Client: Markus, owner of a small marketing company

Database & Dashboard Design

Goal: Transform a single spreadsheet into a scalable relational database

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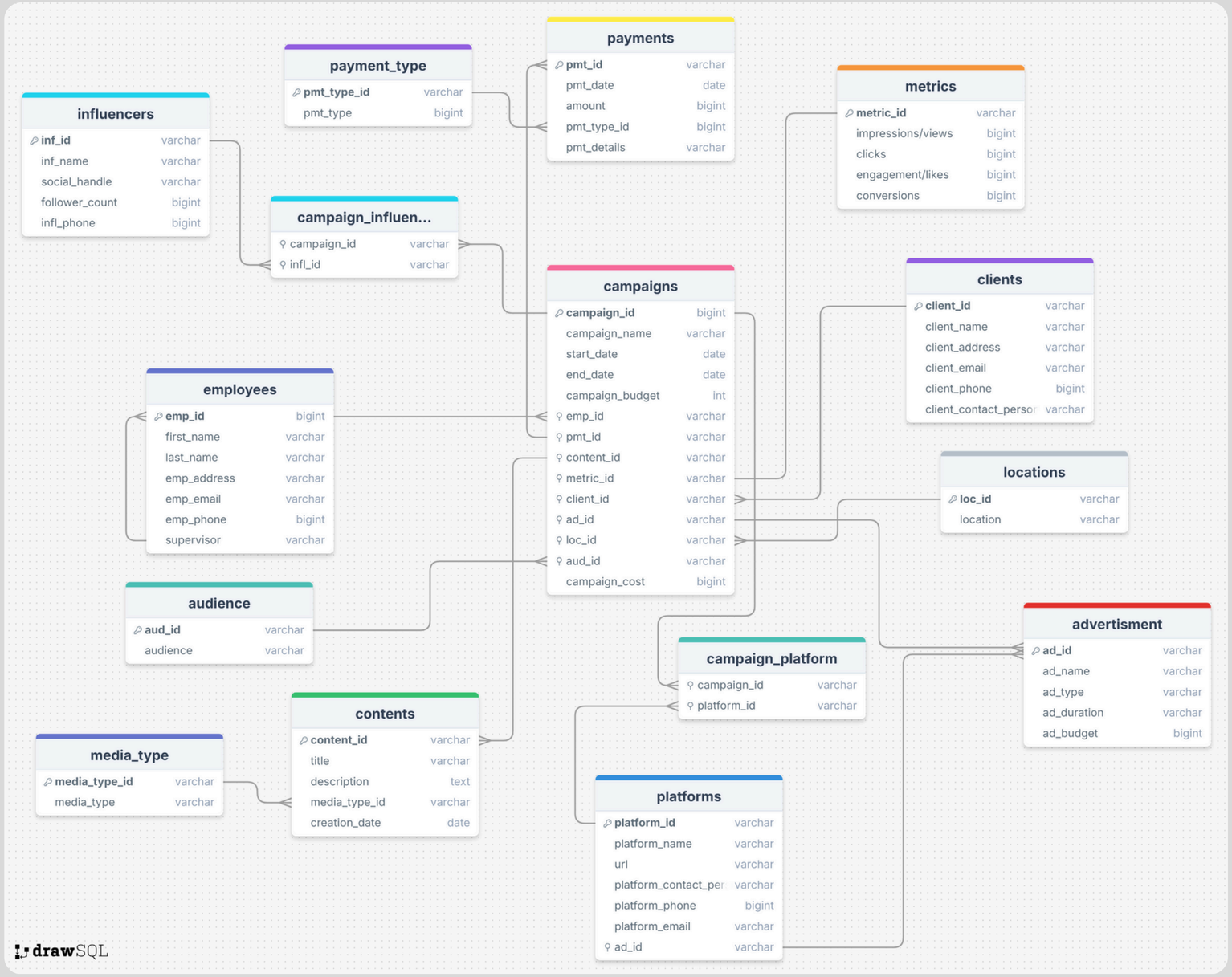
Market Flash

Data Cleaning & Structure Issues

- Dates had trailing zeros and needed reformatting
- Phone numbers required scripting to remove =() formulas
- Found and removed duplicate clients (e.g., Cli_026, Cli_055)
- Used Expense * 1.25 to calculate missing budget values



