

CoolTShirts

Capstone Project

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Learn SQL from Scratch
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1. CoolTShirts Overview

1. CoolTShirts Overview

- CoolTShirts is an innovative online t-shirt company
- CoolTShirts wants to learn about the effectiveness of its marketing campaigns and use the insights to increase traffic and sales

1.1 CoolTShirts UTM Parameters

CoolTShirts uses UTM parameters to identify traffic referrals using data from the following columns, which are described below and shown in the table at the right:

user_id: A unique identifier for each visitor to CoolTShirts.com

timestamp: The time at which a user visited a page on the website

page_name: The name of the specific web page visited

utm_source: The page that referred the user to the website

utm_campaign: Identifies the specific marketing campaign

page_visits 5692 rows	
page_name	TEXT
timestamp	TEXT
user_id	INTEGER
utm_campaign	TEXT
utm_source	TEXT

1.2 Understanding the Data

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

The table to the left shows the relationship between the marketing campaigns and traffic sources based on the query below.

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

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

```
SELECT DISTINCT utm_campaign AS 'Marketing Campaign',
               utm_source AS 'Source'
FROM page_visits;
```

1.3 CoolTShirts Website Pages

The `page_visits` table also reveals that there are four distinct pages on the CoolTShirts website. From the `page_name` field, those pages are below, along with the associated query to the right:

<code>page_name</code>
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 table below shows the number of first touches by marketing campaign and source, which was derived using the query to the right.

Four of the eight campaigns are responsible for first touches, with 91% of 1,979 total visitors coming from three campaigns and the sources Medium, BuzzFeed and *The New York Times*. The other 9% come from Google searches.

Source	Marketing Campaign	Count
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_attribute 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 ft_attribute.utm_source AS 'Source',  
       ft_attribute.utm_campaign AS 'Marketing Campaign',  
       COUNT(*) AS 'Count'  
FROM ft_attribute  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2.2 How many last touches is each campaign responsible for?

Source	Marketing Campaign	Count
email	weekly-newsletter	447
facebook	retargetting-ad	443
email	retargetting-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

The table shows how many last touches each campaign is responsible for, based on the query below.

```
WITH last_touch AS (  
  SELECT user_id,  
         MAX(timestamp) AS 'last_touch_at'  
  FROM page_visits  
  GROUP BY user_id),  
  
lt_attribute 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 lt_attribute.utm_source AS 'Source',  
       lt_attribute.utm_campaign AS 'Marketing Campaign',  
       COUNT(*) AS 'Count'  
FROM lt_attribute  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2.3 How many visitors make a purchase?

Based on the query to the right, 361 visitors make a purchase. This is an 18% conversion rate based on 1,979 total visitors or touches.

Visitors that make a purchase
361

```
SELECT COUNT(DISTINCT user_id) AS 'Visitors that make a purchase'  
FROM page_visits  
WHERE page_name = 'purchase';
```

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

The table identifies which campaigns were responsible for last touches on the purchase page at CoolTShirts.com, based on the query below. The weekly newsletter campaign accounted for 32% of last touches on the purchase page, while the retargeting ad resulted in 31%.

Source	Marketing Campaign	Count
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),  
  
It_attribute AS (  
  SELECT It.user_id,  
         It.last_touch_at,  
         pv.utm_source,  
         pv.utm_campaign,  
         pv.page_name  
  FROM last_touch It  
  JOIN page_visits pv  
    ON It.user_id = pv.user_id  
   AND It.last_touch_at = pv.timestamp  
)  
  
SELECT It_attribute.utm_source AS 'Source',  
       It_attribute.utm_campaign AS 'Marketing Campaign',  
       COUNT(*) AS 'Count'  
FROM It_attribute  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

2.5 What is the typical user journey?

1,979 users enter CoolTShirts.com from four campaigns, with 91% derived from articles in BuzzFeed, Medium and the *New York Times*. The other 9% enter from Google searches.

These campaigns, however, are only responsible for 34% of last touches, meaning users need reinforcement to commit to purchasing. That reinforcement comes from the retargeting ad and the weekly newsletter, which account for 45% of last touches on the site and 63% of the last touches on the purchase page.

In total, 18% of first touches to the site result in a purchase.

In summary, users are drawn to the site from articles but require additional prompting to move through the funnel. The additional touches, specifically the retargeting ad and the weekly newsletter, then deliver 63% of the purchases.

3. Optimizing the campaign budget

3.1 Which five campaigns should CoolTShirts re-invest in?

CoolTShirts should focus its investment in the three marketing campaigns that produced first-touch success (Medium - Interview with CoolTShirts founder, NYTimes - Getting to Know Cool T-Shirts, BuzzFeed - Ten Crazy Cool T-Shirts Facts) while also re-investing in the two campaigns that produced the greatest last-touch and purchase success (Weekly Newsletter and Retargeting Ad).

The story-based campaigns generate strong initial interest and first touches while the retargeting ad and weekly newsletter drive purchases.