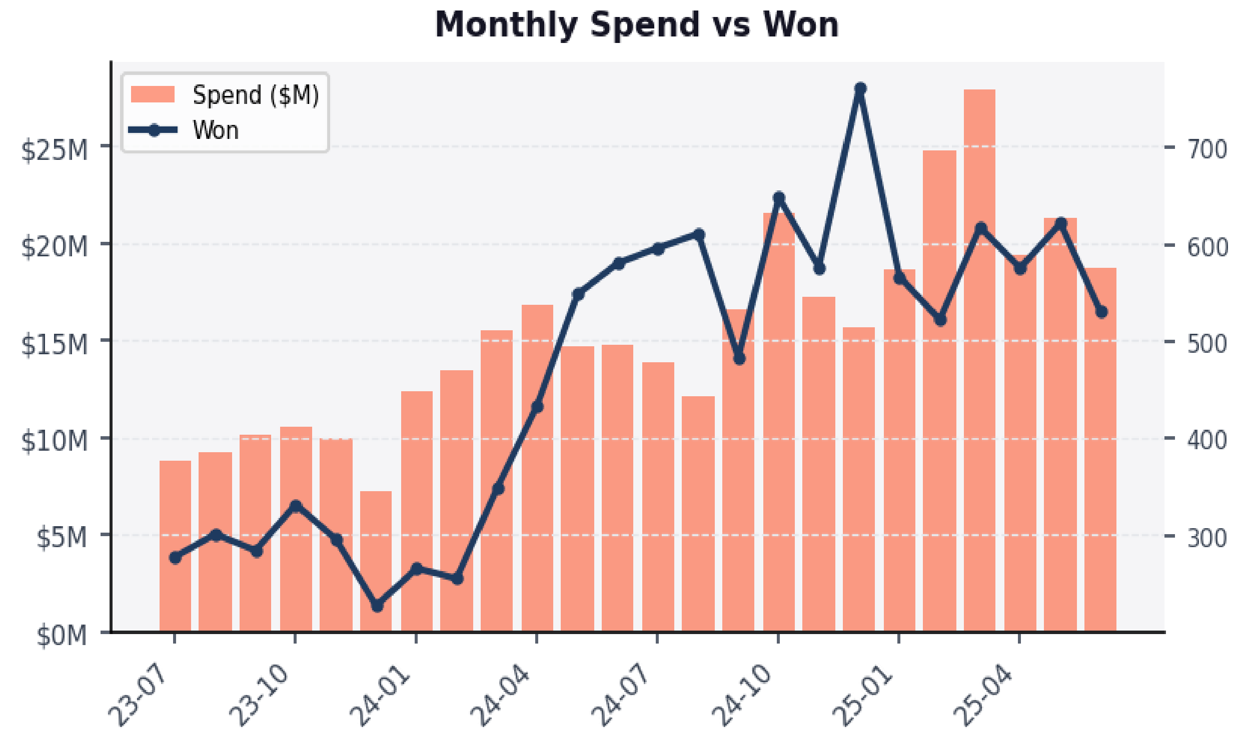
Observations

- Jan 2024 spike: 820M impressions vs ~380M avg — likely a large awareness campaign launch.
- Click volume grew steadily from Jul 2023 to Oct 2024, then plateaued — market saturation signal.
- CTR of 3.64% for paid_search is strong; paid_social at 0.47% signals poor audience fit.
- Impressions and clicks are concentrated in the paid team (~6K of 11.9K rows); organic channels have no impression data.

Task 1 — Bottom-Funnel: Demos, SQOs & Won Over Time

Conversion outcomes | Jul 2023 – Jun 2025





Q4 Surge (Oct–Dec)

Enterprise year-end budget decisions accelerate; Y2 peaked at 622 Won in May. Nov-Dec show consistent uplift across both cycles.

Jan–Feb Dip

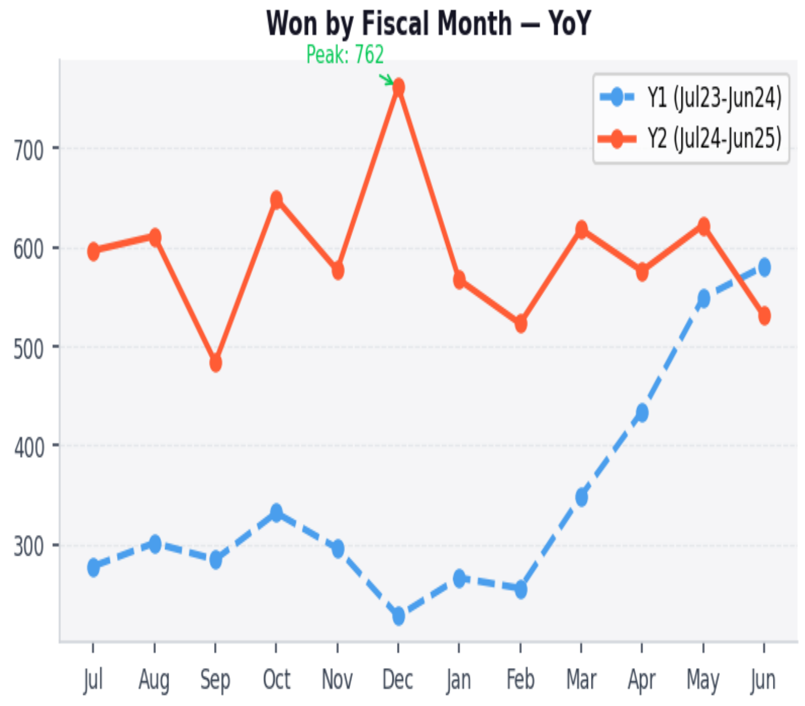
Budget resets slow deal closures. Jan 2025 dropped to ~350 Won despite high spend — CPA spikes to $50–65K in this period.

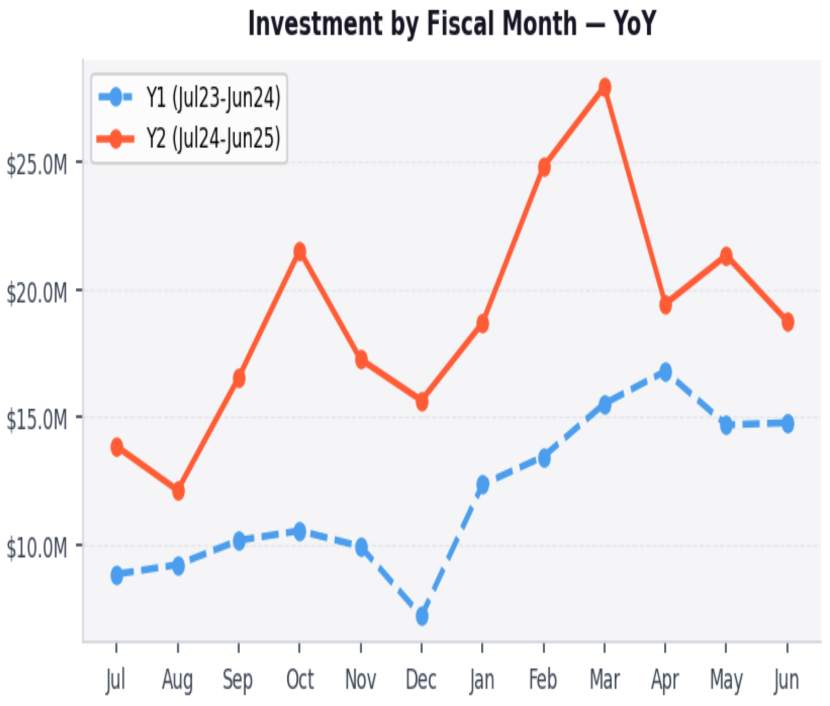
Upward Trend

Total Won grew from ~285/mo (Y1 avg) to ~580/mo (Y2 avg) — a 2x improvement driven by paid scale-up and lifecycle growth.