Market Flash

From Spreadsheet to Relational Database

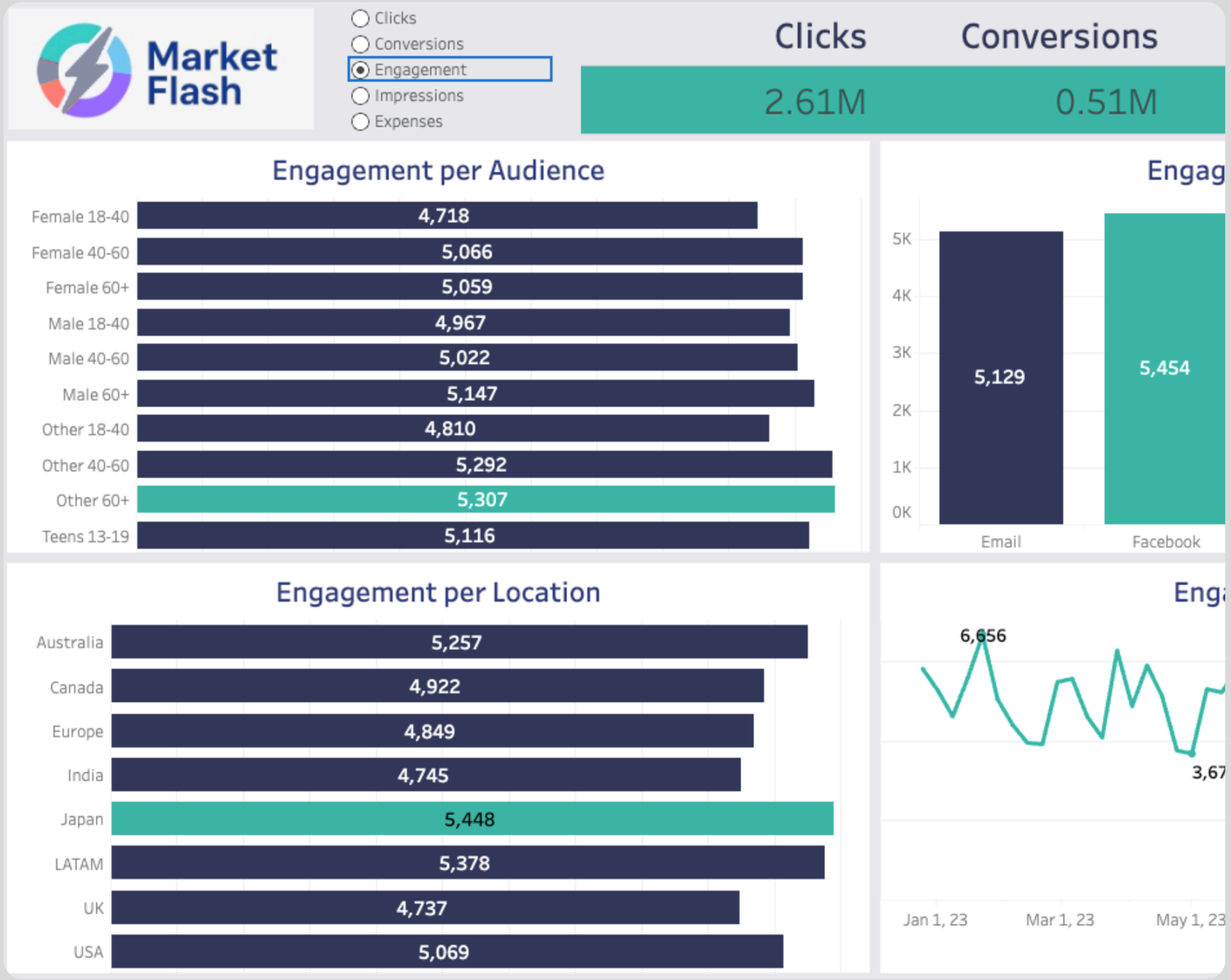
- Created ER diagram in DrawSQL
- Normalized tables: Campaigns, Clients, Employees, Platforms
- Added new entities: Influencers, Payments, Ads, Metrics, Content
- Built in BigQuery using Google Sheets as data source

```
2
3   CREATE TABLE `snappy-rainfall-450911-k6.market_flash_stage.campaigns`(
4       campaign_id INT64 NOT NULL,
5       campaign_name STRING NOT NULL,
6       start_date DATE,
7       end_date DATE,
8       campiagn_budget INT64,
9       emp_id STRING,
10      pmt_id STRING,
11      content_id STRING,
12      metric_id STRING,
13      client_id STRING,
14      ad_id STRING
15  );
16
17  --create the clients table using sql
18  CREATE TABLE `snappy-rainfall-450911-k6.market_flash_stage.clients`(
19      client_id STRING NOT NULL,
20      client_name STRING NOT NULL,
21      client_address STRING ,
22      client_email STRING ,
23      client_phone STRING,
24      client_contact_person STRING
25  );
26
27  --create the employees table using sql
28  CREATE TABLE `snappy-rainfall-450911-k6.market_flash_stage.employees`(
29      emp_id STRING NOT NULL,
30      first_name STRING NOT NULL,
31      last_name STRING NOT NULL,
32      emp_address STRING ,
33      emp_email STRING ,
34      emp_phone STRING,
35      supervisor STRING,
36      start_date STRING
```

