1. Get familiar with CoolTShirts
2. What is the user journey
3. Optimize the campaign budget

1. Get familiar with CoolTShirts

How many campaigns and sources does CoolTShirts use and how are they related?

- CoolTShirts uses eight campaigns and six sources.
- Each campaign is connected to a source.
- The specific campaigns and sources are connected with an UTM link describing which campaign the consumer clicked on, and which source or medium the campaign was shown on.
- The campaign can e.g. be an ad, and the source can e.g., be Facebook. The different campaigns run on different mediums.

```
SELECT
(SELECT COUNT(DISTINCT utm_campaign)
FROM page_visits) AS
'number_campaigns',
(SELECT COUNT(DISTINCT utm_source)
FROM page_visits) AS
'number_sources';
```

number_campaigns	number_sources
8	6

CoolTShirts' campaigns and sources

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

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

What pages are on their website?

- CoolTShirts has four pages: A landing page, a shopping cart page, a checkout page, and a purchase page.

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

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

2. What is the user journey?

What is first and last touch attribution?

First touch attribution shows how a visitor finds a certain webpage for the first time, e.g., through an ad or via search on a search engine.

Last touch attribution tracks a visitor's last visit to a webpage. It shows how a visitor is drawn back to a webpage she or he has previously been on.

How many first touches is each campaign responsible for?

- CoolTShirts has eight campaigns, but only four of them are responsible for first touches.
- A reason for this could be that the four respective campaigns don't aim to result in purchase primarily, but rather increase for example brand awareness or brand knowledge.

user_id	number_ft	utm_source	utm_campaign
99990	**622**	medium	interview-with-cool-tshirts-founder
99933	**612**	nytimes	getting-to-know-cool-tshirts
99765	**576**	buzzfeed	ten-crazy-cool-tshirts-facts
99684	169	google	cool-tshirts-search

```
WITH first_touch AS
 (SELECT user_id,
MIN(timestamp) AS first_touch_at
FROM page_visits
GROUP BY user_id)

SELECT ft.user_id,
COUNT(DISTINCT ft.first_touch_at) AS
number_ft,
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
GROUP BY utm_campaign
ORDER BY number_ft DESC;
```

How many last touches is each campaign responsible for?

- All eight campaigns are responsible for last touches.

user_id	number_lt	utm_source	utm_campaign
99933	**447**	email	weekly-newsletter
99928	**443**	facebook	retargetting-ad
99990	245	email	retargetting-campaign
99589	232	nytimes	paid-search
99765	190	buzzfeed	getting-to-know-cool-tshirts
99838	184	medium	ten-crazy-cool-tshirts-facts
98840	178	google	interview-with-cool-tshirts-founder
99344	60	google	cool-tshirts-search

```
WITH last_touch AS
 (SELECT user_id,
 MAX(timestamp) AS last_touch_at
 FROM page_visits
 GROUP BY user_id)

 SELECT lt.user_id,
 COUNT(DISTINCT lt.last_touch_at) AS
 number_lt,
 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
 GROUP BY utm_campaign
 ORDER BY number_lt DESC;
```

How many visitors make a purchase?

- 361 of CoolTShirt's visitors make a purchase.

number_users	page_name
361	4 - purchase

```
SELECT COUNT(DISTINCT user_id) AS
number_users,
page_name
FROM page_visits
WHERE page_name = '4 - purchase';
```

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

user_id	number_lt	utm_source	utm_campaign	page_name
99933	**115**	email	weekly-newsletter	4 - purchase
99897	**113**	facebook	retargetting-ad	4 - purchase
99285	54	email	retargetting-campaign	4 - purchase
94567	52	nytimes	paid-search	4 - purchase
92172	9	buzzfeed	getting-to-know-cool-tshirts	4 - purchase
98651	9	medium	ten-crazy-cool-tshirts-facts	4 - purchase
83547	7	google	interview-with-cool-tshirts-founder	4 - purchase
95650	2	google	cool-tshirts-search	4 - purchase

```
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)

SELECT lt.user_id,
COUNT(lt.last_touch_at) AS
number_lt,
pv.utm_source,
pv.utm_campaign,
page_name
FROM last_touch lt
JOIN page_visits pv
ON lt.user_id = pv.user_id
AND lt.last_touch_at = pv.timestamp
GROUP BY utm_campaign
ORDER BY number_lt DESC;
```

Every campaign is responsible for last touches

- All the different campaigns serve as last touch points for the visitors.

- Four out of eight campaigns are responsible for the majority of the last touches.

- An explanation to why not all the campaigns are accountable for many last touches could be that the four mentioned campaigns are designed and optimized to send the visitors directly to the purchase page with a message triggering a purchase.

- As to CoolTShirt's campaign, the 'retargetting-ad' or the 'retargetting-campaign' naturally caused many purchases, since they have probably tried to influence and target the same consumers before. 'weekly-newsletter' resulted in the most purchases. This campaign (email) most likely contained a triggering cue to make a purchase, e.g., a discount code.

What is the typical user journey?

Campaign	Source	Number first touches	Number last touches
interview-with-cool-tshirts-founder	google	**622**	178
getting-to-know-cool-tshirts	buzzfeed	**612**	190
ten-crazy-cool-tshirts-facts	medium	**576**	184
cool-tshirts-search	google	169	60
weekly-newsletter	email	0	**447**
retargetting-ad	facebook	0	**443**
retargetting-campaign	email	0	245
paid-search	nytimes	0	232

- Only four campaigns are responsible for first touches.

- All have last touches.

- The table shows that the user journey for the typical visitor on CoolTShirts' website is, firstly, through one of the four first mentioned campaigns, and primarily the three first.

- The majority end their journey on CoolTShirt's webpage through 'weekly-newsletter' and 'retargetting-ad'.

3.Optimize the campaign budged

CoolTShirts can re-invest in 5 campaigns. Which should they pick and why?

1. Weekly-newsletter

2. Retargetting-ad

3. Retargetting-campaign

4. Paid-search

5. Getting-to-know-cool-tshirts

- The company CoolTShirts is arguably driven by the sales income. They should, thus, invest in campaigns that result in many purchases by the visitors.

- The focus should, however, not solely lay on those type of campaigns. Other campaigns might be responsible for e.g., giving necessary awareness and knowledge about CoolTShirts to consumers in order for them to be impacted by other campaigns aiming to trigger a purchase.

- Therefore, my suggestions for which campaigns CoolTShirts should reinvest in are, firstly: 'weekly-newsletter', 'retargetting-ad', 'retargetting-campaign', and 'paid-search'. Simply because they result in more purchases compared to the other four.

- Secondly, the last campaign I recommend CoolTShirts to reinvest in is 'getting-to-know-cool-tshirts'. Most importantly, the campaign has, along with 'interview-with-cool-tshirts-founder', most first touches. Suggesting that the campaign doesn't aim to trigger purchase, but rather provide useful information for the customer, in which the title of the campaign indicates. This is also the reason for why I recommend this campaign rather than 'interview-with-cool-tshirts-founder'.

- To increase brand knowledge among consumers can be necessary to succeed with another campaign aimed to trigger purchase at a later point. Thus, 'getting-to-know-cool-tshirts' is a campaign worth reinvesting in.