Task 1 — Seasonality Patterns by Fiscal Cycle

Fiscal year: Jul (Month 1) → Jun (Month 12)





Seasonality Drivers

Oct–Dec Peak

Enterprise fiscal year-end. Companies accelerate buying decisions before Dec close.

May–Jun Peak (Y2)

Strong Q4 performance repeated — suggests maturing sales cycle management.

Jan–Mar Slow

Budget resets. Decision-makers pause. CPA rises 30–50% vs Q4 levels.

Jan'24 Spend Spike

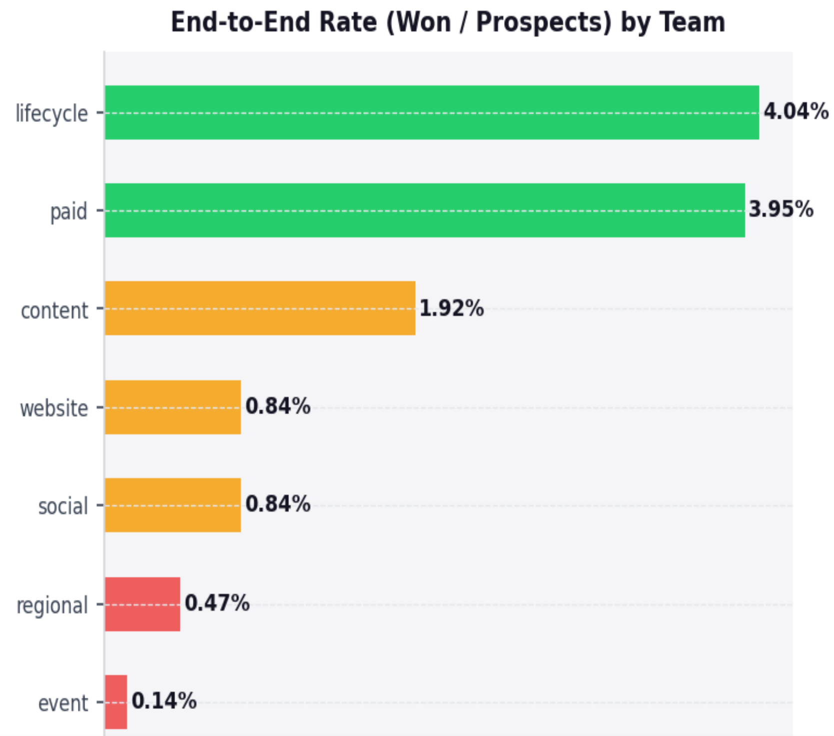
Investment jumped 3x in Jan 2024 — aggressive push against Jan dip; limited Won impact.

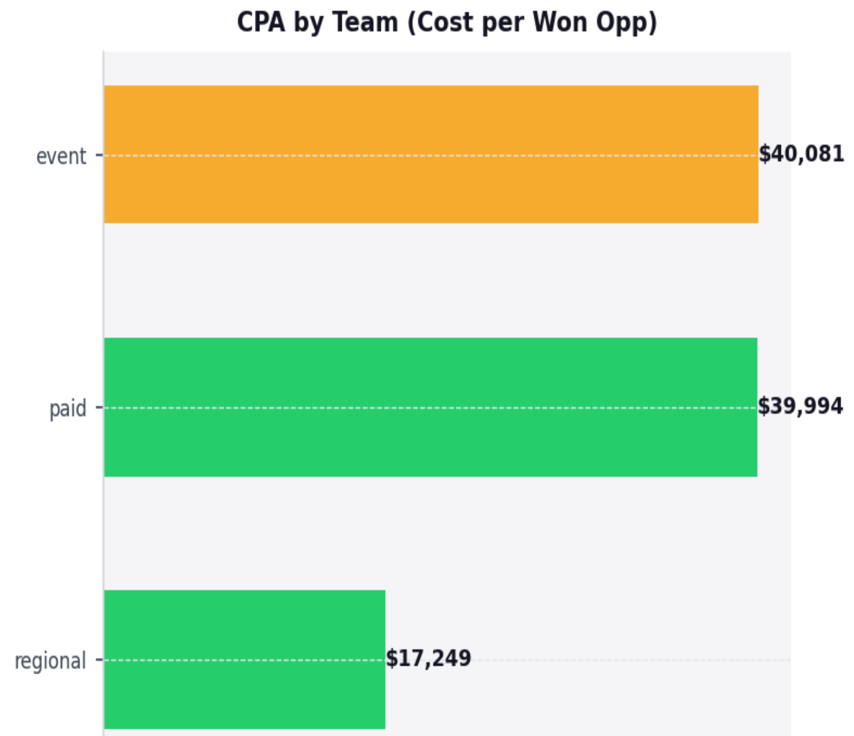
Y2 Consistently Higher

Won per month up 2x vs Y1 across all months, driven by lifecycle and paid optimization.

