



CoolTShirts.com

Learn SQL from Scratch

Sara Thompson

July 9th, 2018

Table of Contents

1. CoolTShirts.com sitemap and UTM Parameters
2. User journey by first touch and last touch analysis
3. Optimizing the campaign budget

What is CoolTShirts.com?

Selling only the coolest T-shirts

1.1 CoolTShirts.com Sitemap

CoolTShirts.com sells all kinds of really cool T-shaped T-shirts. CoolTShirts.com has four web pages. These pages are named:

CoolTShirts.com Website	SQL Code:
1-landing_page	SELECT page_name FROM page_visits GROUP BY 1 ORDER BY 1;
2-shopping_cart	
3-checkout	
4-purchase	

1.2 UTM Parameters

To increase web traffic, CoolTShirts.com uses three UTM parameters (tags added to a URL so when the link is clicked, the tags can be tracked).

The three UTM parameters used are ***utm_source***, ***utm_medium*** and ***utm_campaign***. Utm_source refers to the website, email or other link that sent the traffic to CoolTshirts.com. The utm_medium refers to the type of link clicked such as cost-per-click or email. The specific ad on the utm_source is referred to as the utm_campaign.

CoolTshirts.com has **eight (8)** distinct utm_campaigns. One utm_campaign, *weekly_newsletter*, is from a weekly newsletter emailed to customers. Another utm_campaign named *paid_search* is from users paid to search for CoolTShirts.com. The remaining six of utm_campaigns are placed on different websites.

Refer to the table on the next slide to see which utm_campaign is linked to which utm_source.

1.2 UTM Source and Campaign Relationships

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

1.2 UTM Source and Campaign Relationships

SQL Code:

SQL Code:

```
/*  
#1b. count the distinct number of utm_campaigns  
*/
```

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

```
/*  
#1b. count the distinct number of utm_sources  
*/
```

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

```
/*  
#1c. view the different utm_sources and utm_campaigns  
*/
```

```
SELECT utm_source, utm_campaign  
FROM page_visits  
GROUP BY 1;
```

2.1 First Touch Results Per Campaign

First touch results indicate how visitors initially discover the website. Four of the ad campaigns have first_touch results and are listed in the table with the total number of first touches per utm_campaign.

utm_campaign	Number of First Touches
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),  
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, ft_attr.utm_campaign, COUNT(*)  
FROM ft_attr  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```


2.2 Last Touch Results Per Campaign

Last touch results indicates visitors last source that brings them back to the website. The following table shows the total counts for the last touch utm_source **and** associated utm_campaign.

utm_source	utm_campaign	Number of 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

2.2 Last Touch Results for Per Campaign

SQL Code:

```
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,  
            lt_attr.utm_campaign,  
            COUNT(*)  
  
    FROM lt_attr  
    GROUP BY 1, 2  
    ORDER BY 3 DESC;
```

2.3 Number of Distinct Users Who Make a Purchase

According to this database, there were 361 distinct users who made a purchase.

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

361

2.4 Last Touch Results on the Purchase_page Per Campaign

The following table shows how many last touch results were from the purchase page (4-purchase) per utm_campaign.

utm_source	utm_campaign	Number of Last Touches
email	weekly-newsletter	169
facebook	retargeting-ad	113
google	cool-tshirts-search	54
buzzfeed	ten-crazy-cool-tshirts-facts	9
nytimes	getting-to-know-cool-tshirts	9
medium	interview-with-cool-tshirts-founder	7

2.4 Last Touch Results on the Purchase Page Per Campaign

SQL Code:

```
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.page_name,  
        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.page_name,  
    lt_attr.utm_source,  
    lt_attr.utm_campaign,  
    COUNT(*)  
FROM lt_attr  
GROUP BY 1, 2  
ORDER BY 4 DESC;
```

2.5 The Typical User Journey

The typical user journey is indicated below.

1. 1 - landing_page
2. 2 - shopping_cart
3. 3 - checkout

95% of the total number of distinct users starting on 1 - landing_page continued to 2 - shopping_cart. 72% of the total number of distinct users continued to 3 - checkout. Only 18% of the total number of distinct users went to 4 - purchase. Therefore, the typical user does not get to 4 - purchase.

Distinct User ID	page_name
1979	1 - landing_page
1881	2 - shopping_cart
1431	3 - checkout
361	4 - purchase

```
SELECT COUNT(DISTINCT user_id), page_name
FROM page_visits
GROUP BY page_name;
```

3.1 Five Campaigns to Reinvestment In

Based on the last touch results on the purchase page, the following utm_campaigns should be continued since these campaigns seem to target users most likely to purchase a t-shirt from CoolTShirts.com.

utm_campaign	Number of Last Touches	Percentage of Total
weekly-newsletter	169	46.81%
retargeting-ad	113	31.30%
cool-tshirts-search	54	14.96%
ten-crazy-cool-tshirts-facts	9	2.49%
getting-to-know-cool-tshirts	9	2.49%