



Usage Funnels with Warby Parker

Learn SQL from Scratch

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1. Insights into the Quiz Funnel

1.1 The *survey* table (Question 1)

Below please find the first 10 rows of the *survey* table with columns „question“, „user_id“, „response“

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

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

1.2 Number of responses of each question (Question 2)

As users move through the survey, more and more users "give up". Please see below the numbers of unique users who completed each step.

While question 1 is answered by 500 users, only 270 users complete the survey by answering the 5th and last question.

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

question	users_count
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 Survey completion rates per question (Question 3)

- Conversion rates for questions 1, 2 and 4 are very good.
- Conversion rates for questions 3 and 5 are lower.

Potential reasons:

- **1**, **2**, and **4** are easy (and maybe fun) to answer
- **3** may be harder to answer since users have not tested different shapes yet.
- **5** may be perceived as sensitive/personal, so people are reluctant to answer.

question	users_count	percent
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 'users_count'  
FROM survey  
GROUP BY question;
```

2. Home-Try-On Funnel

2.1 Home Try-On Funnel: table columns (Question 4)

Data from the following three tables (listed below are column names only) will be used to analyze the Home Try-On funnel.

quiz:

user_id	style	fit	shape	color	
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home_try_on:

user_id	number_of_pairs	address	
---------	-----------------	---------	--

purchase:

user_id	product_id	style	model_name	color	price
---------	------------	-------	------------	-------	-------

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

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

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


2.2 Joint table for Home Try-On Funnel (Question 5)

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

```
SELECT DISTINCT q.user_id,  
    h.user_id IS NOT NULL AS  
    'is_home_try_on',  
    number_of_pairs, p.user_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  
LIMIT 10;
```

2.3 Overall conversion rates (Question 6 - 1)

For Warby Parker's Home Try-On funnel, overall conversion rates are rather high indicating that the concept of home try-on works well:

- **75%** of users who take the quiz continue with a home try-on
- **66%** of users who tried glasses at home ended up with a purchase
- Almost 50% (49.5%) of users who take the quiz eventually complete a purchase.

num_quiz_users	num_home_try_out_users	num_purchase_users	Quiz_to_try_on	try_on_to_purchase
1000	750	495	0.75	0.66

```
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 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(*) AS 'num_quiz_users',  
  SUM(is_home_try_on) AS 'num_home_try_out_users',  
  SUM(is_purchase) AS 'num_purchase_users',  
  ROUND(1.0 * SUM(is_home_try_on) / COUNT(user_id), 2)  
AS 'quiz_to_try_on',  
  ROUND(1.0 * SUM(is_purchase) / SUM(is_home_try_on), 2)  
AS 'try_on_to_purchase'  
FROM funnels;
```

2.3 A/B Test: 3 pairs vs. 5 pairs (Question 6 - 2)

While the overall funnel is quite effective, **group B** shows a higher purchase rate. As a result, all users should receive **5 pairs of glasses** to try on in order to increase overall purchase rates.

- Of the 1000 users who took the quiz, **750 (75%)** ordered glasses for home try-on
- Of these 750 users, 379 users (50.5%) received 3 pairs of glasses (group A), 371 (49.5%) received 5 pairs to test (group B)
- For group A: 201 users purchased glasses. Conversion rate: 53%.
- For group B: **294** users purchased glasses. Conversion rate: **79%**

Number_of_pairs	num_quiz_users	num_home_try_out_users	num_purchase_users	try_on_to_purchase
0 pairs	250	0	0	0
3 pairs	379	379	201	0.53
5 pairs	371	371	294	0.79

```
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 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,  
  COUNT(*) AS 'num_quiz_users',  
  SUM(is_home_try_on) AS 'num_home_try_out_users',  
  SUM(is_purchase) AS 'num_purchase_users',  
  ROUND(1.0 * SUM(is_purchase)/SUM(is_home_try_on), 2)  
AS 'try_on_to_purchase'  
FROM funnels  
GROUP BY 1;
```

2.4 Additional insights (Question 6 - 3)

- **Style:** Users are interested in Women's style glasses in the first place with 469 users selecting this style option (47%), but Men's style is a close follower with 432 users (43%), only 99 users (1%) are uncertain.
This indicates that Warby Parker shoppers have a rather balanced gender ratio
- **Models:** Eugene Narrow is the most popular model (116 purchases), followed by Dawes and Brady
- **Price:** Although Dawes is among the most expensive glasses (\$150), it is also very popular; model Monocle on the other hand is the cheapest model (\$50), but also the least purchased one (41 purchases).

```
SELECT style,  
       COUNT(user_id)  
FROM quiz  
GROUP BY style;
```

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

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