

Marketing Attribution

Data analysis with SQL

Ekaterina Chernyakova

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Table of Contents

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

1. Getting familiar with the company
 - 1.1 How many campaigns and sources does CoolTShirts use and how are they related?
 - 1.2 What pages are on their website?
2. Defining the user journey
 - 2.1 How many first touches is each campaign responsible for?
 - 2.2 How many last touches is each campaign responsible for?
 - 2.3 How many last touches on the purchase page is each campaign responsible for?
3. Optimising the campaign budget

1. Getting familiar with the company

page_visits

A table describing each time a user visits the CoolTShirts website

Column	Description
<code>user_id</code>	A unique identifier for each visitor to a page
<code>timestamp</code>	The time at which the visitor came to the page
<code>page_name</code>	The title of the section of the page that was visited
<code>utm_source</code>	Identifies which site sent the traffic (i.e., google, newsletter, or facebook_ad)
<code>utm_campaign</code>	Identifies the specific ad or email blast (i.e., june-21-newsletter or memorial-day-sale)

1.1 Getting familiar with the company

- CoolTShirts uses 8 campaigns and 6 sources
- From the table below we can see which source is used for each campaign.

count(distinct utm_campaign)	
8	
count(distinct utm_source)	
6	
utm_campaign	utm_source
getting-to-know-cool-tshirts	nytimes
weekly-newsletter	email
ten-crazy-cool-tshirts-facts	buzzfeed
retargeting-campaign	email
retargeting-ad	facebook
interview-with-cool-tshirts-founder	medium
paid-search	google
cool-tshirts-search	google

```
select count(distinct utm_campaign)
from page_visits;
```

```
select count(distinct utm_source)
from page_visits;
```

```
select distinct utm_campaign, utm_source
from page_visits;
```

1.2 What pages are on CoolTShirts website?

- CoolTShirts has 4 pages on their website: landing page, shopping_cart, checkout, purchase
- The conversion rate of CoolTShirts website is 18%

```
SELECT page_name, count(user_id)
from page_visits
group by 1;
```

page_name	count(user_id)
1 - landing_page	2000
2 - shopping_cart	1900
3 - checkout	1431
4 - purchase	361

2. Defining the user journey

2.1 How many first touches each campaign is responsible for

From the table below we can see that :

- Medium utm source with 'interview-with-cool-tshirts-founder' campaign attract the most of the users, 622 out of 2000
- Nytimes utm source with 'getting-to-know-cool-tshirts' campaign attracted almost the same amount of users as the previous, 612.

ft_attr.utm_source	ft_attr.utm_campaign	count (*)
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 as ft  
    JOIN page_visits as pv  
      ON ft.user_id = pv.user_id  
     AND ft.first_touch_at = pv.timestamp)  
  
select ft_attr.utm_source,  
       ft_attr.utm_campaign,  
       count (*)  
from ft_attr  
group by 1, 2  
order by 3 desc;
```


2.2 How many last touches is each campaign responsible for?

From the table below we can see that :

- Most of the last users interactions were with 'weekly-newsletter' campaign on email utm_source
- The second biggest amount of users had their last touch on facebook utm_source with 'retargetting-ad' campaign

It is important to know how many last touches each campaign is responsible for, But it is more important to know how many last interactions were exactly on the purchase page of each campaign.

last_attr.utm_source	last_attr.utm_campaign	count (*)
email	weekly-newsletter	447
facebook	retargetting-ad	443
email	retargetting-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),  
  
    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_source,  
       last_attr.utm_campaign,  
       count (*)  
from last_attr  
group by 2  
order by 3 desc;
```

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

From the table below we can see that :

- Most of the last users interactions on the purchase page were with 'weekly-newsletter' campaign on email utm_source
- The second biggest amount of users had their last touch on the purchase page on facebook with 'retargeting-ad' campaign

last_attr.utm_source	last_attr.utm_campaign	count (*)
email	weekly-newsletter	115
facebook	retargeting-ad	113
email	retargeting-campaign	54
google	paid-search	52
nytimes	getting-to-know-cool-tshirts	9
buzzfeed	ten-crazy-cool-tshirts-facts	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  
    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_source,  
       last_attr.utm_campaign,  
       count (*)  
from last_attr  
group by 2  
order by 3 desc;
```

3. Optimising the campaign budget

If CoolTShirts wanted to re-invest in 5 campaigns, I would recommend to pick:

- weekly-newsletter
- retargeting-ad
- retargeting-campaign
- paid-search

Because from all campaigns these four brought the biggest amount of users to the purchase page.

And the last would be **interview-with-cool-tshirts-founder** since this campaign attracted the biggest amount of users to visit CoolTShirts, 622.

last_attr.utm_source	last_attr.utm_campaign	Count
email	weekly-newsletter	115
facebook	retargeting-ad	113
email	retargeting-campaign	54
google	paid-search	52