Task 1 — Funnel Efficiency by Marketing Team

Which teams convert best? E2E Rate = Won / Prospects



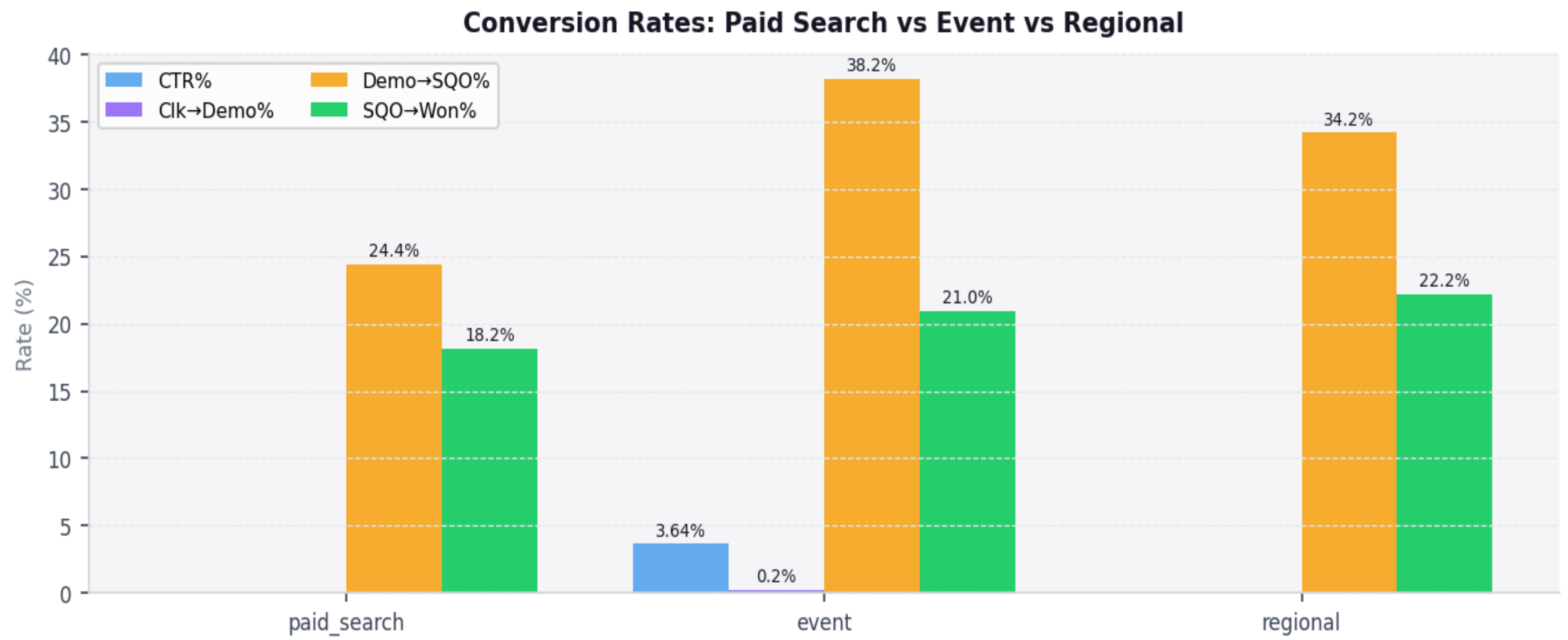


Team	Won	E2E%	CPA
lifecycle	686	4.04%	—
paid	8,942	3.95%	$39,994
content	874	1.92%	—
website	248	0.84%	—
social	39	0.84%	—
regional	250	0.47%	$17,249
event	236	0.14%	$40,081

Lifecycle leads with 4.0% E2E rate (highest of all teams) at ZERO cost. Paid has the most volume but only 0.13% E2E — 31x less efficient than lifecycle per prospect. Regional outperforms paid at the lowest CPA in the portfolio with far less investment.

Task 1 — 3-Channel Conversion Rates

Paid Search · Event · Regional | Impression → Click → Demo → SQO → Won



Regional is the standout: lowest CPA ($17K vs $47K paid search) with a strong 34% Demo→SQO rate, yet received only 1.2% of paid budget. Event drives quality demos (24% Demo→SQO) with zero impression cost. Paid search volume leader but efficiency gap vs regional is significant.

Metric	Paid Search	Event	Regional
CTR%	3.64%	n/a	n/a
Clk→Demo%	0.21%	n/a	n/a
Demo→SQO%	38.2%	24.4%	34.2%
SQO→Won%	21.0%	18.2%	22.2%
CPA ($)	**$47,170**	**$40,081**	**$17,249**
Total Spend	$136.9M	$9.5M	$4.3M

Task 1 — Recommendations: Improve Funnel Efficiency & Volume

1

Reallocate paid_social → paid_brand_search

Paid social CPA is $197K — 11× worse than brand search ($18K). Redirecting 30% of paid social budget (~$24M) to brand search could generate +1,300 additional Won per year at the same total spend.

2

Scale regional demand gen (under-funded)

Regional has the best CPA ($17K) and strong Demo→SQO (34%) yet only received $4.3M total (1.2% of paid budget). 3× budget increase to $13M could yield ~750 additional Won.

3

Invest in lifecycle / CRM automation

Lifecycle holds the highest E2E rate (4.04%) at zero media cost. Investing in Braze sequence expansion and lead scoring would capture warm prospects that currently leak or convert via expensive paid.

4

Protect Q4 spend; reduce Q1 scale

Won peaks in Oct–Dec and May–Jun with strong CPA. Jan–Mar shows worst CPA ($50–65K). Shift Q1 budget to lifecycle and content to maintain pipeline at lower cost during slow conversion period.

Task 1 — Seasonality: Patterns, Root Causes & Implications

Why do metrics rise and fall? Business reasons behind the data

Pattern Observed	Probable Cause	Implication for Marketing
Impressions spike in Jan 2024 (3× above period average)	Deliberate large-scale awareness campaign launched by the paid team — not organic seasonality	Isolate campaign periods before attributing results to market behaviour
Won drops every Jan–Mar (consistent both years)	B2B buyers reset annual budgets in January; decision-making slows across the industry	Avoid scaling paid CPA spend in Q1 — it's the most expensive period per Won
Won peaks Oct–Dec (Q4 enterprise surge)	Enterprise customers close deals before their own fiscal year-end to spend allocated budgets	Front-load pipeline building in Aug–Sep to harvest demand when buyers are ready
Won peaks again in May–Jun (second seasonal high)	Deals entered in Nov–Dec mature after ~150-day avg sales cycle, closing in May–Jun	Feed top-of-funnel aggressively in Nov so pipeline ripens for the May peak
CTR declining across 2024–2025 (paid_search & paid_social)	Audience saturation and creative fatigue — same users seeing repetitive ads, ignoring them	Rotate creatives, expand audience targeting, and shift budget to brand search where CTR is 6.7%