Market Flash

Entity Relationships & Query Logic

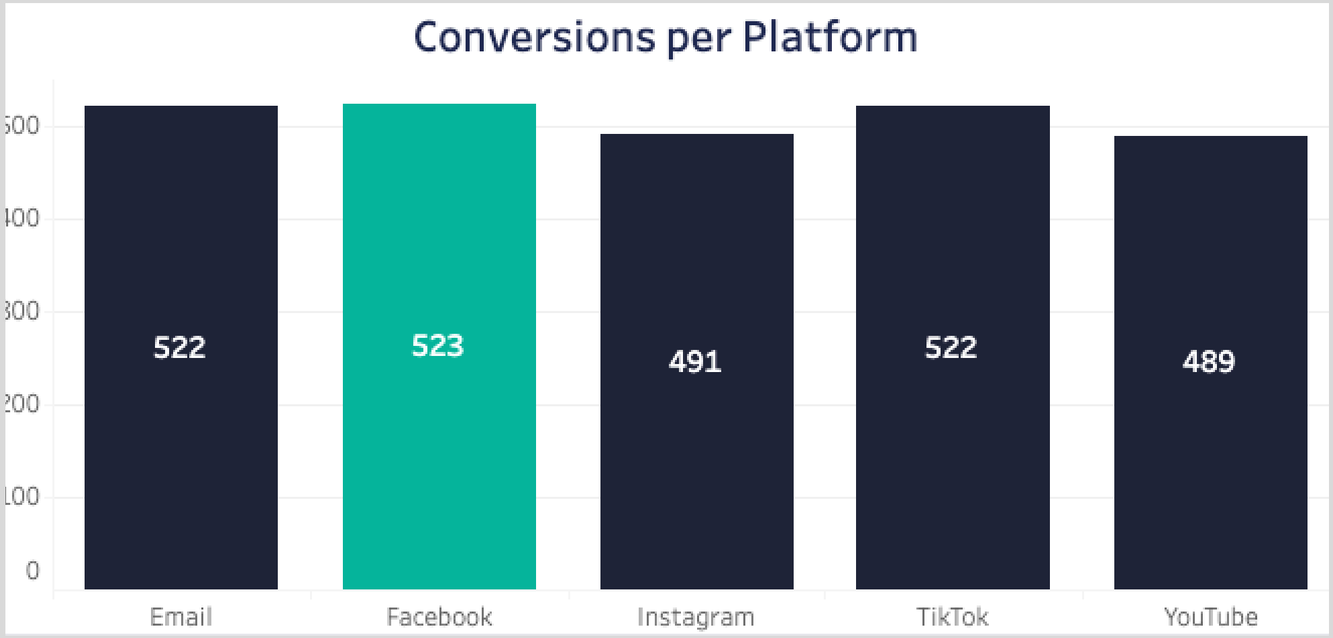
- **One-to-many:**
  Clients → Campaigns,
  Employees → Campaigns
- **Many-to-many:**
  Campaigns ↔ Platforms,
  Campaigns ↔ Influencers
- Created surrogate keys for joins
- Ran SQL queries to test model integrity

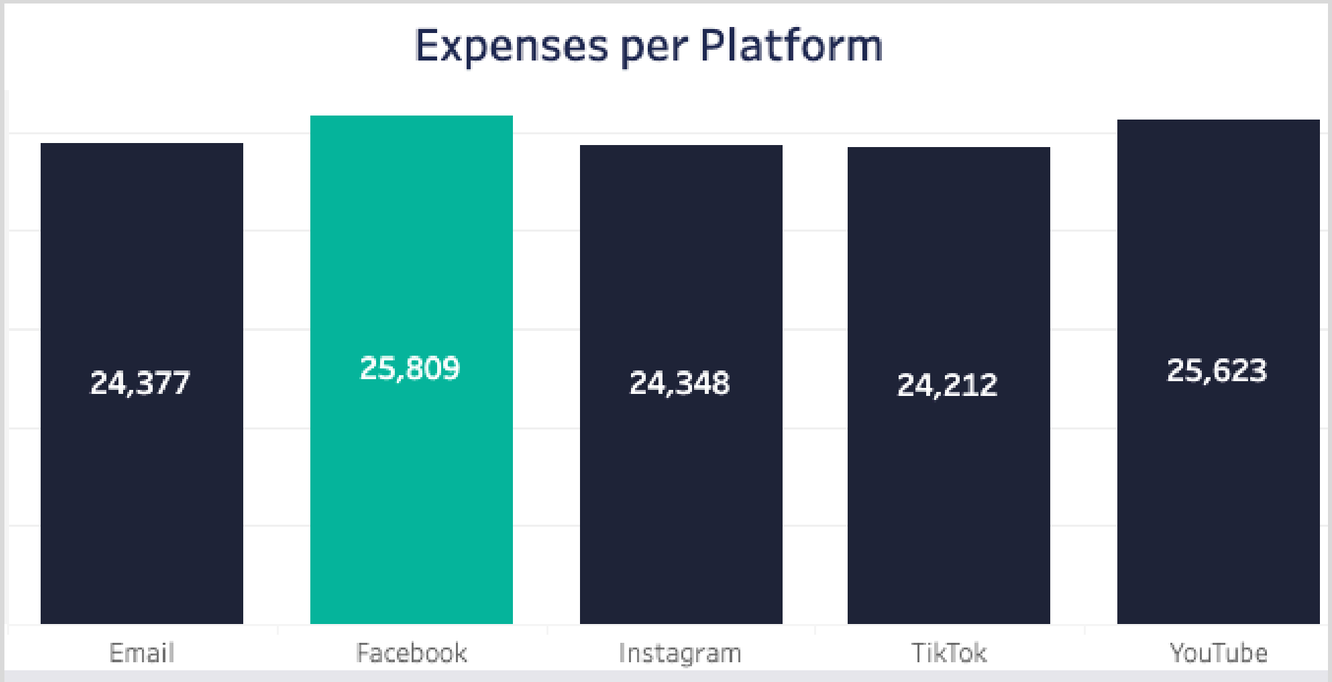


Market Flash

Tableau Dashboards for Stakeholders

Metrics Dashboard:
Views, Clicks, Conversions, Engagement
Client & Campaign Dashboard: Cross-filters by client, location
Employee Dashboard:
Campaign manager performance

