



# Capstone: Attribution

Learn SQL from Scratch

Rachel Thorpe

21/07/18

# Table of Contents

1. Get familiar with CoolTShirts
2. What is the user journey?
3. Optimize the campaign budget

# **1. Get Familiar with CoolTShirts**

## 1.1 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`.

CoolTShirts uses a total of 8 campaigns and 6 sources.

The `utm_campaign` column shows a list of specific marketing campaigns (articles, adverts, newsletters etc) that have or had potential to drive traffic to the CoolTShirts website.

The `utm_source` column shows where the traffic to the website originated, for example by a potential customer clicking a link in an email, or searching for the site on Google.

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 their website?

There are 4 pages on the CoolTShirts website, as seen in the below table. There is the landing page, or home page on the site, a cart page, the checkout page and the final purchase page.

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?

The results show that the interview with the founder of CoolTShirts drives the most traffic to CoolTShirts' website as a first point of interaction.

This is followed by an article in the NY Times on getting to know the company, a BuzzFeed article on CoolTShirts facts, and Google searches.

Source	Campaign	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 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 AS 'Source',  
  ft_attr.utm_campaign AS 'Campaign',  
  COUNT(*) AS 'First Touches'  
FROM ft_attr  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

## 2.2 How many last touches is each campaign responsible for?

The campaign with the most last touches is the weekly newsletter. This is then followed by Facebook retargeting ads, email retargeting, the NY Times article on Getting To Know CoolTShirts, the BuzzFeed Facts campaign, the Founder's interview, and Google searches.

Source	Campaign	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 AS 'lt'  
   JOIN page_visits AS '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 'Campaign',  
       COUNT(*) AS 'Last Touches'  
FROM lt_attr  
GROUP BY 1,2  
ORDER BY 3 DESC;
```



## 2.3 How many visitors make a purchase?

A total of 361 visitors to the site make a purchase.

```
SELECT COUNT(DISTINCT user_id) AS 'Purchase Page Visits'  
FROM page_visits  
WHERE page_name = '4 - purchase';
```

Purchase Page Visits
361

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

The emailed Weekly Newsletter and the retargeting ad via Facebook has the most success on last touches for the Purchase page by a significant degree.

Source	Campaign	Last Touches on Purchase
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 AS 'lt'  
  JOIN page_visits AS '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 'Campaign',  
  COUNT(*) AS 'Last Touches on Purchase'  
FROM lt_attr  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

## 2.5 What is the typical user journey?

The results show that the articles online are the best way to drive traffic to the website, however after the initial visit there is a lot of traffic lost part way through the purchase process.

The retargeting ads on Facebook and email have the best success in driving traffic back towards the purchase and payment pages.

```
SELECT page_name AS 'Page Name',  
COUNT(page_name) AS 'Number of visits'  
FROM page_visits  
GROUP BY 1  
ORDER BY 2 DESC;
```

Page Name	Number of visits
1 - landing_page	2000
2 - shopping_cart	1900
3 - checkout	1431
4 - purchase	361

### **3. Optimise the Campaign Budget**

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

Based on the information from the SQL queries, the below 5 campaigns should be reinvested in:

1. Medium – Interview with CoolTShirts Founder
2. NYTimes – Getting to Know CoolTShirts
3. BuzzFeed – 10 Crazy CoolTShirts Facts
4. Email – Weekly Newsletter: Has the most success in driving purchase
5. Facebook Retargeting Ad: Has the second highest success in driving purchase

Campaigns 1-3 are the best at driving traffic to the website. Once a potential customer has visited, options involving cookies and newsletter signups mean CoolTShirts will have more means to target customers.

Campaigns 4 and 5 are the top 2 in driving the final purchase, which is what the company will be most concerned about.