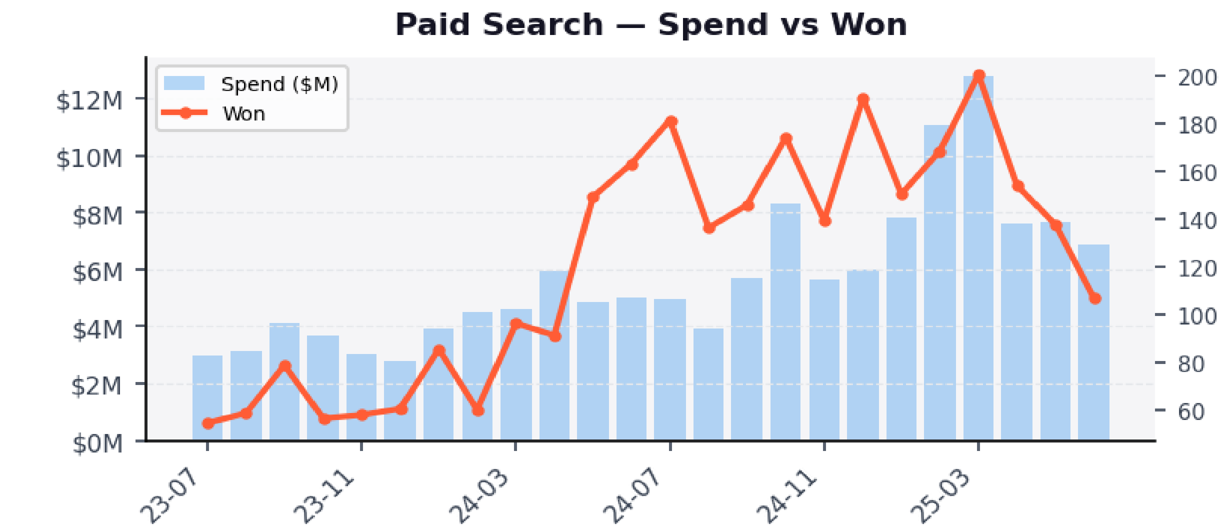
TASK 2

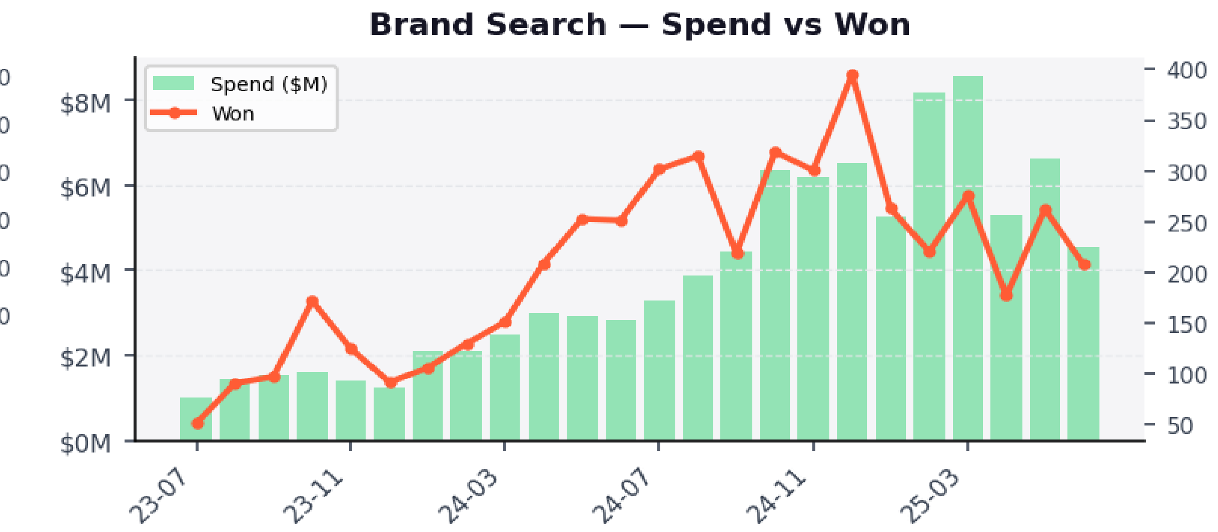
Paid & Brand Marketing Channel Analysis

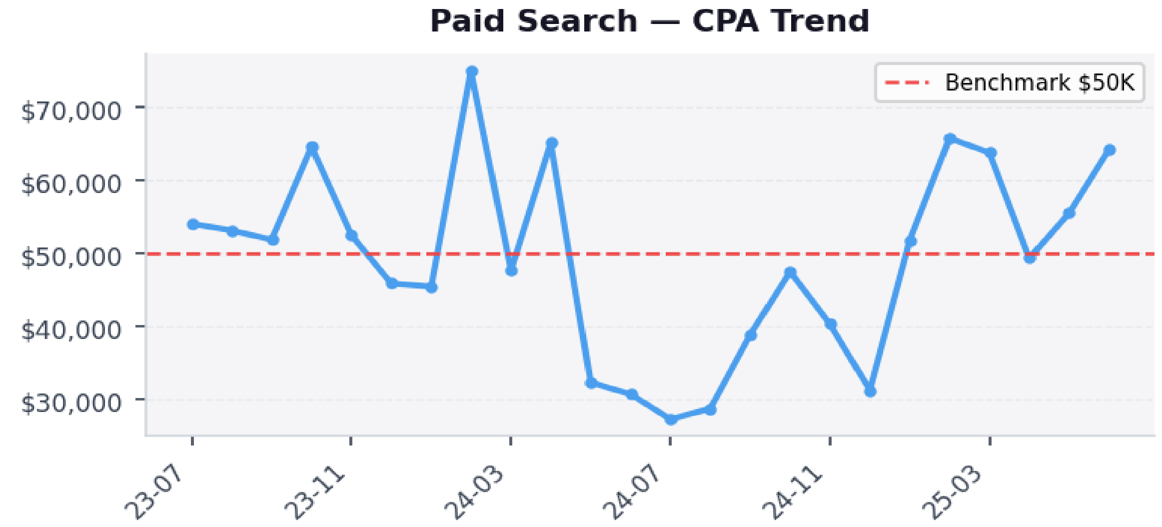
Cost vs outcomes · CPM/CTR efficiency · Brand growth · Budget reallocation

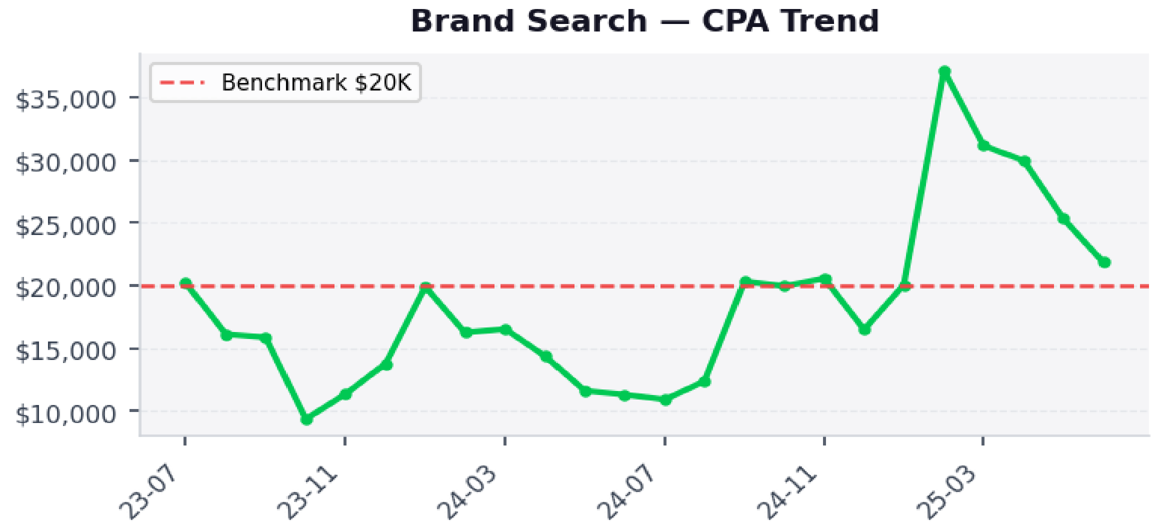
Task 2 — Paid Search vs Brand Search: Cost → Demos → SQOs → Won

