

April 7, 2025



MARKETING ATTRIBUTION

Analyze Data with SQL

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1.0 INTRODUCTION

CoolTShirts, an innovative apparel shop, is running a bunch of marketing campaigns. In this project, you'll be helping them answer these questions about their campaigns:

1. Get familiar with the company.
 - How many campaigns and sources does CoolTShirts use and how are they related? Be sure to explain the difference between `utm_campaign` and `utm_source`.
 - What pages are on their website?

1.1 INTRODUCTION

2. What is the user journey?
 - How many first touches is each campaign responsible for?
 - How many last touches is each campaign responsible for?
 - How many visitors make a purchase?
 - How many last touches on the purchase page is each campaign responsible for?
 - What is the typical user journey?
3. Optimize the campaign budget.
 - CoolTShirts can re-invest in 5 campaigns.
 - Which should they pick and why?

2.0 GET FAMILIAR WITH THE COMPANY

How many campaigns and sources does CoolTShirts use and how are they related? Be sure to explain the difference between `utm_campaign` and `utm_source`.

There are 8 unique campaigns (specific strategies to entice customers to the website) and 6 unique sources (places where the campaigns are held). The second table shows the source of each campaign.

number_unique_campaigns	number_unique_sources
8	6

unique_campaign	utm_source
getting-to-know-cool-tshirts	nytimes
weekly-newsletter	email
ten-crazy-cool-tshirts-facts	buzzfeed
retargetting-campaign	email
retargetting-ad	facebook
interview-with-cool-tshirts-founder	medium
paid-search	google
cool-tshirts-search	google

2.1 GET FAMILIAR WITH THE COMPANY

What pages are on their website?

page_name

1 - landing_page

2 - shopping_cart

3 - checkout

4 - purchase

3.0 USER JOURNEY

How many first touches is each campaign responsible for?

utm_campaign	COUNT(*)
interview-with-cool-tshirts-founder	622
getting-to-know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
cool-tshirts-search	169

3.1 USER JOURNEY

How many last touches is each campaign responsible for?

utm_campaign	COUNT(*)
weekly-newsletter	447
retargetting-ad	443
retargetting-campaign	245
getting-to-know-cool-tshirts	232
ten-crazy-cool-tshirts-facts	190
interview-with-cool-tshirts-founder	184
paid-search	178
cool-tshirts-search	60

3.2 USER JOURNEY

How many visitors make a purchase?

page_name	total
4 - purchase	361

3.3 USER JOURNEY

How many last touches on the purchase page is each campaign responsible for?

utm_campaign	COUNT(*)
weekly-newsletter	115
retargetting-ad	113
retargetting-campaign	54
paid-search	52
ten-crazy-cool-tshirts-facts	9
getting-to-know-cool-tshirts	9
interview-with-cool-tshirts-founder	7
cool-tshirts-search	2

3.4 USER JOURNEY

What is the typical user journey?

Most users are directed to the landing page either through an interview with the founder or through the “Getting to Know Cool T-Shirts” campaign. The campaign that drives them to the shopping cart the most is the “Getting to Know Cool T-Shirts” campaign. Then it seems most users leave the page and return to checkout and purchase through a weekly newsletter.

page_name	utm_campaign	COUNT(*)
1 - landing_page	interview-with-cool-tshirts-founder	625
1 - landing_page	getting-to-know-cool-tshirts	617
1 - landing_page	ten-crazy-cool-tshirts-facts	587
1 - landing_page	cool-tshirts-search	171
2 - shopping_cart	getting-to-know-cool-tshirts	682
2 - shopping_cart	ten-crazy-cool-tshirts-facts	570
2 - shopping_cart	interview-with-cool-tshirts-founder	515
2 - shopping_cart	cool-tshirts-search	133
3 - checkout	weekly-newsletter	450
3 - checkout	retargetting-ad	445
3 - checkout	retargetting-campaign	246
3 - checkout	paid-search	179
3 - checkout	getting-to-know-cool-tshirts	41
3 - checkout	ten-crazy-cool-tshirts-facts	32
3 - checkout	interview-with-cool-tshirts-founder	31
3 - checkout	cool-tshirts-search	7
4 - purchase	weekly-newsletter	115
4 - purchase	retargetting-ad	113
4 - purchase	retargetting-campaign	54
4 - purchase	paid-search	52
4 - purchase	ten-crazy-cool-tshirts-facts	9
4 - purchase	getting-to-know-cool-tshirts	9
4 - purchase	interview-with-cool-tshirts-founder	7
4 - purchase	cool-tshirts-search	2

4.0 OPTIMIZE THE BUDGET

CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

Continue investing in "weekly-newsletter" and "retargetting-ad"

- These campaigns not only drive purchases but are extremely effective at getting users to the checkout stage compared to other campaigns.

Investigate the original content campaigns - "Getting-to-know-cool-tshirts," "ten-crazy-cool-tshirts-facts," and "interview-with-cool-tshirts-founder"

- These campaigns perform well at bringing users to the landing page and shopping cart.

5.0 CONCLUSION

The company should focus on interview-with-cool-tshirts-founder, getting-to-know-cool-tshirts, and ten-crazy-cool-tshirts-facts as first touch campaigns and weekly-newsletter and retargetting-ad as last touch campaigns

Full queries on next slide.

Queries

For 2.0, 2.1

```
SELECT COUNT(DISTINCT(utm_campaign)) AS 'number_unique_campaigns',
COUNT(DISTINCT(utm_source)) AS 'number_unique_sources'
FROM page_visits;
SELECT DISTINCT(utm_campaign) AS 'unique_campaign', utm_source
FROM page_visits;
SELECT DISTINCT(page_name)
FROM page_visits;
```

For 3.0, 3.1, 3.2, 3.3, 3.4

```
WITH first_touch AS (
SELECT user_id,
MAX(timestamp) as first_touch_at
FROM page_visits
GROUP BY user_id),
first_attr AS (
SELECT ft.user_id, ft.first_touch_at,
pv.utm_source, pv.utm_campaign
FROM first_touch AS ft
JOIN page_visits AS pv
ON ft.user_id = pv.user_id
AND ft.first_touch_at = pv.timestamp
)
SELECT first_attr.utm_campaign, COUNT(*)
FROM first_attr
GROUP BY 1
ORDER BY 2 DESC;
```

```
WITH last_touch AS (
SELECT user_id,
MAX(timestamp) as last_touch_at
FROM page_visits
GROUP BY user_id),
last_attr AS (
SELECT lt.user_id, lt.last_touch_at,
pv.utm_source, pv.utm_campaign
FROM last_touch AS lt
JOIN page_visits AS pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at = pv.timestamp
)
```

```
SELECT last_attr.utm_campaign, COUNT(*)
FROM last_attr
GROUP BY 1
ORDER BY 2 DESC;

SELECT page_name, COUNT(*) AS 'total'
FROM page_visits
WHERE page_name = '4 - purchase';

WITH last_touch AS (
SELECT user_id,
MAX(timestamp) as last_touch_at
FROM page_visits
WHERE page_name = '4 - purchase'
GROUP BY user_id),
last_attr AS (
SELECT lt.user_id, lt.last_touch_at,
pv.utm_source, pv.utm_campaign, pv.page_name
FROM last_touch AS lt
JOIN page_visits AS pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at = pv.timestamp
)
SELECT last_attr.utm_campaign, COUNT(*)
FROM last_attr
GROUP BY 1
ORDER BY 2 DESC;
SELECT page_name, utm_campaign, COUNT(*)
FROM page_visits
GROUP BY 1,2
ORDER BY 1, 3 DESC;
```