codecademy

Warby Parker

Funnels Usage – SQL Project
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1. Quiz Funnel

1.1. What is the number of responses for each question?
1.2. Which question has a lower completion rate?

- This question is targeted at demonstrating the number of responses each question has. Using the adjacent code, we'll get the number of responses per question.
- Using a spreadsheet program we get the completion rates from one question to another which answers the second question. We can see that the **third** and the **fifth** questions have the lowest completion rates.

```
select question,
count(response) as 'no_of_responses'
from survey
group by question;
```

Question	Number of Responses	Completion Rate
1. What are you looking for?	500	100%
2. What's your fit?	475	95%
3. Which shapes do you like?	380	80%
4. Which colors do you like?	361	95%
5. When was your last eye exam?	270	75%

1.3. Quiz responses and questions completion rates

●Quiz questions showed top least completions where for Q5 (74.8%) and Q3 (80.0%) respectively

●Overall conversion rate at 49%

overall_cr
0.49

```
--Calculating overall conversion rate
with jtable as(

select distinct q.user_id,h.user_id is not null as
'is_home_try_on', h.number_of_pairs, p.user_id is not
null as 'is_purchase'

from quiz q left join home_try_on h on h.user_id =
q.user_id

        left join purchase p on p.user_id = q.user_id

)
select round(1.0 * sum(is_purchase)/count(user_id),2)
as overall_cr

from jtable

;
```

2. Home Try-On Funnel

2.1 Examine the first five rows of each table
What are the column names?

- Warby Parker's purchase funnel is:

  Style Quiz → Home Try-On →Purchase the Perfect Pair of Glasses.

During the Home Try-On stage, we will be conducting an A/B Test:
  · 50% of the users will get **3** pairs to try on
  · 50% of the users will get **5** pairs to try on

number_of_pairs	overall_cr
3 pairs	53.03
5 pairs	79.25

```
with conversion_table as
(
  select distinct q.user_id,
  h.user_id is not null as 'is_home_try_on',
  h.number_of_pairs,
  p.user_id is not null as 'is_purchase'
  from quiz as 'q'
  left join home_try_on as 'h'
    on h.user_id = q.user_id
  left join purchase as 'p'
    on p.user_id = q.user_id
)
select number_of_pairs,
round(100.0*sum(is_purchase)/count(user_id),
2)as 'overall_cr'
from conversion_table
where number_of_pairs is not null
group by number_of_pairs;
```

2.2 Use a LEFT JOIN to combine the three tables, starting with the top of the funnel (quiz) and ending with the bottom of the funnel (purchase).

Each row will represent a single user from the browse table:

· If the user has any entries in home_try_on, then is_home_try_on
  will be True.
· number_of_pairs comes from home_try_on table
· If the user has any entries in purchase, then is_purchase will be True.

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	True	3 pairs	False
291f1cca-e507-48be-b063-002b14906468	True	3 pairs	True
75122300-0736-4087-b6d8-c0c5373a1a04	False	Ø	False
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	True	5 pairs	False
ce965c4d-7a2b-4db6-9847-601747fa7812	True	3 pairs	True
28867d12-27a6-4e6a-a5fb-8bb5440117ae	True	5 pairs	True
5a7a7e13-fbcf-46e4-9093-79799649d6c5	False	Ø	False
0143cb8b-bb81-4916-9750-ce956c9f9bd9	False	Ø	False
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	True	5 pairs	False
b1dded76-cd60-4222-82cb-f6d464104298	True	3 pairs	False

```
Select q.user_id,
case
   when h.user_id is not null then 'True'
   else 'False'
   End as 'is_home_try_on',
   h.number_of_pairs,
case
   when p.user_id is not null then 'True'
   else 'False'
   end as 'is_purchase'
from quiz as 'q'
left join home_try_on as 'h'
   on h.user_id = q.user_id
left join purchase as 'p'
   on p.user_id = h.user_id
limit 10;
```

3. Purchase Funnel

3.1. Warby Parker's purchase funnel is:

Take the Style Quiz → Home Try-On → Purchase the Perfect Pair of Glasses.