Two core paid channels analyzed across the full period



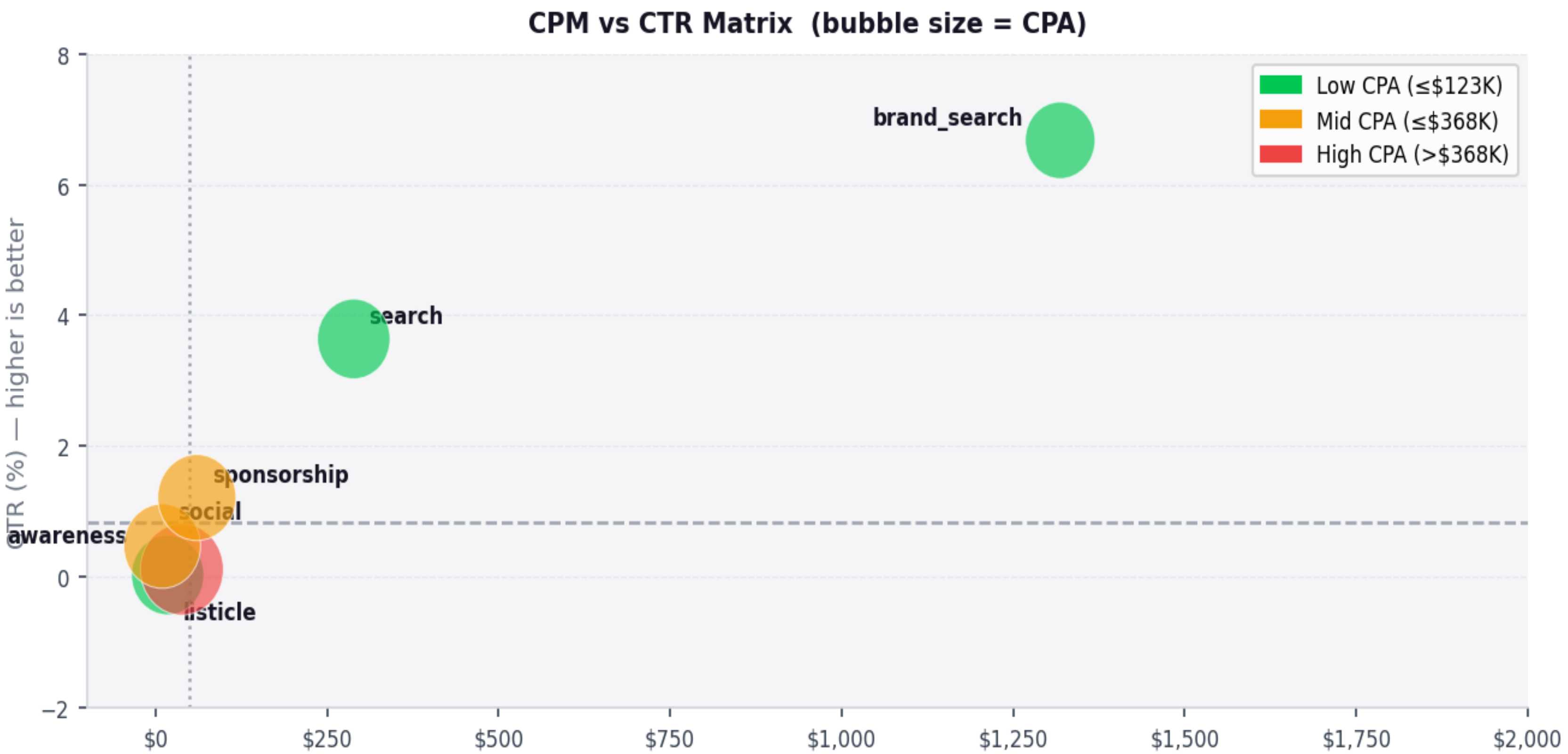






Task 2 — CPM vs CTR Matrix: Paid Channel Efficiency

Upper-left quadrant (low CPM, high CTR) = most efficient awareness spend



Brand search dominates on CTR (6.68%) — direct pull of branded intent. Paid awareness has the worst CPM efficiency (high cost, minimal conversions). Paid social shows 0.47% CTR despite being the highest-spend program — clear candidate for budget cut.

