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CoolTshirts and where they should spend their money

Learn SQL from Scratch

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1. Get familiar with CoolTShirts

1.1 UTM Parameter

With advanced segmentation, it has become easier to track visits from various campaign in Google Analytics. But marketers and agencies still use utm_parameter(in this case they used utm_campaign and utm_source) to track click through of urls.Google's documentation on these variables is helpful in general, but is not all that clear on the difference between these two variables.

So, here's how I think of those variables. The utm_source is like a noun, and utm_campaign is like an adjective. The utm_source will be more consistent from one edition to another, while the utm_campaign will change.

Let's look at an example. Let's say CoolTshirts has an article about Interview with The Founder on MEDIUM and They want to track how many user click the link to their website. So we can create URL like this to track those activity:

http://cooltshirts.com?utm_campaign=interview-with-cool-tshirts-founder&utm_source=medium

1.2 The Campaign and Source

When we look at the data, we can draw a conclusion that CoolTshirt so far has:
- 8 campaigns,
- 6 sources.

From the table on the right, we can see the sources of the running campaign. Out of the 6 existing sources, 2 sources run 2 campaigns.

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

2. What is the user journey?

2.1 Attribution Model

An attribution model is the rule, or set of rules, that determines how credit for sales and conversions is assigned to touchpoints in conversion paths. For example, the Last Interaction model in Analytics assigns 100% credit to the final touchpoints (i.e., clicks) that immediately precede sales or conversions. In contrast, the First Interaction model assigns 100% credit to touchpoints that initiate conversion paths. ([source](#))

In this case, we will use First- and Last-Touch Attribution to analyze how User has their journey in our website.

2.2 First-touch Attribute

By identifying the timestamps with the MIN date for each user, We can get how many first touches are each campaign responsible for.

From the data, we can see that we get a lot of page view from 4 campaigns out of the active 8 which were responsible for first touch, and they mostly come from back links in the articles we created.

Campaign	Count
interview-with-cool-tshirts-founder	622
getting-to-know-cool-tshirts	612
ten-crazy-cool-tshirts-facts	576
cool-tshirts-search	169

```sql
-- the first-touch query
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 ft
  JOIN page_visits pv
    ON ft.user_id = pv.user_id
    AND ft.first_touch_at = pv.timestamp
)
SELECT ft_attr.utm_campaign as Campaign, COUNT(*) as
Count
FROM ft_attr
GROUP BY 1
ORDER BY 2 DESC;
```

2.3 Last-touch Attribute

By identifying the timestamp with the MAX date for each user, We can get how many last touches is each campaign responsible for.

Campaign	Count
weekly-newsletter	447
retargetting-ad	443
retargetting-campaign	245
getting-to-know-cool-tshirts	232
ten-crazy-cool-tshirts-facts	190
interview-with-cool-tshirts-founder	184
paid-search	178
cool-tshirts-search	60

```sql
-- the last-touch query
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 lt
  JOIN page_visits pv
    ON lt.user_id = pv.user_id
    AND lt.last_touch_at = pv.timestamp
)
SELECT lt_attr.utm_campaign as Campaign, COUNT(*) as
Count
FROM lt_attr
GROUP BY 1
ORDER BY 2 DESC;
```

From the data on the left, we can see that most users will come back after we send newsletter, re-targetting ad and re-targetting campaign.

2.4 Purchase by Visitors

Of all the existing visitors, there are 361 visitors who have already made purchases. From the data, we can describe which campaign the user is located. Full data can be seen in the next table.

2.5 User Typical

From the collected data, we can see that most visitors come from the articles we have created on some news platforms. However, only few of them make a purchase. Therefore, we have to run another campaign to invite them to visit our website again. We can do it by sending them email newsletters, sending email according to the campaign they have visited, and installing a re-targeting add on facebook. This way we can see that most users who make purchase come from those 3 campaigns.

campaign	Count
weekly-newsletter	115
retargetting-ad	113
retargetting-campaign	54
paid-search	52
getting-to-know-cool-tshirts	9
ten-crazy-cool-tshirts-facts	9
interview-with-cool-tshirts-founder	7
cool-tshirts-search	2

3. where coolTshirt should spend their money

The Campaigns where CoolTShirts can re-invest

From the results, I recommend to run the campaigns below.

1. **Getting-to-know-cool-tshirts**. We can continue this campaign by extending the running period so that, from here, we can get a lot of new user data that we can use for other campaigns.
2. **Ten-crazy-cool-tshirts-facts**. Just like the first one, this campaign is useful for getting new user data. The point from 1st and 2nd point is how we can create an interesting article so that many new users will be interested in coolTshirt.
3. **Weekly-newsletter**. We can run this campaign again since we get many purchasing from this campaign, moreover after we get a lot of new users from 1st and 2nd point.
4. **Retargetting-ad.** Aside from retargetting via email, we can also install retargetting-ad on facebook. With the fact that there are still many people visit facebook, this campaign is quite effective to make the users re-visit our website.
5. **Retargetting-campaign**. This method is also likely quite effective to remind the users to re-visit and complete their shopping in coolTshirts.

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