codecademy

Usage Funnels with Warby Parker

Learn SQL from Scratch

Katarzyna Postrach

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1 Get familiar with Warby Parker. Table survey

To help users find their perfect frame, Warby Parker has a Style Quiz that has the following questions:

1. "What are you looking for?”
2. "What's your fit?”
3. "Which shapes do you like?”
4. "Which colors do you like?”
5. "When was your last eye exam?”

The users' responses are stored in a table called survey which has 3 columns. The first four rows:

question	user_id	response
1. What are you looking for?	005e7f99-d48c-4fce-b605-10506c85aaf7	Women's Styles
2. What's your fit?	005e7f99-d48c-4fce-b605-10506c85aaf7	Medium
3. Which shapes do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Round
4. Which colors do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Two-Tone

2 Quiz Funnel

question	quantity	%
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%

```
SELECT question, COUNT(DISTINCT user_id) as quantity
FROM
survey
GROUP BY question;
```

Question 5 and 3 of the quiz have a lower completion rates. 25% people who ansered question 4 didin't anser question 5 and 20% people who ansered question 2 didin't anser question 3.

3. A/B Testing with Home Try-On Funnel-basic

During the Home Try-On stage, we will be conducting an A/B Test:

- 50% of the users will get 3 pairs of glasses to try on
- 50% of the users will get 5 pairs of glasses to try on

We wont to find out whether or not users who get more pairs to try on at home will be more likely to make a purchase.

The data is distributed across three tables:

quiz

home_try_on

Purchase

```
SELECT *
FROM quiz
LIMIT 5;
SELECT *
FROM home_try_on
LIMIT 5;
SELECT *
FROM purchase
LIMIT 5;
```

Table quiz columns:	Table home_try_on columns:	Table purchase columns:
user_id	user_id	user_id
style	number_of_pairs	product_id
fit	address	style
shape		model_name
color		color
		price

3.1 A/B Testing with Home Try-On Funnel - basic

During the Home Try-On stage, we will be conducting an A/B Test:

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FROM quiz
LIMIT 5;
SELECT *
FROM home_try_on
LIMIT 5;
SELECT *
FROM purchase
LIMIT 5;
```

Table quiz columns:	Table home_try_on columns:	Table purchase columns:
user_id	user_id	user_id
style	number_of_pairs	product_id
fit	address	style
shape		model_name
color		color
		price

3.2 A/B Testing with Home Try-On Funnel – useful table

Useful format of data in one table from: purchase, home_try_on, quiz.

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		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		False
0143cb8b-bb81-4916-9750-ce956c9f9bd9	False		False
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	True	5 pairs	False
b1dded76-cd60-4222-82cb-f6d464104298	True	3 pairs	False

```
WITH try AS
(SELECT quiz.user_id,
home_try_on.number_of_pairs,
CASE
WHEN home_try_on.number_of_pairs IS null THEN
'False'
ELSE 'True'
END as is_home_try_on
FROM quiz left join home_try_on
ON quiz.user_id = home_try_on.user_id
)
SELECT try.user_id, try.is_home_try_on,
try.number_of_pairs,

CASE
WHEN purchase.product_id IS null THEN 'False'
ELSE 'True'
END as is_purchase

FROM try LEFT JOIN purchase
ON try.user_id = purchase.user_id
LIMIT 10;
```

3.3 A/B Testing with Home Try-On Funnel – overoll conversion rate

A funnel for all the users:

all_id	all_home_try_on	all_purchase
1000	750	495

Overall conversion rates:

all_home_try_on	all_purchase
75%	66%

```
WITH baza 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 q.user_id = h.user_id
LEFT JOIN purchase p
   ON p.user_id = q.user_id)

SELECT count(distinct baza.user_id) as
all_id, sum(is_home_try_on) as
all_home_try_on, sum(is_purchase) as
all_purchase
FROM baza;
```

The same result but 3 easy queries:

```
SELECT COUNT(*) as all_purchase
FROM purchase;
SELECT COUNT(*) as all_try_home
FROM home_try_on;
SELECT COUNT(*) as all_id
FROM quiz;
```

3.4 A/B Testing with Home Try-On Funnel – the difference in purchase rates for 3 and 5 pairs

A purchase rates for 3 pairs of eyeglasses to test:

all_3	purchase_3	purchase rates
379	201	53%

A purchase rates for 5 pairs of eyeglasses to test:

all_5	purchase_5	purchase rates
371	294	79%

It means that users who get more pairs to try on at home will be more likely to make a purchase.

```
WITH baza 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 q.user_id = h.user_id
LEFT JOIN purchase p
   ON p.user_id = q.user_id)

SELECT sum(is_home_try_on) all_3, sum(is_purchase)
as purchase_3
FROM baza
WHERE baza.number_of_pairs = '3 pairs';

WITH baza 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 q.user_id = h.user_id
LEFT JOIN purchase p
   ON p.user_id = q.user_id)

SELECT sum(is_home_try_on) as all_5,
sum(is_purchase) as purchase_5
FROM baza
WHERE baza.number_of_pairs = '5 pairs';
```

3.5 The most common results from quiz and purchase

The most common results of the style quiz:

style	q_style
Women's Styles	469
Men's Styles	432
I'm not sure. Let's skip it.	99

The most common types of purchase made:

Style	q_style_p
Women's Styles	252
Men's Styles	243

model_name	q_model_p
Eugene Narrow	116
Dawes	107
Brady	95
Lucy	86
Olive	50
Monocle	41

price	q_price_p
95	261
150	193
50	41

```
--The most common results of the style quiz.
SELECT style, COUNT(*) AS q_style
FROM quiz
group by style
order by q_style desc;

--The most common types of purchase made.
SELECT style, COUNT(*) AS q_style_p
FROM purchase
group by style
order by q_style_p desc;

--The most common model of purchase made.
SELECT model_name, COUNT(*) AS q_model_p
FROM purchase
group by model_name
order by q_model_p desc;

--The most common price of purchase made.
SELECT price, COUNT(*) AS q_price_p
FROM purchase
group by price
order by q_price_p desc;
```

3.6 A/B Testing with Home Try-The most common types of purchase made by users who try 3 or 5 pairs of eyeglasses

The most common types of purchase made by users who try 3 pairs of eyeglasses

model_name	q_model3
Eugene Narrow	54
Dawes	49
Brady	39
Lucy	30
Monocle	15
Olive	14

The most common types of purchase made by users who try 5 pairs of eyeglasses

model_name	q_model5
Eugene Narrow	62
Dawes	58
Brady	56
Lucy	56
Olive	36
Monocle	26

```
SELECT purchase.model_name,
count(purchase.user_id) as q_model5
FROM
purchase join home_try_on
on purchase.user_id = home_try_on.user_id
WHERE home_try_on.number_of_pairs = '5 pairs'
group by purchase.model_name
order by q_model5 desc;

SELECT purchase.model_name,
count(purchase.user_id) as q_model3
FROM
purchase join home_try_on
on purchase.user_id = home_try_on.user_id
WHERE home_try_on.number_of_pairs = '3 pairs'
group by purchase.model_name
order by q_model3 desc;
```