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Usage Funnels with Warby Parker

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1. Quiz Funnel

1.1 What columns does the table survey have?

What columns does the table survey have?

The survey table has 3 column: Question, user_id & response

Query 1.1:

```
SELECT *
FROM survey
LIMIT 10;
```

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
1. What are you looking for?	00a556ed-f13e-4c67-8704-27e3573684cd	I'm not sure. Let's skip it.
2. What's your fit?	00a556ed-f13e-4c67-8704-27e3573684cd	Narrow
5. When was your last eye exam?	00a556ed-f13e-4c67-8704-27e3573684cd	<1 Year
3. Which shapes do you like?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Square
5. When was your last eye exam?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	<1 Year
2. What's your fit?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Medium

1.2 What is the number of responses for each question?

What is the number of responses for each question?

500 users answered to the 1st question, while only 270 users answered the 5th and last question.

The results can be consulted in the table below.

Query 1.2:

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

question	COUNT(DISTINCT user_id)
1. What are you looking for?	500
2. What's your fit?	475
3. Which shapes do you like?	380
4. Which colors do you like?	361
5. When was your last eye exam?	270

1.3 Which question(s) of the quiz have a lower completion rates?

Which question(s) of the quiz have a lower completion rates? What do you think is the reason?

The completion rate for each question can be calculated dividing the number of people completing each step by the number of people completing the previous step.
Looking at the table below we see that questions 3 and 5 have a lower completion rate.

Query 1.2:

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

Question	Count of user_id	%
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%

2 Home Try-On Funnel:

2.1 What are the column names for the 3 tables (quiz, home_try_on & Purchase?

What are the column names for the 3 tables (quiz, home_try_on & Purchase?

The column names can be found in the tables presented below

Query 2.1:

```
select * from quiz limit 5;
Select * from home_try_on limit 5;
Select * from purchase limit 5;
```

QUIZ

user_id	style	fit	shape	color
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise
291f1cca-e507-48be-b063-002b14906468	Women's Styles	Narrow	Round	Black
75122300-0736-4087-b6d8-c0c5373a1a04	Women's Styles	Wide	Rectangular	Two-Tone
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	Women's Styles	Narrow	Square	Two-Tone
ce965c4d-7a2b-4db6-9847-601747fa7812	Women's Styles	Wide	Rectangular	Black

Home_Try_on

user_id	number_of_pairs	address
d8addd87-3217-4429-9a01-d56d68111da7	5 pairs	145 New York 9a
f52b07c8-abe4-4f4a-9d39-ba9fc9a184cc	5 pairs	383 Madison Ave
8ba0d2d5-1a31-403e-9fa5-79540f8477f9	5 pairs	287 Pell St
4e71850e-8bbf-4e6b-accc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

Purchase

user_id	product_id	style	model_name	color	price
00a9dd17-36c8-430c-9d76-df49d4197dcf	8	Women's Styles	Lucy	Jet Black	150
00e15fe0-c86f-4818-9c63-3422211baa97	7	Women's Styles	Lucy	Elderflower Crystal	150
017506f7-aba1-4b9d-8b7b-f4426e71b8ca	4	Men's Styles	Dawes	Jet Black	150
0176bfb3-9c51-4b1c-b593-87edab3c54cb	10	Women's Styles	Eugene Narrow	Rosewood Tortoise	95
01fdf106-f73c-4d3f-a036-2f3e2ab1ce06	8	Women's Styles	Lucy	Jet Black	150

2.2 Creating a table using from 3 different tables: Quiz, home_try_on & purchase

In order to further analyze the data, it was required to create a table using the other 3 tables: Quiz, Home_try_on & purchase.

A Left join was used for this exercise.

Query 2.2:

```
SELECT DISTINCT quiz.user_id,
      home_try_on.user_id IS NOT NULL AS 'is_home_try_on',
home_try_on.number_of_pairs,
purchase.user_id IS NOT NULL AS 'is_purchase'
FROM quiz
    LEFT JOIN home_try_on
                ON quiz.user_id = home_try_on.user_id
    LEFT JOIN purchase
                ON purchase.user_id = quiz.user_id
LIMIT 10;
```

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	1	3 pairs	0
291f1cca-e507-48be-b063-002b14906468	1	3 pairs	1
75122300-0736-4087-b6d8-c0c5373a1a04	0		0
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	1	5 pairs	0
ce965c4d-7a2b-4db6-9847-601747fa7812	1	3 pairs	1
28867d12-27a6-4e6a-a5fb-8bb5440117ae	1	5 pairs	1
5a7a7e13-fbcf-46e4-9093-79799649d6c5	0		0
0143cb8b-bb81-4916-9750-ce956c9f9bd9	0		0
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	1	5 pairs	0
b1dded76-cd60-4222-82cb-f6d464104298	1	3 pairs	0

2.3 More insights

Using the query on the right, the below questions can be answered:

1. How many users took the quiz
2. How many users tried the products at home
3. How many users purchased the product
4. What was the overall conversion rate
5. How nay users took the quiz and then tried at home
6. How many users tried the product at home and purchased

Question	Result
# of users who took the quiz	1000
# who tried at home	750
# users who purchased	495
Overall conversion rate	50%
# of users who took the quiz and tried at home	75%
# of users who tried at home and purchased	66%

Query 2.3:

```
WITH funnels 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(*) AS 'number of users',
     SUM(is_home_try_on) AS 'number of users who tried at
home',
      SUM(is_purchase) AS 'number of users who purchased',
   1.0 * SUM(is_purchase) / COUNT(user_id) AS 'overall
conversion',
   1.0 * SUM(is_home_try_on) / COUNT(user_id) AS 'quiz to
home try on rate',
      1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS 'try on
to purchase rate'
FROM funnels;
```

2.4 Difference in purchase rates between customers who had 3 pairs with ones who had 5.

Query 2.4.1: Convertion rate for customer how had 3 number of pairs

```
WITH funnels 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
      1.0 * SUM(is_purchase) / SUM(is_home_try_on)  AS 'try on to
purchase rate'
FROM funnels
WHERE number_of_pairs = '3 pairs';
```

Query 2.4.2: Convertion rate for customer how had 5 number of pairs

```
WITH funnels 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
      1.0 * SUM(is_purchase) / SUM(is_home_try_on)  AS 'try on to
purchase rate'
FROM funnels
WHERE number_of_pairs = '5 pairs';
```

Using the above queries the results are the following:

- Purchase rate for users who had 3 was **53%**
- Purchase rate for users who had 5 was **79%**

Therefore, the difference in the purchase rates is **26%**