



# CoolTShirts – Attribution Queries

Learn SQL from Scratch

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# **1. Get Familiar with CoolTShirts**

# 1.1 Campaigns and Sources

CoolTShirts runs a total of eight campaigns across six different sources.

- The campaigns are specific ads or email blasts that the user engaged with, while the sources are sites used to deliver the campaigns and are responsible for referring users to the CoolTShirts site.
- The eight campaigns are listed below with their corresponding sources are included below. Google and email are running more than one campaign.

| 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     |

## 1.2 Page Names

There are four different pages that are on the CoolTShirts website. Each section represents a step in the user's buying experience. When a user touches one of the sections, it demonstrates that they have completed the previous step in the process. The four pages are listed in the column to the right.

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

## **2. What Is The User Journey?**

## 2.1 First Touches by Campaign

Using the query listed to the right, you are able to pull the number of first touches broken out by campaign. The 'COUNT(utm\_campaign)' provides the number of first touches that each of the campaigns was responsible for.

| user_id | first_touch_at         | utm_source | utm_count                           | COUNT<br>(utm_campaign) |
|---------|------------------------|------------|-------------------------------------|-------------------------|
| 99990   | 2018-01-13<br>23:30:09 | medium     | interview-with-cool-tshirts-founder | 622                     |
| 99933   | 2018-01-25<br>00:04:39 | nytimes    | getting-to-know-cool-tshirts        | 612                     |
| 99765   | 2018-01-04<br>05:59:46 | buzzfeed   | ten-crazy-cool-tshirts-facts        | 576                     |
| 99684   | 2018-01-13<br>13:20:49 | google     | cool-tshirts-search                 | 169                     |

```
--First touch query

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

## 2.1 First Touches by Campaign

With just a few small changes to the first touch query, you are able to return the list of campaigns and the last touches they are responsible for. The changes were switching MIN to MAX(timestamp) and syntax changes to the table references, such as 'ft' becoming 'lt'.

| user_id | last_touch_at       | utm_source | utm_count                           | COUNT<br>(utm_campaign) |
|---------|---------------------|------------|-------------------------------------|-------------------------|
| 99933   | 2018-01-26 06:18:39 | email      | weekly-newsletter                   | 447                     |
| 99928   | 2018-01-24 05:26:09 | facebook   | retargetting-ad                     | 443                     |
| 99990   | 2018-01-16 11:35:09 | email      | retargetting-campaign               | 245                     |
| 99589   | 2018-01-15 04:55:43 | nytimes    | getting-to-know-cool-tshirts        | 232                     |
| 99765   | 2018-01-04 05:59:47 | buzzfeed   | ten-crazy-cool-tshirts-facts        | 190                     |
| 99838   | 2018-01-02 07:40:34 | medium     | interview-with-cool-tshirts-founder | 184                     |
| 98840   | 2018-01-10 04:58:48 | google     | paid-search                         | 178                     |
| 99344   | 2018-01-18 21:36:32 | google     | cool-tshirts-search                 | 60                      |

--Last touch query

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



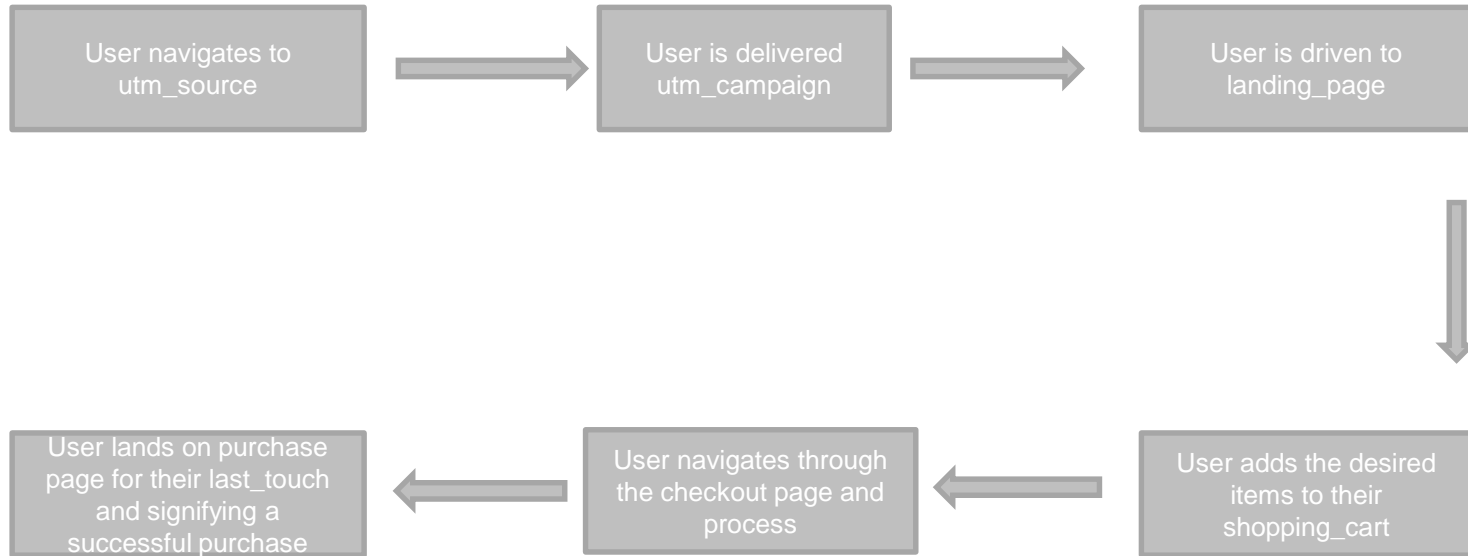
## 2.3 – 2.4 Total Purchases and Purchases by Campaign

The total number of purchases for CoolTShirts is 361. To successfully analyze what campaigns are the most successful, it is necessary to break the purchases out by their campaign.

In the columns to the right, you will see the count of last touches on the purchase page for each campaign. This will provide us with the insight needed to prioritize future campaigns based upon those which lead to the highest number of purchases.

| page_name    | utm_source | utm_campaign                        | COUNT<br>(utm_campaign) |
|--------------|------------|-------------------------------------|-------------------------|
| 4 - purchase | email      | weekly-newsletter                   | 115                     |
| 4 - purchase | facebook   | retargeting-ad                      | 113                     |
| 4 - purchase | email      | retargeting-campaign                | 54                      |
| 4 - purchase | google     | paid-search                         | 52                      |
| 4 - purchase | nytimes    | getting-to-know-cool-tshirts        | 9                       |
| 4 - purchase | buzzfeed   | ten-crazy-cool-tshirts-facts        | 9                       |
| 4 - purchase | medium     | interview-with-cool-tshirts-founder | 7                       |
| 4 - purchase | google     | cool-tshirts-search                 | 2                       |

## 2.5 User Journey



# **3. Optimize the Campaign Budget**

## 3.1 Reinvesting

In the columns to the right, you see the count of last touches on the purchase page for each campaign; signifying a successful purchase.

Determining how to reinvest can be done in a variety of ways, but the most effective is by which campaigns led to successful purchases from CoolTShirts.

Given that they plan to only reinvest into five of the campaigns, we can take a simple look at the count of last touches made and determine that the investment should go to the top five performing campaigns:

- Weekly-newsletter
- Retargeting-ad
- Retargeting-campaign
- Paid-search
- Getting-to-know-cool-tshirts-founder

| page_name    | utm_source | utm_campaign                        | COUNT<br>(utm_campaign) |
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