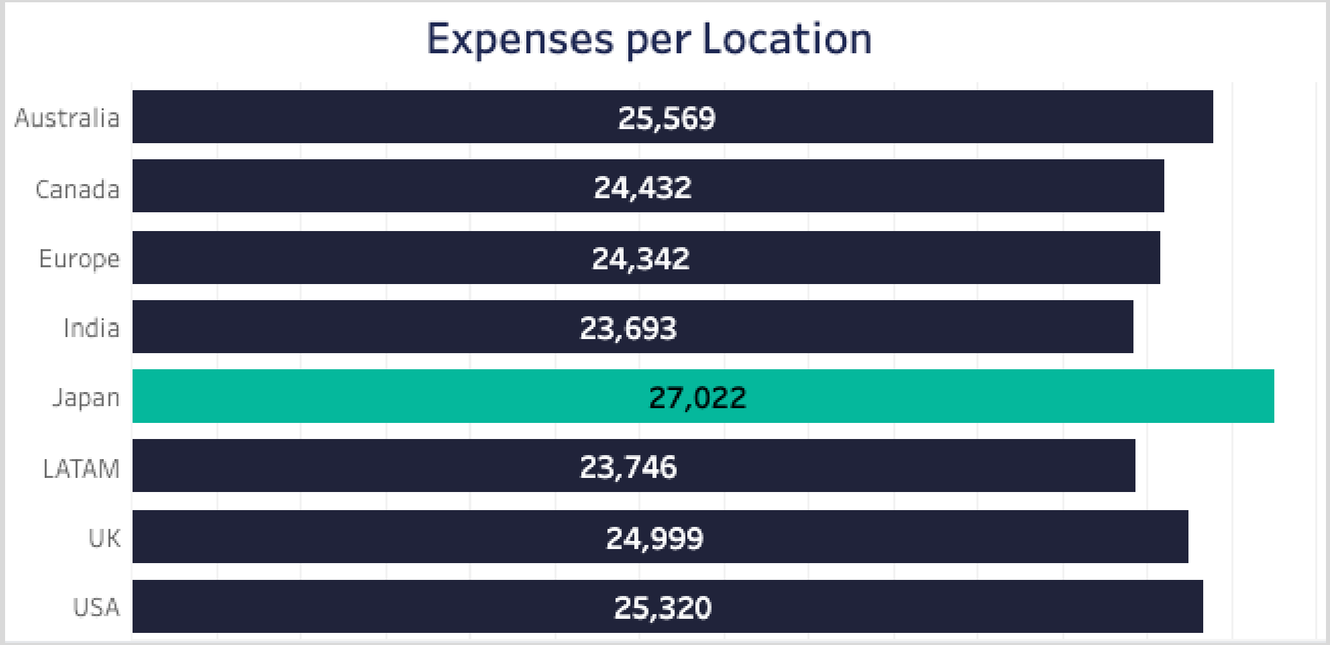


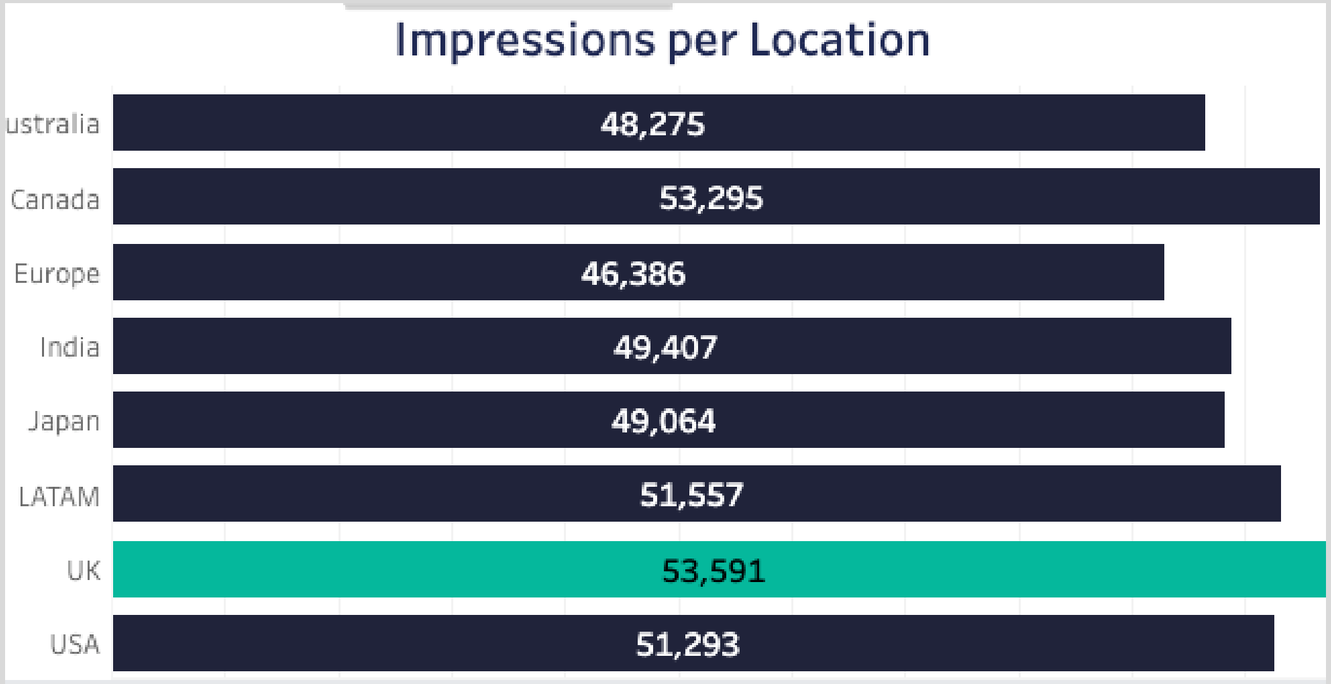


Market Flash

Facebook Leads in All Key Metrics

- Highest conversions, engagement, impressions, and expenses
- Suggests strong ROI but may warrant efficiency review