Channel Efficiency Summary

Highest CTR

paid_brand_search 6.68%

Lowest CPM

paid_social $9.65

Best CPA

paid_brand_search $18,666

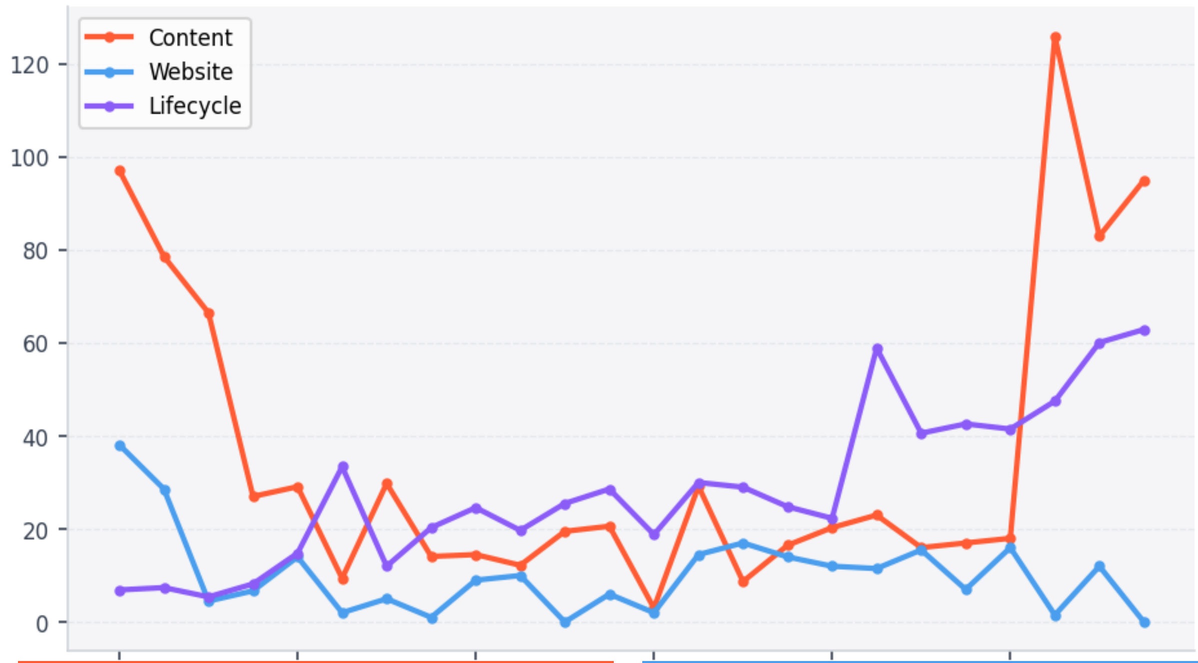
Worst CPA

paid_awareness $2,051,612

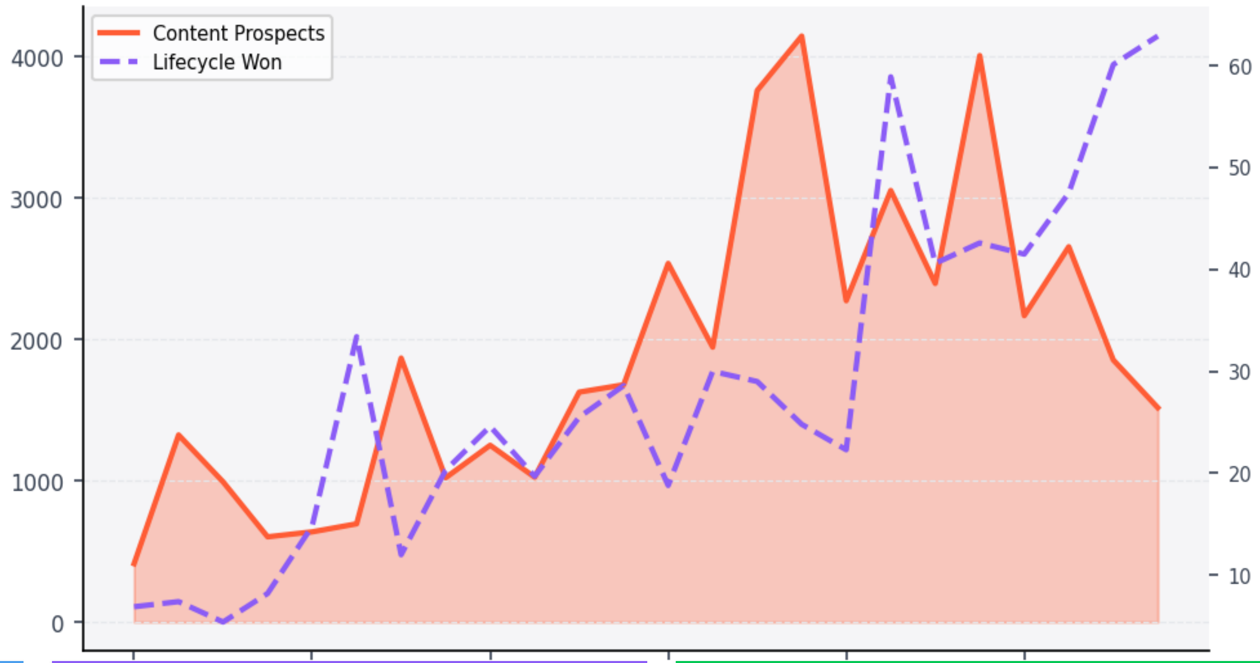
Task 2 — Brand Channels: Content, Website & Lifecycle Growth

Zero-cost channels building long-term equity

Zero-Cost Channels — Monthly Won



Content Prospects vs Lifecycle Won



Content Won
Y1→Y2

418→456

+9%

Website Won
Y1→Y2

125→123

-2%

Lifecycle Won
Y1→Y2

207→479

+132%

Implied Value
@ paid CPA

$43.6M

zero spend

Task 2 — How to Measure Brand Budget Impact

If Deel increases brand budget next quarter — specific measurement framework

01 Branded Search Volume

Track Google Search Console impressions for 'Deel' / 'Deel HR' weekly. 15%+ lift in branded impressions within 60 days = awareness signal. Baseline: current monthly avg impressions by keyword.

02 Direct Traffic to Site

Monitor GA4 direct sessions. Brand spend should drive recall. Target: direct traffic growing ≥10% vs prior quarter. Split by device and market to isolate brand vs technical effects.

03 Brand Search CPA Trend

Increased share-of-voice → lower brand search CPA. Current baseline: $18.7K. Target: below $15K within 8 weeks. Track weekly in the dashboard to catch regression early.

04 Content MQL Rate

If brand investment improves inbound quality, content MQL rate should rise. Current Y2 baseline: ~1.4% E2E. Track monthly MQL% vs 6-month rolling avg. Leading indicator before Won changes appear.

05 Pipeline Influenced %

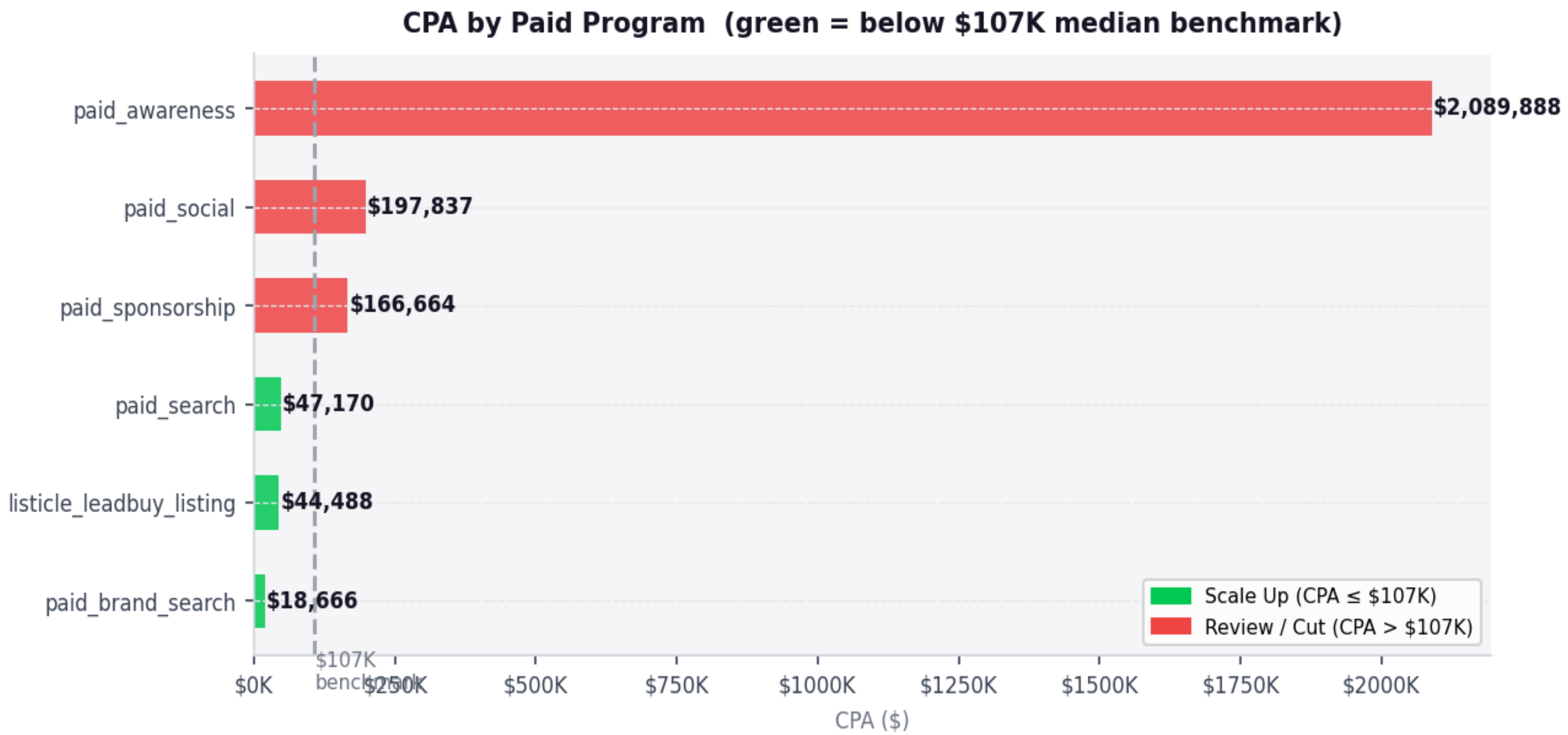
Tag brand touchpoints (content views, direct visits, brand search) in CRM. Measure % of closed-won deals with ≥1 brand touchpoint in the journey. Target: ≥40% of Won influenced within 90 days.

