

COOL T-SHIRTS

First- and Last-Touch Attribution SQL project

PROJECT GOALS

CoolTShirts, an innovative apparel shop, is running a bunch of marketing campaigns.

The business needs help optimizing their digital marketing campaigns, using the **data** they collected in a database.

In order to answer their questions, we need to **write SQL** code.

THE AVAILABLE DATA

page_visits	
A table describing each time a user visits the CoolTShirts website	
Column	Description
user_id	A unique identifier for each visitor to a page
timestamp	The time at which the visitor came to the page
page_name	The title of the section of the page that was visited
utm_source	Identifies which site sent the traffic (i.e., google, newsletter, or facebook_ad)
utm_medium	Identifies what type of link was used (i.e., cost-per-click or email)
utm_campaign	Identifies the specific ad or email blast (i.e., june-21-newsletter or memorial-day-sale)

1. GETTING FAMILIAR WITH THE COMPANY

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

8 campaigns from 6 sources. There are 2 sources with 2 used campaigns. A source is where the digital user comes from. A campaign is the name we give to a marketing action with a specific goal. UTM parameters are used to collect data and identify digital marketing efforts and their achievements.

```
1  SELECT COUNT(distinct utm_campaign )
2      AS 'Campaigns'
3  FROM page_visits;
4
5  SELECT COUNT(distinct utm_source )
6      AS 'Sources'
7  FROM page_visits;
8
9  SELECT distinct utm_campaign, utm_source
10 FROM page_visits
11 ORDER BY 2;
```

Query Results	
Campaigns	
8	
Sources	
6	
utm_campaign	utm_source
ten-crazy-cool-tshirts-facts	buzzfeed
weekly-newsletter	email
retargetting-campaign	email
retargetting-ad	facebook
paid-search	google
cool-tshirts-search	google
interview-with-cool-tshirts-founder	medium
getting-to-know-cool-tshirts	nytimes

1. GETTING FAMILIAR WITH THE COMPANY

What pages are on their website?

These are the steps in the conversion funnel. The user first lands on the landing page and after checking the T-shirts, he selects a T-shirt and goes to his shopping cart, there he proceed with the checkout process, and finally the payment is completed. Pages we find in the data are:

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

```
13 SELECT distinct page_name
14         AS 'Funnel'
15 FROM page_visits;
```

Funnel
1 - landing_page
2 - shopping_cart
3 - checkout
4 - purchase

2. WHAT IS THE USER JOURNEY?

How many first touches is each campaign responsible for?

```
17 WITH first_touch AS (  
18     SELECT user_id,  
19         MIN(timestamp) as first_touch_at  
20     FROM page_visits  
21     GROUP BY user_id)  
22 SELECT count(ft.user_id)  
23         AS 'FT Users',  
24         pv.utm_campaign  
25         AS 'Campaign'  
26 FROM first_touch as ft  
27 JOIN page_visits as pv  
28     ON ft.user_id = pv.user_id  
29     AND ft.first_touch_at = pv.timestamp  
30 GROUP BY pv.utm_campaign  
31 ORDER BY count(ft.user_id) desc;
```

There are 4 campaigns through which ones users find the page.

622, 612, 576 and 169 first touches for each one of them.

FT Users	Campaign
622	interview-with-cool-tshirts-founder
612	getting-to-know-cool-tshirts
576	ten-crazy-cool-tshirts-facts
169	cool-tshirts-search

2. WHAT IS THE USER JOURNEY?

How many last touches is each campaign responsible for?

```
33 WITH last_touch AS (  
34     SELECT user_id,  
35         MAX(timestamp) as last_touch_at  
36     FROM page_visits  
37     GROUP BY user_id)  
38 SELECT count(lt.user_id)  
39     AS 'LT Users',  
40     pv.utm_campaign  
41     AS 'Campaign'  
42 FROM last_touch as lt  
43 JOIN page_visits as pv  
44     ON lt.user_id = pv.user_id  
45     AND lt.last_touch_at = pv.timestamp  
46 GROUP BY pv.utm_campaign  
47 ORDER BY count(lt.user_id) desc;
```

There are 8 campaigns through which ones users last came back.

Mostly after a newsletter or a retargeting campaign.

Some of them may have visited only once.

