



CoolTShirts Marketing Attribution

Analyze Data with SQL

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1. Exploring the data

1. 1 How many campaigns and sources does CoolTShirts use and how are they related?

The `utm_source` is from where the website traffic is being directed, and the `utm_campaigns` are specific marketing campaigns done using those sources.

There are 8 different campaigns and 6 different sources:

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

| |
|--------------------------------|
| COUNT(DISTINCT (utm_campaign)) |
|--------------------------------|

| |
|---|
| 8 |
|---|

| |
|------------------------------|
| COUNT(DISTINCT (utm_source)) |
|------------------------------|

| |
|---|
| 6 |
|---|

```
SELECT COUNT(DISTINCT (utm_campaign))  
FROM page_visits;
```

```
SELECT COUNT(DISTINCT (utm_source))  
FROM page_visits;
```

1. 2 What pages are on their website?

The website has 4 pages:

- Landing
- Shopping cart
- Checkout
- Purchase

| page_name |
|-------------------|
| 1 - landing_page |
| 2 - shopping_cart |
| 3 - checkout |
| 4 - purchase |

```
SELECT DISTINCT (page_name)
FROM page_visits;
```

2. What is the user journey?

2. 1 How many first touches is each campaign responsible for?

We can see that the “interview with cool tshirts founder” campaign through Medium was the most successful campaign and also “getting to know cool tshirts” in New York Times was very successful. “Ten crazy cool tshirts facts” made also a great contribution.

| Query Results | | |
|---------------|-------------------------------------|----------------------|
| Source | Campaing | number_first_touches |
| medium | interview-with-cool-tshirts-founder | 622 |
| nytimes | getting-to-know-cool-tshirts | 612 |
| buzzfeed | ten-crazy-cool-tshirts-facts | 576 |
| google | cool-tshirts-search | 169 |

```
WITH first_touch AS (  
    SELECT user_id,  
           MIN(timestamp) as first_touch_at  
    FROM page_visits  
    GROUP BY user_id),  
ft_attr AS (  
    SELECT ft.user_id,  
           ft.first_touch_at,  
           pv.utm_source,  
           pv.utm_campaign  
    FROM first_touch ft  
    JOIN page_visits pv  
      ON ft.user_id = pv.user_id  
     AND ft.first_touch_at = pv.timestamp  
)  
SELECT ft_attr.utm_source as Source,  
       ft_attr.utm_campaign as Campaing,  
       COUNT(*) as number_first_touches  
FROM ft_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2. 2 How many last touches is each campaign responsible for?

CoolTshirts most successful campaigns that brought the same people back to our site are the Email weekly-newsletter and the retargeting-campaign on facebook.

| Query Results | | |
|---------------|-------------------------------------|---------------------|
| Source | Campaing | number_last_touches |
| email | weekly-newsletter | 447 |
| facebook | retargeting-ad | 443 |
| email | retargeting-campaign | 245 |
| nytimes | getting-to-know-cool-tshirts | 232 |
| buzzfeed | ten-crazy-cool-tshirts-facts | 190 |
| medium | interview-with-cool-tshirts-founder | 184 |
| google | paid-search | 178 |
| google | cool-tshirts-search | 60 |

```
WITH last_touch AS (  
  SELECT user_id,  
         MAX(timestamp) as last_touch_at  
  FROM page_visits  
  GROUP BY user_id),  
lt_attr AS (  
  SELECT lt.user_id,  
         lt.last_touch_at,  
         pv.utm_source,  
         pv.utm_campaign  
  FROM last_touch lt  
  JOIN page_visits pv  
    ON lt.user_id = pv.user_id  
    AND lt.last_touch_at = pv.timestamp  
)  
SELECT lt_attr.utm_source as Source,  
       lt_attr.utm_campaign as Campaing,  
       COUNT(*) as number_last_touches  
FROM lt_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```


2. 3 How many visitors make a purchase?

Although our campaigns are getting a good number of new visitors in our website and also seems to be working fine getting them back to the website, we only are achieving 361 purchases.

This means from the total visitors of 1979, only 18% make a purchase.

| COUNT(*) |
|----------|
| 361 |

```
SELECT COUNT(*)  
FROM page_visits  
WHERE page_name = "4 - purchase";
```

2. 4 How many last touches on the purchase page is each campaign responsible for?

We can see that the “weekly-newsletter” and facebook “retargeting-ad” campaigns are the most successful ones, covering both the 63% of our purchases.

It seems that the campaigns that are attracting new users they are not helping the companies sales enough.

| Query Results | | |
|---------------|-------------------------------------|---------------------|
| Source | Campaing | number_last_touches |
| email | weekly-newsletter | 115 |
| facebook | retargeting-ad | 113 |
| email | retargeting-campaign | 54 |
| google | paid-search | 52 |
| buzzfeed | ten-crazy-cool-tshirts-facts | 9 |
| nytimes | getting-to-know-cool-tshirts | 9 |
| medium | interview-with-cool-tshirts-founder | 7 |
| google | cool-tshirts-search | 2 |

```
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),  
    lt_attr AS (  
    SELECT lt.user_id,  
           lt.last_touch_at,  
           pv.utm_source,  
           pv.utm_campaign  
    FROM last_touch lt  
    JOIN page_visits pv  
      ON lt.user_id = pv.user_id  
      AND lt.last_touch_at = pv.timestamp  
    )  
SELECT lt_attr.utm_source as Source,  
       lt_attr.utm_campaign as Campaigng,  
       COUNT(*) as number_last_touches  
FROM lt_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2. 5 What is the typical user journey?

- Initially, 1979 users get to the landing page.
- 95% of those users get to the shopping cart
- 76% move forward to the check out
- But only 25% from those in the check out actually make a purchase

| page_name | COUNT(DISTINCT user_id) |
|-------------------|-------------------------|
| 1 - landing_page | 1979 |
| 2 - shopping_cart | 1881 |
| 3 - checkout | 1431 |
| 4 - purchase | 361 |

```
SELECT page_name,  
COUNT(DISTINCT user_id)  
FROM page_visits  
GROUP BY 1  
ORDER BY 1 ASC;
```

3. Optimizing the Campaign Budget

3. Which 5 campaigns should CoolTshirts pick and why?

As we can see, CoolTshirts campaigns to get the user to the website are really working but the main problem is the poor number of purchases we get from those campaigns, only 27 purchases between them.

On the other hand, weekly-newsletter or retargeting-ad are working really well.

So the 5 campaigns that should be picked up are:

- Email: weekly newsletter
- Facebook: retargeting-ad
- Email: retargeting campaign
- Google: paid search
- Nytimes: getting to know Cool Tshirts

It seems that it is good to have a campaign to get users to know the company, so they should keep “Getting to know Cool Tshirts” as it is bringing a lot of new user to the websites.

Then, all the other 4 campaigns selected are those that are giving the best results on purchases.