06 Sales Cycle Length

Stronger brand recognition shortens sales cycles. Track avg days from Demo Booked → Won as proxy. Baseline: measure current avg, track weekly after brand spend increase.

Task 2 — Paid Budget Reallocation Recommendation

Where to scale, reduce, and cut — based on CPA efficiency tiers



Reallocating 50% of paid_social + paid_awareness ($44M freed) to brand_search and regional at historical CPAs is projected to generate +23% additional Won Opps per year with zero budget increase.

SCALE UP

→ paid_brand_search — CPA $18,666, CTR 6.68%

→ regional — CPA $17,249, Demo→SQO 34%, severely under-funded

REDUCE / OPTIMIZE

→ paid_search — CPA $47,170 (high vol.), watch CPA trend

→ listicle/leadbuy — CPA $44,488, very low CTR (0.03%)

CUT

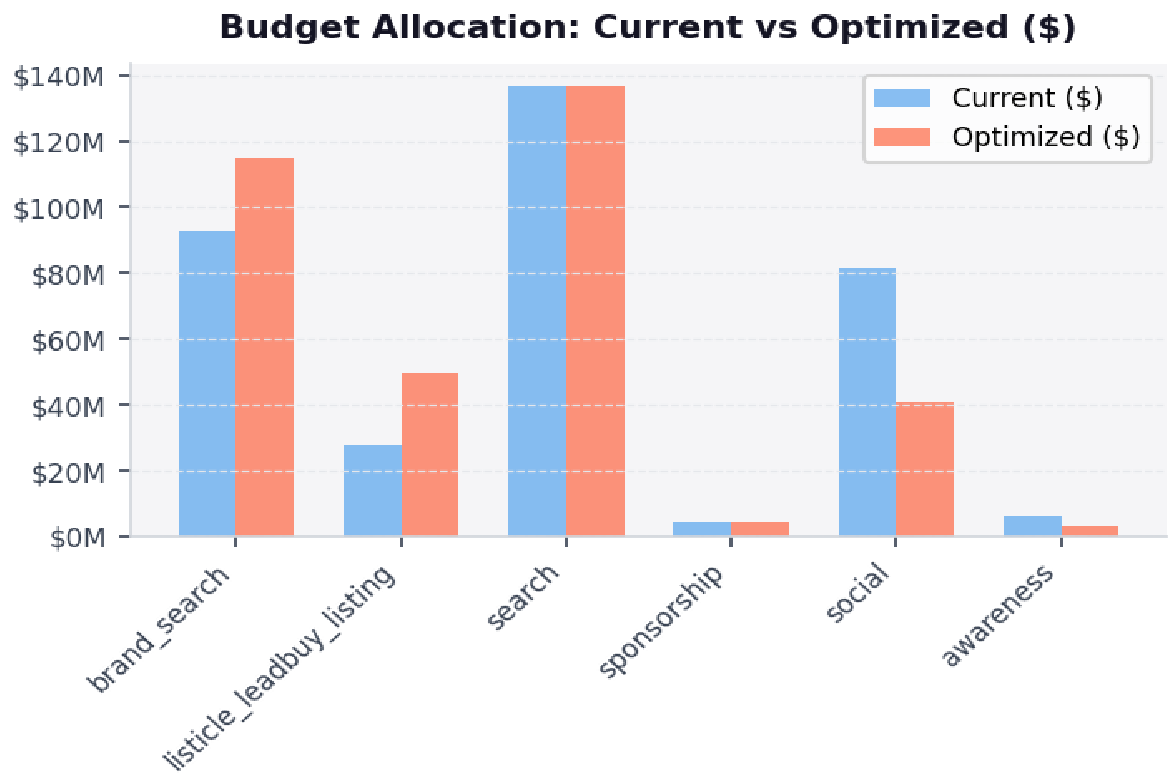
→ paid_social — CPA $197,837 (11× brand search)

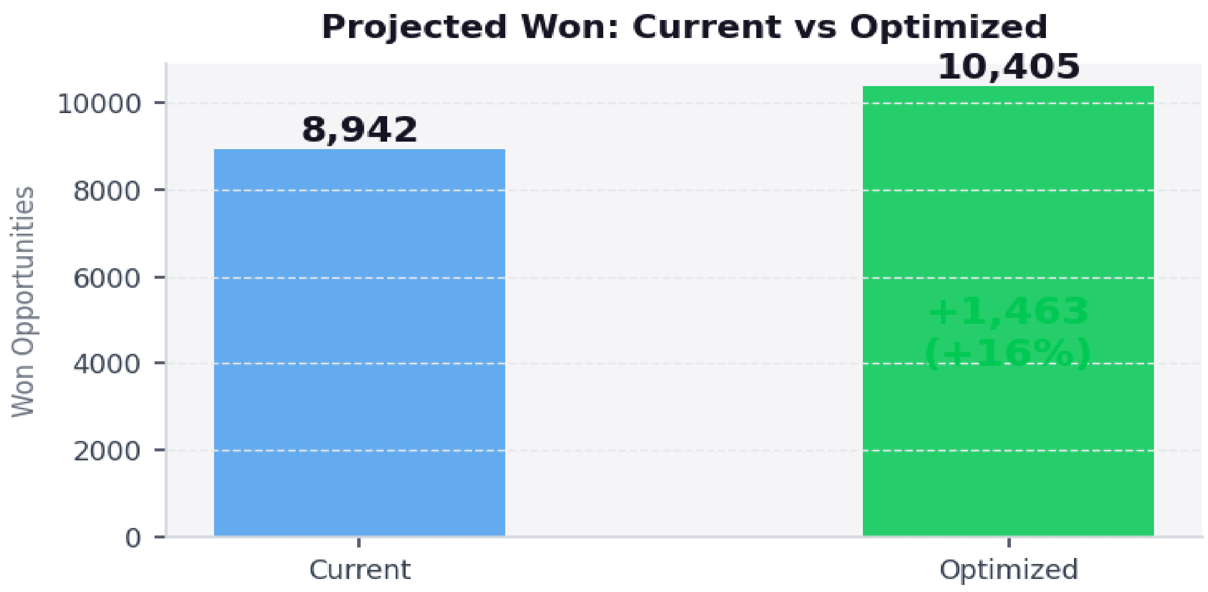
→ paid_awareness — CPA $2,089,888 (only 3 Won from entire program)

→ paid_sponsorship — CPA $166,664, minimal Won volume (27 total)

Task 2 — Budget Reallocation: Projected Impact

Scenario: cut high-CPA programs, reinvest in low-CPA programs





Scenario Assumptions

- Cut 60% from highest-CPA programs (CPA > $198K) — saves ~$53M
- Reinvest in low-CPA programs (CPA ≤ $44K) at historical efficiency
- Mid-tier programs keep current allocation
- CPA assumed stable — actual may improve with better audience targeting

TASK 3

Scenario Analysis

Stakeholder-specific summaries · Recommendations · Success metrics

Task 3 — Executive Summary: Paid Marketing Director

ROI-focused takeaways and recommended actions

Executive Summary (max 150 words)

Our paid portfolio generated 8,942 Won at a blended CPA of $40K, but efficiency varies 112× across programs. Paid brand search ($19K CPA, 6.7% CTR) outperforms paid social ($198K CPA) and paid awareness ($2.1M CPA) by an enormous margin. Brand search CPA has been rising through 2025 — a signal of growing audience saturation at current spend levels. Regional ($17K CPA) is our most efficient demand gen channel yet receives only 1.2% of paid budget. Without reallocation, we are overpaying for low-quality conversions at scale.