LT Users	Campaign
447	weekly-newsletter
443	retargeting-ad
245	retargeting-campaign
232	getting-to-know-cool-tshirts
190	ten-crazy-cool-tshirts-facts
184	interview-with-cool-tshirts-founder
178	paid-search
60	cool-tshirts-search

2. WHAT IS THE USER JOURNEY?

How many visitors make a purchase?

Of all users that came to the page after having been targeted with a campaign, 361 of them made a purchase.

```
49 SELECT count(distinct user_id )  
50       AS 'Users on funnel step 4'  
51 FROM page_visits  
52 WHERE page_name = '4 - purchase';
```

Users on funnel step 4
361

2. WHAT IS THE USER JOURNEY?

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

```
54 WITH last_touch AS (  
55     SELECT user_id,  
56           MAX(timestamp) as last_touch_at  
57     FROM page_visits  
58     GROUP BY user_id)  
59 SELECT count(lt.user_id)  
60         AS 'LT Users - step 4',  
61         pv.utm_campaign  
62         AS 'Campaign'  
63 FROM last_touch as lt  
64 JOIN page_visits as pv  
65     ON lt.user_id = pv.user_id  
66     AND lt.last_touch_at = pv.timestamp  
67 where pv.page_name = '4 - purchase'  
68 GROUP BY pv.utm_campaign  
69 ORDER BY count(lt.user_id) desc;
```

These campaigns brought sales.

Mostly the newsletter and the retargeting ad.

LT Users - step 4	Campaign
114	weekly-newsletter
112	retargeting-ad
53	retargeting-campaign
52	paid-search
9	getting-to-know-cool-tshirts
9	ten-crazy-cool-tshirts-facts
7	interview-with-cool-tshirts-founder
2	cool-tshirts-search

2. WHAT IS THE USER JOURNEY?

What is the typical user journey?

As we can read from previous queries, users use to find the page through the published interview with the founder and other published articles. And they end up purchasing after reading the weekly newsletter mostly, or after seeing a retargeting ad or campaign, or after clicking on a paid search ad.

The typical journey is:

- > Read article on Medium
- > Register on the Cool T-shirt page
- > Purchase after reading a weekly newsletter

FT Users	Campaign
622	interview-with-cool-tshirts-founder
612	getting-to-know-cool-tshirts
576	ten-crazy-cool-tshirts-facts
169	cool-tshirts-search

LT Users - step 4	Campaign
114	weekly-newsletter
112	retargeting-ad
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3. OPTIMIZING THE CAMPAIGN BUDGET

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

Cool T-shirts should invest more on writing articles or doing interviews for Medium, NewYork Times or Buzzfeed. Test other similar channels would also be of interest. We can see that these are the places most users comes from and find our products.

The business should also invest more in the weekly newsletter, and on the retargeting options. Finding other ways of doing retargeting should also be tested. There are very few users who purchase after only reading any of the articles.

FT Users	Campaign	Source
622	interview-with-cool-tshirts-founder	medium
612	getting-to-know-cool-tshirts	nytimes
576	ten-crazy-cool-tshirts-facts	buzzfeed
169	cool-tshirts-search	google
LT Users - step 4	Campaign	Source
114	weekly-newsletter	email
112	retargeting-ad	facebook
53	retargeting-campaign	email
52	paid-search	google
9	getting-to-know-cool-tshirts	nytimes
9	ten-crazy-cool-tshirts-facts	buzzfeed
7	interview-with-cool-tshirts-founder	medium
2	cool-tshirts-search	google

3. OPTIMIZING THE CAMPAIGN BUDGET

* I tried to run this code also, but for some reason it is not working but no error message comes up either.

```
1  WITH first_touch AS (  
2      SELECT user_id,  
3             MIN(timestamp) as first_touch_at  
4      FROM page_visits  
5      GROUP BY user_id)  
6  SELECT count(ft.user_id)  
7         AS 'FT Users',  
8         pv.utm_campaign  
9         AS 'Campaign',  
10        pv.utm_source  
11  FROM first_touch as ft  
12  JOIN page_visits as pv  
13      ON ft.user_id = pv.user_id  
14      AND ft.first_touch_at = pv.timestamp  
15  WHERE pv.page_name = '4 - purchase'  
16  GROUP BY pv.utm_campaign  
17  ORDER BY count(ft.user_id) desc;
```