



Warby Parker

Designer Eyewear

Learn SQL from Scratch

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1. Get Familiar with Warby Parker

WARBY PARKER

[Warby Parker](#) was founded in 2010 with a rebellious spirit and a lofty objective: to offer designer eyewear at a revolutionary price, while leading the way for socially conscious businesses.

Almost one billion people worldwide lack access to glasses, which means that 15% of the world's population cannot effectively learn or work. To help address this problem, Warby Parker partners with non-profits like VisionSpring to ensure that for every pair of glasses sold, a pair is distributed to someone in need.



2. What is the Quiz Funnel

Quiz Funnel

According to lesson 4

“A *funnel* is a marketing model which illustrates the theoretical customer journey towards the purchase of a product or service. Oftentimes, we want to track how many users complete a series of steps and know which steps have the most number of users giving up.”

This project will analyze different Warby Parker’s marketing funnels in order to calculate conversion rates.

3. Usage Funnels with Warby Parker

1.1 Style Survey

The table that stores information for the Warby Style quiz has the following columns:

- question
- user_id
- response

```
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 Style Survey

As users move through the exam, they tend to drop out at different points. The query shows the number of responses for each question.

```
select question,  
       count(distinct user_id) as 'Responses'  
from survey  
group by 1;
```

question	Responses
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 Style Survey

If we divide the number of people completing each step by the number of people completing the previous step we can calculate the percent change between each question. Questions with lower completion rates are #3 and #5. These likely have lower completion rates because users may not know the date of their last eye exam, while question #3 deals with personal preferences and eyewear comes in limited shapes.

	A	B	C
1	Question	Responses	% Completed Question
2	1	500	100%
3	2	475	95%
4	3	380	80%
5	4	361	95%
6	5	270	75%
7			

```
# responses q1/# responses q1
# responses q2/# responses q1
# responses q3/# responses q2
# responses q4/# responses q3
# responses q5/# responses q4
```

1.4 Home Try-On

For the A/B test the data is distributed across three tables:

- quiz
- home_try_on
- purchase

With the tables having the following data, limited to the first 5 results in each table

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

user_id	number_of_pairs	address
d8add87-3217-4429-9a01-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-acc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

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

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

1.5 Home Try-On Funnel

Create a new table with the following columns from the previous 3 tables, using the query at the right:

- user_id
- is_home_try_on
- number_of_pairs
- is_purchase

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	Ø	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	Ø	0
0143cb8b-bb81-4916-9750-ce956c9f9bd9	0	Ø	0
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	1	5 pairs	0
b1dded76-cd60-4222-82cb-f6d464104298	1	3 pairs	0

```
select q.user_id,  
       h.user_id is not null as 'is_home_try_on',  
       h.number_of_pairs,  
       i.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 i  
on i.user_id = q.user_id;
```

1.6 Actionable Insights

Queries based on this funnel would suggest users are 66% more likely to make a purchase when they are able to try on a pair of frames at home. 75% of the 1000 users chose to try on frames at home for free and of those 750, 495 or 66% (495/750) made purchases.

Users	Tried On	Purchased
1000	750	495

```
WITH funnels AS (  
  select q.user_id,  
         h.user_id is not null as 'is_home_try_on',  
         h.number_of_pairs,  
         i.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 i  
  on i.user_id = q.user_id)  
select COUNT(*) as 'Users',  
       sum(is_home_try_on) as 'Tried On',  
       sum(is_purchase) as 'Purchased'  
from funnels;
```

1.6.1 Actionable Insights

Users who tried on frames at home were fairly evenly matched between 3 and 5 frames.

Number of Pairs	Users
Ø	250
3 pairs	379
5 pairs	371

```
WITH funnels AS (  
  select q.user_id,  
         h.user_id is not null as 'is_home_try_on',  
         h.number_of_pairs,  
         i.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 i  
  on i.user_id = q.user_id)  
select number_of_pairs as 'Number of Pairs',  
       COUNT(is_purchase) as 'Users'  
from funnels  
group by 1;
```

1.6.2 Actionable Insights

However, users were 59% (294/495) more likely to purchase a frame if they tried on 5 pairs as opposed to 40% (201/495) purchase rate for those that tried on 3 pairs. No purchases were made by users who did not try on frames. Warby Parker should, therefore, encourage or make default the number of frames to try on at 5 and then let users select 3 or no pairs to try on.

# of Pairs	# of Purchases
Ø	0
3 pairs	201
5 pairs	294

```
WITH funnels AS (  
  select q.user_id,  
         h.user_id is not null as 'is_home_try_on',  
         h.number_of_pairs,  
         i.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 i  
  on i.user_id = q.user_id)  
select  
  number_of_pairs as '# of Pairs',  
  sum(is_purchase) as '# of Purchases'  
from funnels  
group by 1;
```