CoolTShirts project

Topic: Attribution Queries

Codecademy Analyze Data with SQL Skill Path

Bother Bean - March 2023

Background

CoolTShirts, an innovative apparel shop, is running a bunch of marketing campaigns.

Goal

By using the data from recent marketing campaigns, we want to find out in which five campaigns CoolTShirts should re-invest.

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

Campaign info

utm_campaign	utm_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

- 8 UTM campaigns with
- 6 distinct UTM sources

UTM campaign: name of the campaign

UTM source: medium in which the campaign is carried out

```
SELECT DISTINCT
page_name,
  COUNT(DISTINCT user_id)
as 'number of visits'
FROM page_visits
GROUP BY page_name;
```

Home page: landing page funnel

page_name	number of visits	Percentage to next step
1 - landing_page	1979	100.00%
2 - shopping_cart	1881	95.05%
3 - checkout	1431	76.08%
4 - purchase	361	25.23%

Landing page funnel consists of 4 different pages.

Percentage of users moving on to next step of the funnel are seen in the last column.

```
WITH first_touch AS (
  SELECT user_id,
    MIN(timestamp) as
first_touch_at
  FROM page_visits
  GROUP BY user_id),
ft_pv 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 utm_source,
    utm_campaign,
    COUNT(*) AS no_of_ft
  FROM  ft_pv
  GROUP BY 1, 2
  ORDER BY 3 DESC;
```

How many first touches is each campaign responsible for?

utm_source	utm_campaign	first touch count	Percentage
medium	interview-with-cool-tshirts-founder	622	31.43%
nytimes	getting-to-know-cool-tshirts	612	30.92%
buzzfeed	ten-crazy-cool-tshirts-facts	576	29.11%
google	cool-tshirts-search	169	8.54%
		1979	**100%**

- 4 campaigns contribute to first touch

```
WITH last_touch AS (
  SELECT user_id,
    MAX(timestamp) AS
last_touch_at
  FROM page_visits
  GROUP BY user_id),
  lt_pv AS (
    SELECT lt.user_id,
     lt.last_touch_at,
     pv.utm_source,
     pv.utm_campaign,
     pv.page_name
    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 utm_source,
    utm_campaign,
    COUNT(DISTINCT user_id)
AS 'last touch count'
  FROM lt_pv
  GROUP BY 1, 2
  ORDER BY 3 DESC;
```

How many last touches is each campaign responsible for?

utm_source	utm_campaign	last touch count	last touch percentage
email	weekly-newsletter	447	22.59%
facebook	retargetting-ad	443	22.39%
email	retargetting-campaign	245	12.38%
nytimes	getting-to-know-cool-tshirts	232	11.72%
buzzfeed	ten-crazy-cool-tshirts-facts	190	9.60%
medium	interview-with-cool-tshirts-founder	184	9.30%
google	paid-search	178	8.99%
google	cool-tshirts-search	60	3.03%

```
WITH last_touch AS (
  SELECT user_id,
    MAX(timestamp) AS
last_touch_at
  FROM page_visits
  GROUP BY user_id),
  lt_pv AS (
    SELECT lt.user_id,
     lt.last_touch_at,
     pv.utm_source,
     pv.utm_campaign,
     pv.page_name
    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 page_name,
    utm_source,
    utm_campaign,
    COUNT(DISTINCT user_id)
AS 'purchases'
  FROM lt_pv
  WHERE page_name = '4 -
purchase'
  GROUP BY 3
  ORDER BY 4 DESC;
```

How many last touches ending with a purchase is each campaign responsible for?

utm_source	utm_campaign	purchases	Purchase percentage
email	weekly-newsletter	114	31.84%
facebook	retargetting-ad	112	31.28%
email	retargetting-campaign	53	14.80%
google	paid-search	52	14.53%
buzzfeed	ten-crazy-cool-tshirts-facts	9	2.51%
nytimes	getting-to-know-cool-tshirts	9	2.51%
medium	interview-with-cool-tshirts-founder	7	1.96%
google	cool-tshirts-search	2	0.56%
		358	**100%**

Summary

Typical user journey:

- User discovers CoolTShirts via an article
- Purchase is completed after the user is retargeted via an add or by receiving a weekly newsletter
- On average, 18% of page visitors complete their purchase

Campaigns contributing most to first touch

utm_source	utm_campaign	first touch count	Percentage
medium	interview-with-cool-tshirts-founder	622	31.43%
nytimes	getting-to-know-cool-tshirts	612	30.92%
buzzfeed	ten-crazy-cool-tshirts-facts	576	29.11%

Campaigns contributing most to purchases

utm_source	utm_campaign	purchases	Purchase percentage
email	weekly-newsletter	114	31.84%
facebook	retargetting-ad	112	31.28%
email	retargetting-campaign	53	14.80%
google	paid-search	52	14.53%

Suggestion

Campaigns contributing most to first touch

utm_source	utm_campaign	first touch count	Percentage
medium	interview-with-cool-tshirts-founder	622	31.43%
nytimes	getting-to-know-cool-tshirts	612	30.92%
buzzfeed	ten-crazy-cool-tshirts-facts	576	29.11%

Continue with the campaigns in highlighted rows in the below tables to successfully direct new potential customers to the page as well as direct them to complete purchases.

Considering that campaigns have an equal cost and ~18% of users complete the purchase after first touch, buzzfeed campaign should result in ~100 new purchases which is a higher return than compared to the alternative of running the email retargeting-campaign.

Campaigns contributing most to completing purchases

utm_source	utm_campaign	purchases	Purchase percentage
email	weekly-newsletter	114	31.84%
facebook	retargetting-ad	112	31.28%
email	retargetting-campaign	53	14.80%
google	paid-search	52	14.53%

Thank you

Future analytics ideas

1. Learn more SQL to be able to define whether there is a difference in the likelihood of a customer completing a purchase, depending on which campaign brought in the 1st touch.