



CoolTShirts: Marketing Campaign

Analyze Data with SQL

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1. Introduction

CoolTShirts

CoolTShirts launched a marketing campaign to increase visibility on the inter-webs. First-touch and Last-touch attribution was used to track our customers. We will be measuring the cost-effectiveness each campaign.

2.Campaigns and Sources

2.1 How many sources and campaigns used?

Running the query on the left, we can obtain the total campaigns and sources.

number_campaign
8

number_sources
8

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

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

2.2 Which source used for each campaign?

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

```
SELECT DISTINCT utm_source AS source, utm_campaign  
                AS campaign  
FROM page_visits;
```

3. User Journey on the Site

3.1 Which Source used for each campaign?

The CoolTShirts websites has a modern design of landing page, shoping cart page, checkout page, and a purchase page.

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

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

3.2 How many first touches is each campaign responsible for?

As shown in the output, the largest pull resulted from the medium article, “Interview with Cool Tshirts Founder”, resulting in an uptick of 622 users on the site. The Google search “cool tshirts search” only netted an uptick of 169 users.

Source	Campaign	#users
medium	interview-with-cool-tshirts-founder	622
nytimes	getting-to-know-cool-tshirts	612
buzzfeed	getting-to-know-cool-tshirts	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),  
total_touch AS (  
    SELECT ft.user_id AS id,  
           ft.first_touch_at AS fta,  
           pv.utm_source AS us,  
           pv.utm_campaign AS uc  
    FROM first_touch AS ft  
    JOIN page_visits AS pv  
      ON id = pv.user_id  
     AND fta = pv.timestamp)  
  
SELECT total_touch.us AS source,  
       total_touch.uc AS campaign,  
       COUNT(*) AS #users  
FROM total_touch  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

3.3 How many last touches is each campaign responsible for?

For the last touch attribution, the highest user count was received from the weekly newsletter email blast with 447 users. The least users were obtained from the google search with 60 users.

source	campaign	#users
email	weekly-newsletter	447
facebook	retargeting-ad	443
email	retargeting-campaign	245
nytimes	weekly-newsletter	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),  
l_total_touch AS (  
    SELECT lt.user_id AS id,  
           lt.last_touch_at AS lta,  
           pv.utm_source AS us,  
           pv.utm_campaign AS uc  
    FROM last_touch AS lt  
    JOIN page_visits AS pv  
      ON id = pv.user_id  
     AND lta = pv.timestamp)  
  
SELECT l_total_touch.us AS source,  
       l_total_touch.uc AS campaign,  
       COUNT(*) AS #users  
FROM l_total_touch  
GROUP BY 1,2  
ORDER BY 3 DESC;
```

3.3 How many visitors make a purchase?

From all users which landed on our site, 361 users made a purchase.

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

page_name	#users
1 - landing_page	1979
2 - shopping_cart	1881
3 - checkout	1431
4 - purchase	361

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

For the last touch attribution, when looking at the purchase page count, we noticed that the highest purchase count was 115 users. The lowest purchase count was 2 users from the google search.

source	campaign	purchases
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-founder	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),  
l_total_touch AS (  
  SELECT lt.user_id AS id,  
         lt.last_touch_at AS lta,  
         pv.utm_source AS us,  
         pv.utm_campaign AS uc  
  FROM last_touch AS lt  
  JOIN page_visits AS pv  
  ON id = pv.user_id  
  AND lta = pv.timestamp)  
SELECT  
  us, uc,  
  COUNT(DISTINCT id)  
FROM l_total_touch  
GROUP BY 1,2  
ORDER BY 3 DESC
```

4.Optimizing Campaign Expenditures

4.1 Last Touch Campaigns

Neither the user count nor the purchase count is the best measure for effectiveness of each campaign. For example, Medium with the interview introduced our product to 184 users yet only 7 of them made a purchase which amounts to a turn over rate of 3.80%. Comparatively, the Nytimes article added 232 users and 9 of them made a purchase yielding a turn over rate of 3.88%. Calculating the turn over rate for all last touch attributes, the following campaigns appear to yield the best returns:

- Google – paid search | 29.21%
- Email –weekly newsletter | 25.73%
- Facebook – retargeting ad | 25.51%

A close contendor was the “email – retargeting ad”. fr

4.2 First Touch Exposure

First touch campaigns are extremely valuable because they allow for new users to be introduced to the platform. These campaigns also have larger user counts thus are extremely valuable to increase the user base. The best performing campaigns from this end were:

- BuzzFeed – article | 4.74%
- nytimes – article | 3.88%