

CoolTShirts.com Attribution

Learn SQL From Scratch

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Table of Contents

1. Getting familiar with CoolTShirts.com
2. The user journey
3. Optimizing the budget

Getting to know CoolTshirts.com:

num_campaign	Num_source
8	6

Page_name
Landing_page
Shopping_cart
Checkout
purchase

There are 8 distinct advertising campaigns run by CoolTshirts.com and 6 distinct sources from which web traffic reaches one of four pages on their website.

```
SELECT
COUNT(DISTINCT(utm_campaign)) AS
`num_campaign`,
COUNT(DISTINCT(utm_source)) AS
`num_source`
FROM page_visits;
```

```
/*
Counting the number of distinct
campaigns and sources
*/
```

```
SELECT DISTINCT(page_name)
FROM page_visits
```

```
/*
Distinct pages on the website
*/
```

utm_campaign	utm_source	page_name
Getting-to-know-cool-tshirts	Nytimes	landing_page, shopping_cart
Weekly-newsletter	Email	Checkout, purchase
Ten-crazy-cool-tshirt-facts	buzz feed	Landing_page, Shopping_cart
Cool-tshirts-search	Google	Landing_page, Shopping_cart, Checkout, purchase
Interview-with-cool-tshirts-founder	medium	Landing_page, Shopping_cart, Checkout, purchase
Paid-search	Google	Checkout, purchase
Retargeting-campaign	Email	Checkout, purchase
Retargeting-ad	Facebook	Checkout, purchase

Getting to know CoolTshirts.com

```
SELECT DISTINCT(utm_campaign),
               utm_source,
               page_name
FROM page_visits;
```

This myriad of campaigns and sources serves two distinct purposes: bringing in users' first touch, their first visit to the landing page and the shopping cart pages, and their last touch, a revisit or completion of a visit to the checkout and purchase pages.

Note that the utm_sources are the touch point from which users enter the website whereas utm_campaign is the advertising campaign from which the user discovers the site.

User Journey: First touch attribution

Of the 8 advertising campaigns run by CoolTShirts.com, all of the first touches can be attributed to the following 4 campaigns.

utm_campaign	First_touches
Cool-tshirts-search	169
Getting-to-know-cool-tshirts	612
Interview-with-cool-tshirts-founder	622
Ten-crazy-cool-tshirts-facts	576

```
WITH first_touch AS (  
    SELECT user_id,  
           MIN(timestamp) as  
           first_touch_at  
    FROM page_visits  
    GROUP BY user_id)  
SELECT COUNT(ft.user_id) AS  
       'first_touch',  
       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  
GROUP BY pv.utm_campaign;
```

User Journey: last touch attribution

All 8 of CoolTShirts.com's advertising campaigns play a role in bringing users back to the website, although some with significantly better results than others.

utm_campaign	Last_touches
Cool-tshirts-search	60
Getting-to-know-cool-tshirts	232
Interview-with-cool-tshirts-founder	184
Ten-crazy-cool-tshirts-facts	190
Paid-search	178
retargeting-ad	443
Retargeting-campaign	245
Weekly-newsletter	447

```
WITH last_touch AS (  
    SELECT user_id,  
           MAX(timestamp) as  
           last_touch_at  
    FROM page_visits  
    GROUP BY user_id)  
SELECT COUNT(lt.user_id) AS  
       'last_touch',  
       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  
GROUP BY pv.utm_campaign;
```

User Journey: Purchases and attribution to last touch

Purchases
361

Total purchases and breakdown by last touch

Purchases	Last_touch_campaign
2	Cool-tshirts-search
9	Getting-to-know-cool-tshirts
7	Interview-with-cool-tshirts-founder
52	Paid-search
112	Retargeting-ad
53	Retargeting-campaign
9	Ten-crazy-cool-tshirts-facts
114	Weekly-newsletter

```
SELECT COUNT(user_id)
AS 'purchases'
FROM page_visits
WHERE page_name = '4 - purchase';
```

```
WITH last_touch AS (
    SELECT user_id,
           MAX(timestamp) as
last_touch_at
    FROM page_visits
    GROUP BY user_id)
SELECT COUNT(lt.user_id) AS
'purchases',
pv.utm_campaign AS
'last_touch_campaign'
FROM last_touch lt
JOIN page_visits pv
    ON lt.user_id = pv.user_id
    AND lt.last_touch_at =
pv.timestamp
WHERE page_name = '4 - purchase'
GROUP BY pv.utm_campaign;
```

User Journey: The typical user journey

1. Based on the campaigns responsible for first touches, the user probably initially discovers CoolTShirts.com through the following campaigns getting-to-know-cool-tshirts, interview-with-cool-tshirts-founder, or ten-crazy-cool-tshirts-facts.
2. From there the user browses around a bit, but very few follow through with a purchase.
3. Later on the user may come back, probably from the result of the weekly-newsletter if they subscribed to it or the retargeting-ad campaign.
4. From there the user will make a purchase with higher frequency than their previous visit.

Optimizing the Budget: 1. data comparison

Utm_campaign	First_touch	Last_touch	purchases
Getting-to-know-cool-tshirts	612	232	9
Weekly-newsletter	0	447	114
Ten-crazy-cool-tshirt-facts	576	190	9
Cool-tshirts-search	169	60	2
Interview-with-cool-tshirts-founder	622	184	7
Paid-search	0	178	52
Retargeting-campaign	0	245	53
Retargeting-ad	0	443	112

Optimizing the Budget: 2. data comparison

Utm_campaign	First/last_touch retention	First_touch/ purchase retention	Last_touch/ purchase retention
Getting-to-know-cool-tshirts	0.379085	0.014706	0.0387931
Weekly-newsletter	0	0	0.2550336
Ten-crazy-cool-tshirt-facts	0.329861	0.015625	0.047368
Cool-tshirts-search	0.35503	0.011834	0.033333
Interview-with-cool-tshirts-founder	0.29582	0.011254	0.0380435
Paid-search	0	0	0.292135
Retargeting-campaign	0	0	0.2163265
Retargeting-ad	0	0	0.2528217

Optimizing the Budget

We can see from the first dataset that the campaigns: getting-to-know-cool-tshirts, Ten-crazy-cool-tshirt-facts and the Interview-with-cool-tshirts-founder are responsible for a large proportion of the first touch traffic CoolTshirts.com experiences. They also have high first/last touch retention and although, the cool-tshirts-search has a higher retention than the interview-with-cool-tshirts-founder, more first touches are attributed to the interview campaign. All 4 of the first touch campaigns have very low purchase / first touch retention so we will need to look at purchase / last touch retention.

From the first dataset we can see that the weekly-newsletter and the retargeting ad were the most successful in number of last touches, both of which were also responsible for approximately 2/3 of the total purchases.

In conclusion the 5 advertising campaigns that CoolTShirts.com should reinvest in based on first and last touch attribution as well as retention rates are: the getting-to-know-cool-tshirts, Ten-crazy-cool-tshirt-facts and the Interview-with-cool-tshirts-founder for incoming traffic and the weekly-newsletter and retargeting-ad campaigns for user retention.