Market Flash

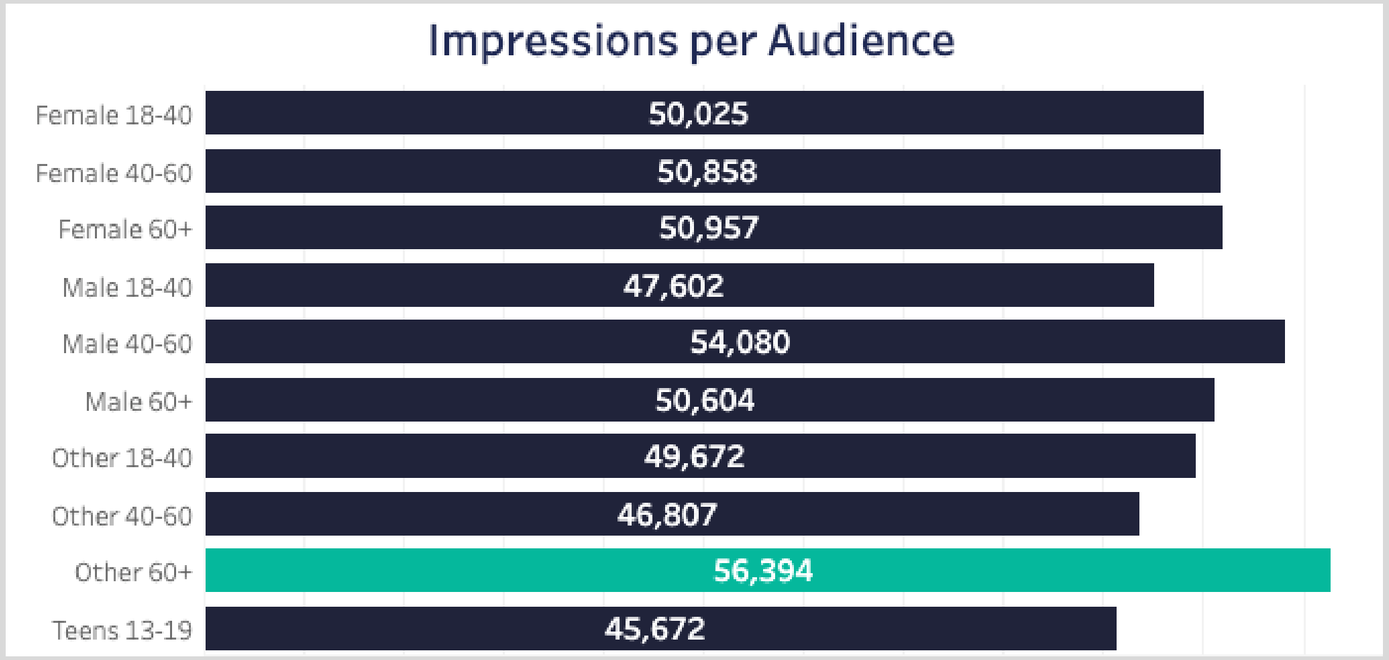
Regional Engagement & Conversions

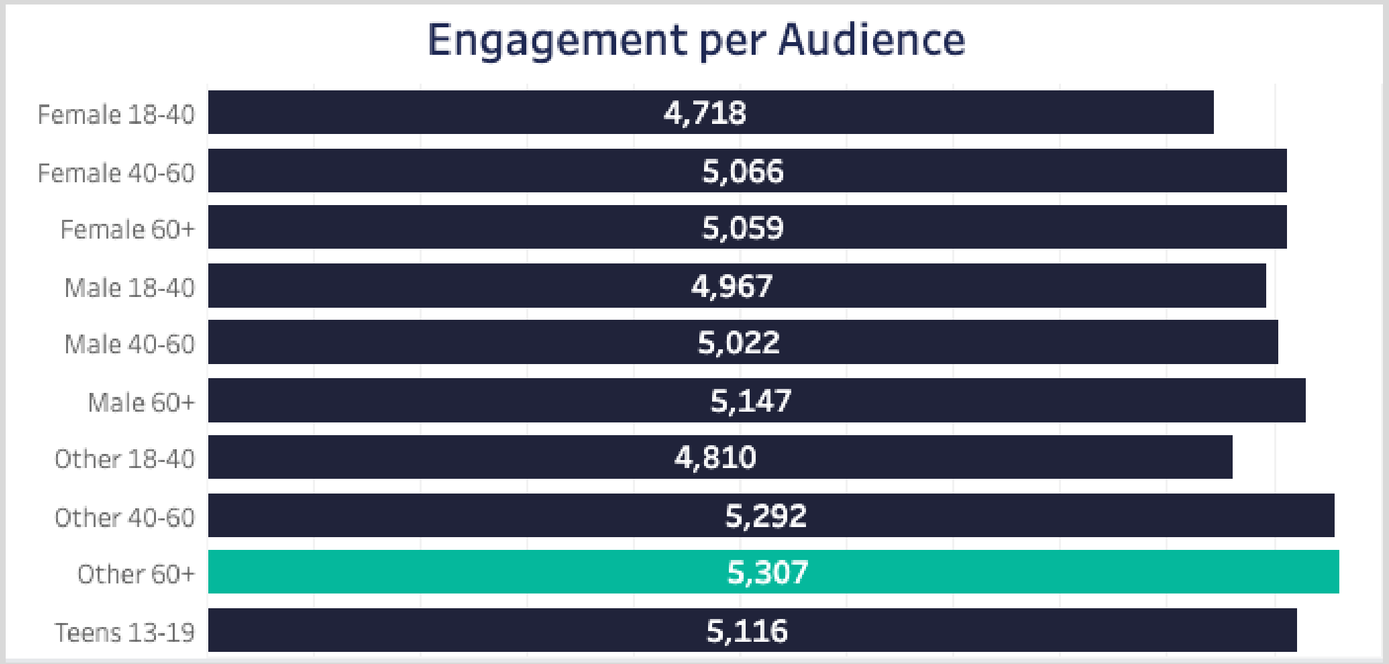
Japan:

Most clicks, engagement, and expenses

UK:

Most impressions and conversions



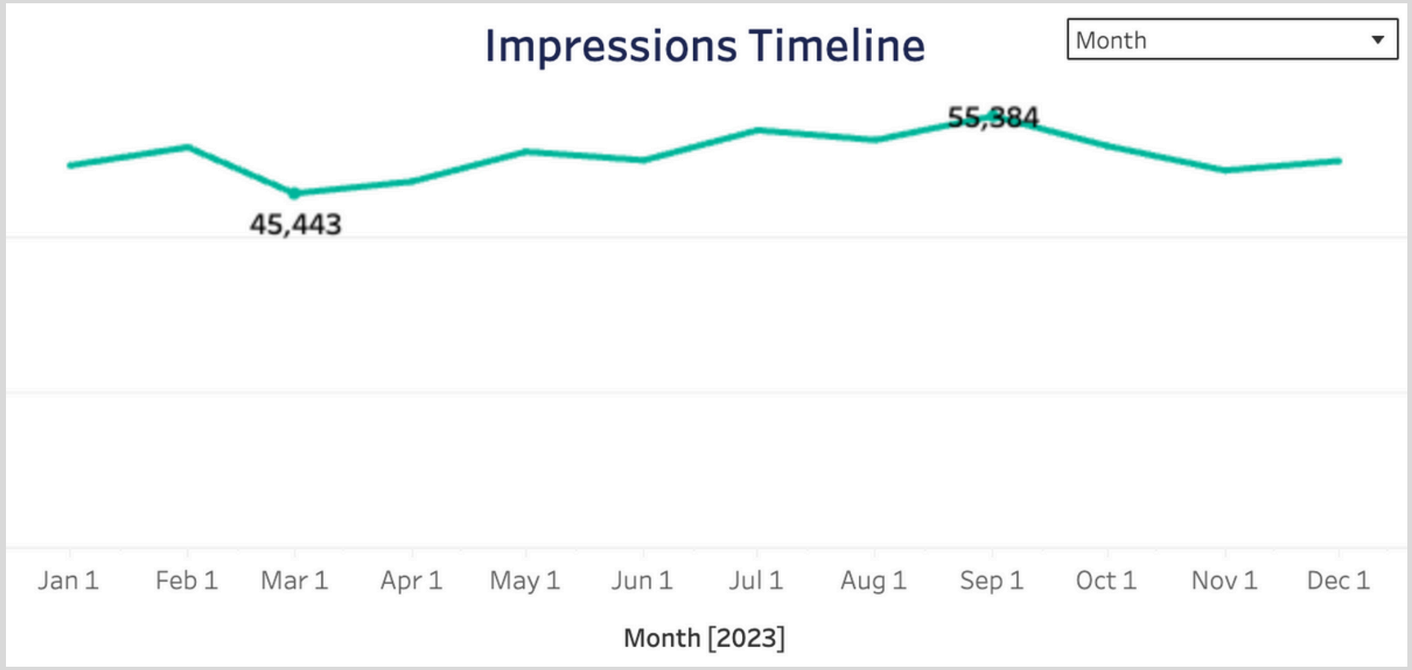


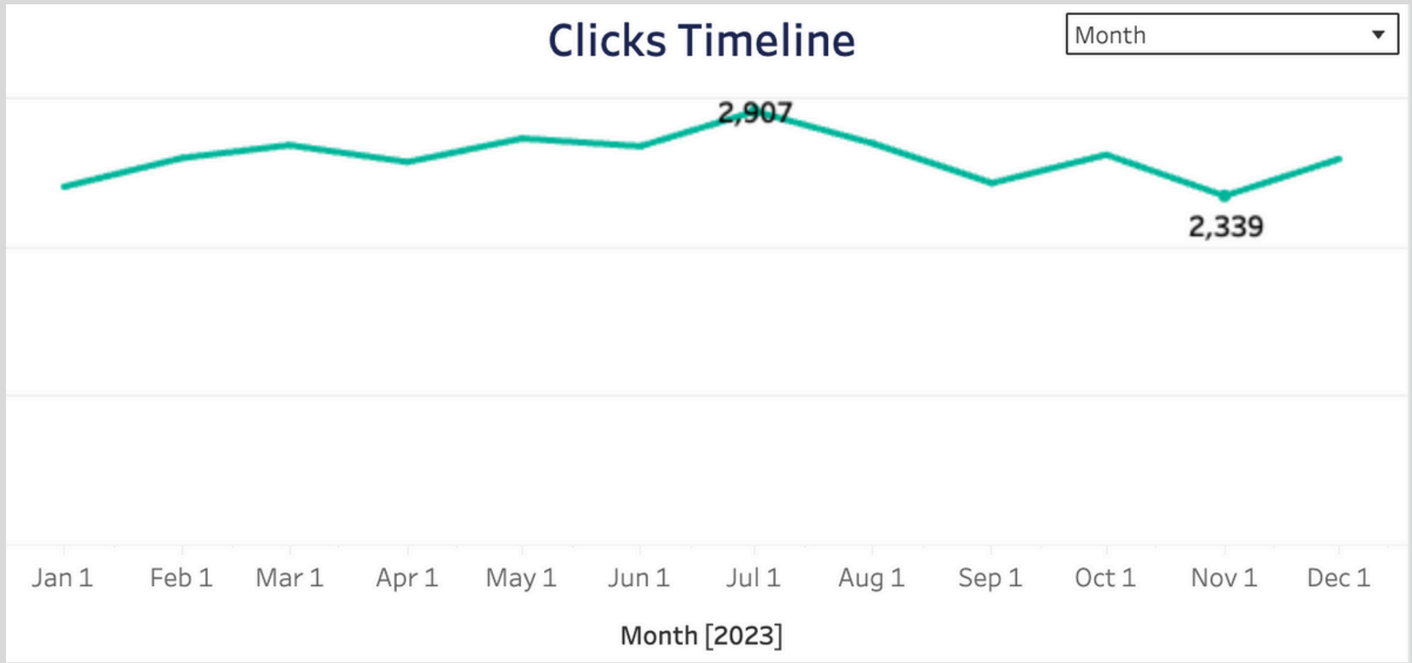
Market Flash

Older Demographic Surprises

“Other 60+” group had **highest engagement** and **impressions**

Underscores importance of not overlooking this segment





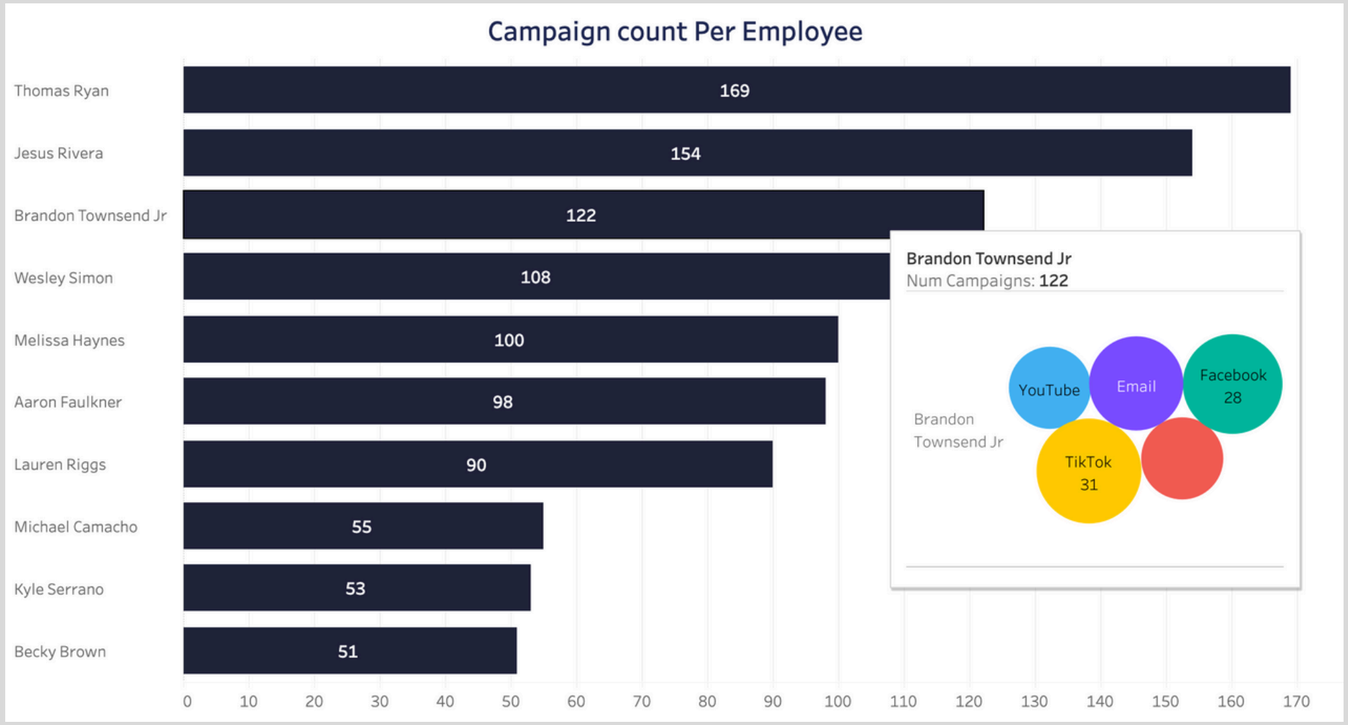
Market Flash

Mid-Year Campaign Peak

July:
Highest clicks & engagement
September:
Highest conversions & impressions
Clear mid-year spike, then drop-off

Employee Campaign locations

	Australia	Canada	Europe	India	Japan	LATAM	UK	USA	Gran..
Thomas Ry..	24	19	19	14	19	22	29	23	169
Jesus Rivera	22	17	21	16	22	20	15	21	154
Brandon To..	14	18	12	15	13	15	20	15	122
Wesley Sim..	11	14	19	11	16	16	15	6	108
Melissa Ha..	18	11	16	11	13	8	15	8	100
Aaron Faulk..	13	16	17	10	7	12	10	13	98
Lauren Riggs	10	4	15	7	10	14	20	10	90
Michael Ca..	5	10	6	6	4	10	5	9	55
Kyle Serrano	4	5	6	9	6	7	9	7	53
Becky Brown	8	7	2	5	8	7	8	6	51
Grand Total	129	121	133	104	118	131	146	118	1,000