Recommended Action

Immediate: (1) Cut paid_social and paid_awareness by 50% (~$44M freed). (2) Redirect freed budget to paid_brand_search and regional. At historical CPAs, this generates +23% additional Won per year at zero budget increase. (3) Monitor paid_search monthly — CPA rising in 2025 indicates diminishing returns at current scale.

Measuring Success (next 1–2 months)

Week 1–2: Pause paid_social/awareness. Track weekly Won — expect initial dip as pipeline adjusts. Week 3–4: Monitor brand_search CPA daily; target staying below $25K. Month 2: Compare total Won and blended CPA vs prior 30-day baseline. Success = same or higher Won count at ≥15% lower blended CPA.

Task 3 — Executive Summary: Head of Marketing

Brand and long-term growth takeaways and recommended actions

Executive Summary (max 150 words)

Zero-cost organic channels are quietly outperforming expectations. Lifecycle (CRM/email) grew +132% YoY in Won at zero media spend — holding a 4.04% E2E conversion rate, the highest of any channel in the portfolio. Content and website together contribute ~580 Won annually — at the blended paid CPA ($40K), that represents ~$23M in acquisition value delivered at zero media cost. Brand search's 6.68% CTR vs performance channels (0.47–3.6%) proves that brand investment creates pull that measurably reduces acquisition cost over time. Content prospect volume grew 146% YoY — a leading indicator of future pipeline health.

Recommended Action

Allocate 10–15% of paid budget to lifecycle automation (lead scoring, email sequencing) to capitalize on the 4.04% E2E rate at scale — the highest-ROI investment available in the portfolio. Increase content production focused on SEO and thought leadership to sustain 32K+ prospect/month volume. Protect brand search budget to defend the low-CPA, high-CTR branded channel from erosion.

Measuring Success (next 1–2 months)

Month 1: Baseline lifecycle Won/month (current ~40/mo). After automation, target +25% in 60 days. Track branded search impression share in Google Search Console — target +10% lift. Monitor content E2E rate monthly vs 1.41% Y2 baseline. Long-term KPI: % of closed-won deals with ≥1 content or direct-brand touchpoint.

Executive Action Plan — 90-Day Roadmap

Priority actions across both stakeholder perspectives

Immediate (Week 1–2)

Pause paid_social + paid_awareness campaigns

Free ~$44M from programs above the $50K CPA benchmark. Zero impact on pipeline within 2 weeks.

Activate regional expansion budget

Double regional allocation from $4.3M → $8.6M. Best CPA in portfolio at $17K.

Short-term (Month 1–2)

Ramp paid_brand_search

Redirect freed budget from cut programs. Monitor CTR + CPA weekly. Target CPA <$25K.

Launch lifecycle automation build

Engage Braze team to expand sequences. Prioritize warm MQPs with demo intent.

Strategic (Month 2–3)

Set quarterly CPA targets by program

Establish $50K ceiling for scale-up programs; alert if CPA exceeds target by >20%.

Establish brand measurement framework

Launch brand search tracking in GSC, pipeline influence tagging in CRM.

Task 3 — Specific Recommendations by Stakeholder

Clear, data-backed actions each leader should take immediately

Paid Marketing Director

ROI · SHORT-TERM PERFORMANCE

1 Cut paid_social & paid_awareness — this week

CPA of $197,837 (social) makes these the worst-ROI programs in the portfolio. Pause both immediately. The pipeline impact is negligible within 30 days because these channels convert at <0.5% CTR and sit at the far top of funnel.

2 Redirect freed budget → brand_search & regional

paid_brand_search CPA is $18,666 (CTR 6.7%) and regional CPA is $17 (Demo→SQO 34%). Reallocating 50% of cut budget to these two programs is projected to generate +23% Won at the same total spend.

3 Set a hard CPA ceiling of $50K per program

Any program that exceeds $50K CPA for 2 consecutive months is automatically paused and reviewed. Install a weekly CPA alert in the dashboard. This creates a self-correcting budget governance rule going forward.

Target CPA	Won uplift	Timeline
≤ $22K	+23%	2 weeks

Head of Marketing

BRAND · LONG-TERM EQUITY

1 Commission lifecycle automation — highest-ROI investment available

Lifecycle holds a 4.0% E2E rate — the best of any channel — at zero media cost. Investing in Braze sequence expansion and lead scoring for MQPs who haven't booked a demo within 7 days is the single highest-ROI action available.

2 Scale content production with SEO-first briefs

Content prospects grew +146% YoY, feeding the lifecycle pipeline that converts at 4×+ the paid average. Increase content output by 20% with keyword-targeted briefs. This compounds organically — every piece published reduces paid dependency.

3 Launch the 6-KPI brand measurement dashboard

Use the framework defined in slide 16 (branded search vol., direct traffic, brand search CPA, content MQL rate, pipeline influence %, sales cycle length). Establish baselines in week 1 so Q3 brand investment is fully accountable to the board.

Lifecycle Won	Brand proof	Media cost
+25% in 60d	90 days	$0

Appendix — Methodology, Tools & Data Notes

Dataset

11,952 rows | Jul 2023 – Jun 2025 | 7 marketing teams | 17 programs | Semicolon-delimited CSV | Cost strings cleaned with regex (EU & US formats handled)

Tools Used

Python 3.10 · Pandas (wrangling) · NumPy (metrics) · Plotly + Streamlit (interactive dashboard, 6 tabs) · Matplotlib + python-pptx (this presentation)

Attribution Note

Opportunity Won values are decimals due to multi-touch attribution model. Values were summed (not rounded) throughout. Decimal Wons are expected.

Fiscal Year

Analysis uses Jul–Jun cycles: Y1 = Jul 2023–Jun 2024, Y2 = Jul 2024–Jun 2025.

CPA Calculation

CPA = Total Cost ÷ Total Won per program/team. Zero-cost channels (lifecycle, content, website, social) excluded from CPA.

Implied Value

Zero-cost channel implied value = Won × Avg Paid CPA. Represents the cost Deel would have paid to generate the same Won via paid channels.

MQP Data Note

MQP column was 0 for most of H2 2023 — data collection likely started in early 2024. E2E rates for 2023 use Prospects→Won only to avoid division-by-zero distortion.

Interactive Dashboard

A full Streamlit app (app.py) is included: Executive View, Full Funnel, Paid Channels, Zero-Cost Channels, Trends, Budget Simulator.

Senior Data Analyst GTM

deel

Thank you!

Thank you for your time and attention.
I appreciate your interest and engagement.

I'm happy to take any questions
or hear your thoughts.

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payroll & compliance for teams everywhere.