Using the adjacent code, we'll get the numbers of customers who took the quiz, the number who took the home trial and the number who made the purchase.

```
WITH funnel AS (SELECT q.user_id AS 'quiz',
       h.address IS NOT NULL AS 'is_home_try_on',
       h.number_of_pairs,
       p.product_id IS NOT NULL AS 'is_purchase'
FROM quiz AS q
LEFT JOIN home_try_on AS h
ON q.user_id = h.user_id
LEFT JOIN purchase AS p
ON h.user_id = p.user_id
)
SELECT COUNT(quiz) AS 'quiz_num',
       SUM(is_home_try_on) AS 'home_try_num',
       SUM(is_purchase) AS 'purchase_num'
FROM funnel;
```

quiz_num	home_try_num	purchase_num
1000	750	495

3.2. Let's compare the conversion from quiz → home_try_on and home_try_on → purchase:

Using the adjacent code, we'll get the conversion from quiz→ home_try_on and home_try_on → purchase.

try_on_conv	purchase_conv
0.75	0.66

We can see that the number of customers who make a purchase are 66% of those who reach the Home Try-on Stage. And 75% of the customers who take the style quiz, go on to the Home Try-on Stage.

Now, let's see the result of our A/B test. We want to find out whether or not users who get more pairs to try on at home will be more likely to make a purchase.

```
WITH funnel AS (SELECT q.user_id AS 'quiz',
        h.address IS NOT NULL AS 'is_home_try_on',
        h.number_of_pairs,
        p.product_id IS NOT NULL AS 'is_purchase'
FROM quiz AS q
LEFT JOIN home_try_on AS h
ON q.user_id = h.user_id
LEFT JOIN purchase AS p
ON h.user_id = p.user_id
)
SELECT 1.0*SUM(is_home_try_on)/COUNT(quiz)
        AS 'try_on_conv',
        1.0*SUM(is_purchase)/SUM(is_home_try_on)
        AS 'purchase_conv'
FROM funnel;
```

3.3. Let's compare the purchase rates between customers who had 3 number_of_pairs with ones who had 5:

Using the adjacent code, we'll get the conversion from quiz →
home_try_on and home_try_on → purchase.

number_of_pairs	purchase_conv
3 pairs	0.53
5 pairs	0.79

We can see that the purchase rate for the customers who had 3
pairs is significantly less than those who had 5 pairs to tryon.

We can conclude that the number of pairs customers get to try on
can affect their decision about whether or not to make a purchase.

```
WITH funnel AS (SELECT q.user_id AS 'quiz',
      h.address IS NOT NULL AS 'is_home_try_on',
      h.number_of_pairs AS 'number_of_pairs',
      p.product_id IS NOT NULL AS 'is_purchase'
FROM quiz AS q
LEFT JOIN home_try_on AS h
ON q.user_id = h.user_id
LEFT JOIN purchase AS p
ON h.user_id = p.user_id
)
SELECT number_of_pairs,
      ROUND(1.0*SUM(is_purchase)/SUM(is_home_try_on),2)
       AS 'purchase_conv'
FROM funnel
WHERE number_of_pairs IS NOT NULL
GROUP BY number_of_pairs;
```

4. Most Common Styles

4.1. Most common styles people are interested in while answering the survey:

Using the adjacent code, we'll get the most common styles people are interested in while answering the survey.

style	COUNT(user_id)
Women's Styles	469
Men's Styles	432
I'm not sure. Let's skip it.	99

We can see that the women's styles are more common than the men's within the survey results.

```
SELECT style,
       COUNT(user_id)
FROM quiz
GROUP BY 1
ORDER BY 2 DESC;
```

4.2. Most common styles people actually purchase:

Using the adjacent code, we'll get the most common styles people actually purchase.

style	COUNT(user_id)
Women's Styles	252
Men's Styles	243

We can conclude that women's styles are more common both when it comes to surveys and actual purchases.

```
SELECT style, COUNT(user_id)
FROM purchase
GROUP BY 1
ORDER BY 2 DESC;
```

Thank you!