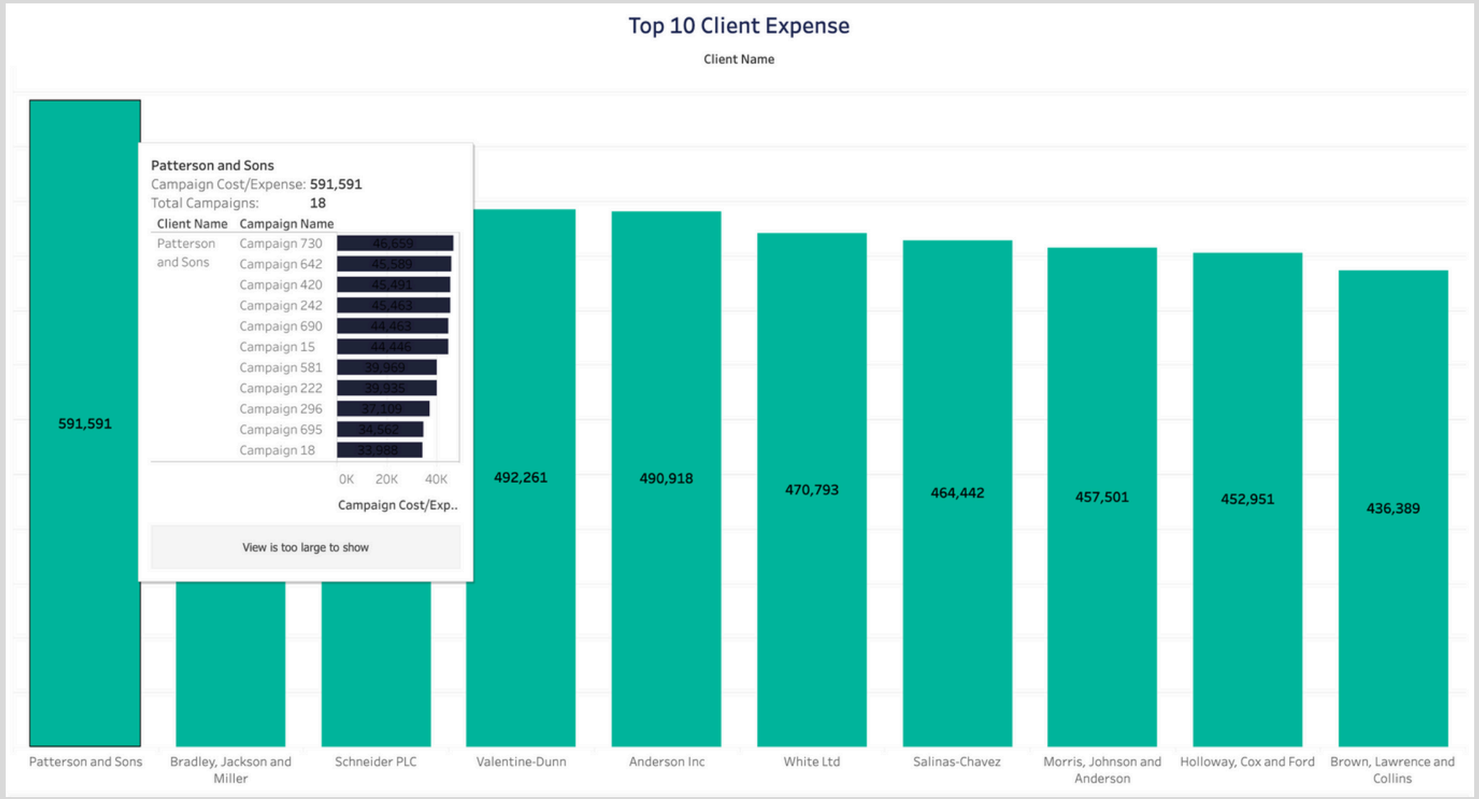


Market Flash

Uneven Campaign Distribution

- Some employees handle far more campaigns
- Could lead to burnout or reduced performance

Market Flash



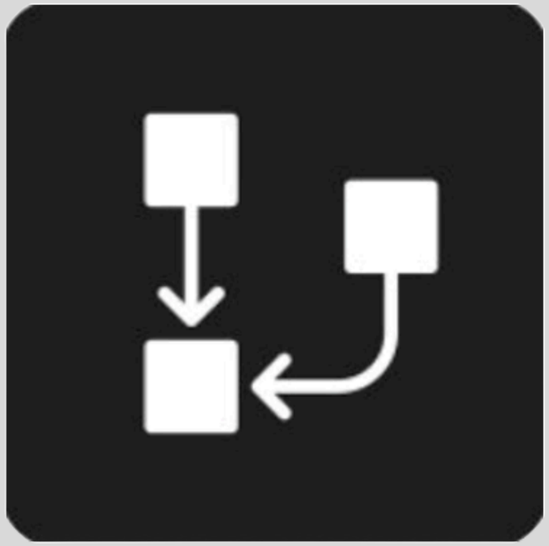
Key Client: Pattersons and Sons

18 campaigns and $591,591 in expenses
Important to monitor for retention and performance

Market Flash

Summary of Insights

- Facebook dominates platform metrics
- Regional and age trends defy expectations
- July peak in engagement, uneven employee workloads
- Pattersons and Sons = top client



Market Flash

Key Learnings & Next Steps

- Learned DrawSQL and BigQuery workflows
- Practiced real-world database design and normalization
- Future work: Add user input forms or APIs for ongoing updates