



# First & Last Touch Attribution

Learn SQL from Scratch

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# **1. Using SQL to get familiar with the company**

# 1.1 Campaigns and Sources Used by CoolTShirts

CoolTShirts uses six sources to deliver it's eight campaigns to potential customers. Some sources, like email, are used for multiple campaigns while others, like Facebook, are used to distribute just one campaign.

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

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

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

```
SELECT DISTINCT utm_source,
utm_campaign
FROM page_visits;
```

## 1.2 CoolTShirts Website Pages

CoolTShirts has four pages on it's website: landing page, shopping cart, checkout and purchase.

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

```
SELECT DISTINCT page_name  
FROM page_visits;
```

## **2. Using SQL to map the user journey**

## 2.1 First touches by Campaign

The campaign that contributed to the most first touches to the site was “interview with cool tshirts founder”, followed by “getting to know cool tshirts” and “ten crazy tshirts facts”.

first_touchcounts.utm_campaign	COUNT(*)
interview-with-cool-tshirts-founder	622
getting-to-know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
cool-tshirts-search	169

```
WITH first_touch AS (  
    SELECT user_id,  
           MIN(timestamp) as first_touch_at  
    FROM page_visits  
    GROUP BY user_id),  
first_touchcounts 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  
    first_touchcounts.utm_campaign,  
    COUNT(*)  
FROM first_touchcounts  
GROUP BY 1  
ORDER BY 2 DESC;
```

## 2.2 Last touches by Campaign

The weekly newsletter and retargeting ad/campaign contributed to the most site last touches.

last_touchcounts.utm_campaign	COUNT(*)
weekly-newsletter	447
retargeting-ad	443
retargeting-campaign	245
getting-to-know-cool-tshirts	232
ten-crazy-cool-tshirts-facts	190
interview-with-cool-tshirts-founder	184
paid-search	178
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_touchcounts 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  
    last_touchcounts.utm_campaign,  
    COUNT(*)  
FROM last_touchcounts  
GROUP BY 1  
ORDER BY 2 DESC;
```



## 2.3 Visitors who make a purchase

361 site visitors made a purchase

COUNT (DISTINCT user_id)	page_name
361	4 - purchase

```
SELECT COUNT (DISTINCT user_id),  
page_name  
FROM page_visits  
WHERE page_name = "4 - purchase"  
GROUP BY 2;
```

## 2.4 Last touches by Campaign on the Purchase Page

The weekly newsletter and retargeting ad/campaign contributed to the most last touches on the purchase page of the website.

last_touchcounts.utm_campaign	COUNT(*)
weekly-newsletter	115
retargeting-ad	113
retargeting-campaign	54
paid-search	52
getting-to-know-cool-tshirts	9
ten-crazy-cool-tshirts-facts	9
interview-with-cool-tshirts-founder	7
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),  
last_touchcounts 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  
    last_touchcounts.utm_campaign,  
    COUNT(*)  
FROM last_touchcounts  
GROUP BY 1  
ORDER BY 2 DESC;
```

## 2.5 The Typical User Journey

Most users are brought to the CoolTShirts site by articles/campaigns like “interview with cool tshirts founder”, “getting to know cool tshirts” and “ten crazy tshirts facts”. Users are drawn back to the website by weekly newsletter campaigns as well as retargeting ads and campaigns. Only about 18% of users end up actually making a purchase (361 total purchases / 1,979 touches).

## **3. Campaign Budget**

### 3 Campaign Investments

If CoolTShirts can only invest in 5 campaigns, I would recommend they invest in the articles “interview with cooltshirts founder”, “getting to know cool tshirts” and “ten crazy tshirts facts” as well as the weekly newsletter and retargeting ad. The three article campaigns are responsible for bringing 91% of first time visitors to the site. The weekly newsletter and retargeting ad lure 45% of visitors back to the site, 25% of those visitors make a purchase.

`1,810 total first touches from articles / 1,979 total first time touches = 0.91 = 91%`

`890 total last touches from newsletter and retargeting ad / 1,979 total last time touches = 0.44 = 45%`

`228 total last touches from newsletter and retargeting ad on purchase page / 890 total last touches = 0.25 = 25%`