code|cademy

CoolTShirts – Marketing Attribution

Analyze Data with SQL
Vlad Pana
09/08/2022

Table of Contents

codecademy

1. **What is CoolTShirts?**

CoolTShirts is an online shop that sells shirts of all kinds, as long as they are T-shaped and cool.

Recently, CTS started a few marketing campaigns to increase website visits and purchases.

Using touch attribution, they'd like to map their customers' journey: from initial visit to purchase.

They can use that information to optimize their marketing campaigns.

2. Typical user journey on CoolTShirts website

code cademy

Q1 - How many campaigns and sources does CoolTShirts use? Which source is used for each campaign?

There are six sources used: three news websites (nytimes, medium and buzzfeed), facebook, google search and email.

There are eight campaigns now, paid and keyword search on google, weekly newsletters and retargeting campaign on email, three articles, one on each news website, and a retargeting campaign on facebook.

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

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

Q2 - What pages are on the CoolTShirts website? Find the distinct values of the page_name column.

There are four pages on CoolTShirts website: landing_page, shopping_cart, checkout, and purchase.

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

Code:

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

Q3 - How many first touches is each campaign responsible for?

First two most successful campaigns are through medium and nytimes, with their first_touches at 623 and 612, respectively.

They are followed by the buzzfeed campaign at 577 first_touches.

The fourth and least successful campaign is through google search, at only 169 first_touches.

Campaign	First_touches	Source
interview-with-cool-tshirts-founder	623	medium
getting-to-know-cool-tshirts	612	nytimes
ten-crazy-cool-tshirts-facts	577	buzzfeed
cool-tshirts-search	169	google

Code:

```
WITH first_touch AS
  (SELECT
      user_id,
      MIN(timestamp) as first_touch_at
  FROM page_visits
  GROUP BY user_id)
SELECT
    pv.utm_campaign AS Campaign,
    COUNT (*) AS First_touches,
    pv.utm_source AS Source
FROM first_touch AS ft
JOIN page_visits AS pv
    ON ft.first_touch_at = pv.timestamp
GROUP BY 1
ORDER BY 2 DESC;
```

Q4 - How many last touches is each campaign responsible for?

The first two campaigns with the most last touches are the weekly email newsletter and facebook retargeting ad. Having each 447 and 444 respectively they together make up for 45% of total last touches. The email retargetting campaign comes in third, with slightly over 50% of the last touches generated by the facebook retargetting ad.
Google with its two campaigns have the least last touches, summing up to less than the email retargeting campaign.

Campaign	Last_touches	Source
weekly-newsletter	447	email
retargetting-ad	444	facebook
retargetting-campaign	246	email
getting-to-know-cool-tshirts	232	nytimes
ten-crazy-cool-tshirts-facts	190	buzzfeed
interview-with-cool-tshirts-founder	184	medium
paid-search	178	google
cool-tshirts-search	60	google

Code:

```
WITH first_touch AS
  (SELECT
      user_id,
      MIN(timestamp) as first_touch_at
   FROM page_visits
   GROUP BY user_id)
SELECT
    pv.utm_campaign AS Campaign,
    COUNT (*) AS First_touches,
    pv.utm_source AS Source
FROM first_touch AS ft
JOIN page_visits AS pv
    ON ft.first_touch_at = pv.timestamp
GROUP BY 1
ORDER BY 2 DESC;
```

code_cademy

Q5 - How many visitors make a purchase?

Out of 1979 distinct users that reached the landing page, only 361 made a purchase. This is only 18% of total visitors.

Analysis of unique visitors per page shows that, although 72% (1431) of total visitors reached the checkout page, only 25% of them actually made the purchase.

It might be worth investigating why 3 out of 4 users leave the checkout page without making any purchase.

Page_name	Total_visitors
1 - landing_page	1979
2 - shopping_cart	1881
3 - checkout	1431
4 - purchase	361

Code:
```
SELECT page_name AS Page_name,
    COUNT (DISTINCT user_id) AS Total_visitors
FROM page_visits
GROUP BY page_name;
```

codecademy

Q6 - How many last touches on the purchase page is each campaign responsible for?

There were 358 last touches on the purchase page. This is to be expected given the number of unique visitors that landed on the purchase page. Again, the checkout page stands out with the most last touches, in line with the unique visitors per page analysis from the previous query.

Out of 1431 visitors on the checkout page, 1068 (75%) bounced off and did not make a purchase.

Campaign	Source	Purchases
weekly-newsletter	email	115
retargetting-ad	facebook	113
retargetting-campaign	email	54
paid-search	google	52
getting-to-know-cool-tshirts	nytimes	9
ten-crazy-cool-tshirts-facts	buzzfeed	9
interview-with-cool-tshirts-founder	medium	7
cool-tshirts-search	google	2

Code:
```
WITH last_touch AS
  (SELECT user_id,
        MAX(timestamp) as last_touch_at
  FROM page_visits
   WHERE page_name LIKE '4 - purchase'
   GROUP BY user_id)
SELECT pv.utm_campaign AS Campaign,
    pv.utm_source AS Source,
    COUNT (*) AS Purchases
FROM last_touch AS lt
JOIN page_visits AS pv
  ON lt.user_id = pv.user_id
    AND lt.last_touch_at = pv.timestamp
GROUP BY 1, 2
ORDER BY 3 DESC;
```

3. **Campaign budget optimisation**

code|cademy

Q7 - CoolTShirts can re-invest in 5 campaigns. Given your findings in the project, which should they pick and why?

To find top 5 most rewarding campaigns for CoolTShirt, I chose to look at which campaigns generated most purchases, assuming that a greater number of purchases equals greater profitability for CoolTShirts.
The weekly newsletter campaign produced the most purchases. All top three campaigns that generated most purchases are follow-up campaigns.

Looking at the first touches analysis, top three first touch generators were articles in news websites.
Assuming that a follow-up campaign is more successful the bigger the pool of users is, than a strategy that combines first touch generators with strong follow up should prove most successful.

The five campaigns I would choose would be to continue being visible through the three news websites, medium, nytimes and buzzfeed in order to generate more first touches, and follow-up with the weekly newsletter and facebook retargeting ads campaigns.