



# Warby Parker's Marketing Funnels

Analyzing Data with SQL

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10 Oct 2021

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1. What is Warby  
Parker?

Warby Parker is a socially conscious company that operates with the **objective** to offer designer **eyewear at a revolutionary price**. When costumers interact with Warby's website, they are first encouraged to fill out a quiz to help them narrow down the options. After completing the survey, they can select a set number of glasses to try at home before deciding whether they want to make a purchase.

We will explore the data collected along the costumer journey to retrieve insight that addresses the company's objective.

## 2. Quiz Funnel

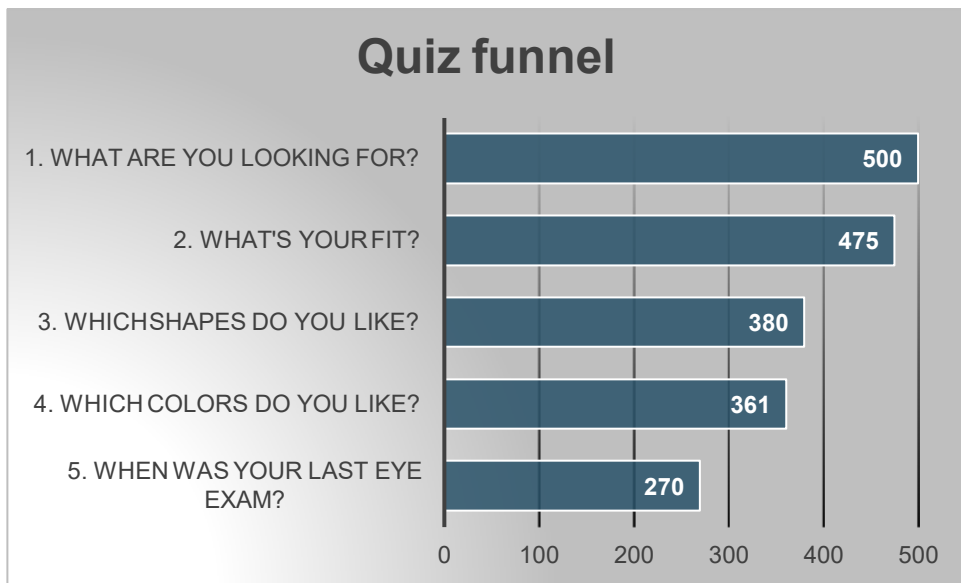
## 2.1 Columns on the Survey table

- The quiz consists of the following five 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?
- As you can see from the table on the right, for every question answered we know the user id and their 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

## 2.2 Number of responses for each question

Using the GROUP BY statement we organize the data to COUNT the number of users that answered each question. The code on the right produces the numbers in the chart on the left: starting with 500 responses for question one, we end the quiz with just over half the initial number.



-- SQL code

```
SELECT question AS Question,  
       COUNT(user_id) AS 'Number of responses'  
FROM survey  
GROUP BY 1;
```

## 2.3 Question(s) of the quiz with a lower completion rate

	A	B	C
1	Question	Number of responses	Percent completing this question
2	1. What are you lookingfor?	500	100%
3	2. What's your fit?	475	95%
4	3. Which shapes do youlike?	380	80%
5	4. Which colors do youlike?	361	95%
6	5. When was your last eye exam?	270	75%

Excel formulas

$C2 = 1$

$C3 = B3*1/B2$

Drag cell from C3 to C6

Format column C to percentage

We use Excel to calculate the percentage of users who answered the next question. Looking at the table on the left, we can see that questions 1, 2 and 4 had the highest answer rate, followed by questions 3 and 5 with the lowest ones.



## 2.4 Possible reasons behind lower completion rates

It is interesting to note that each question has a neutral or skip option as an answer, which means that users can always move on to the next question without making a concrete choice as opposed to not completing the quiz all together.

- Even given the option to skip, almost half the users still decided to discontinue the quiz on questions 3 and 5, which directs us to having a closer look at the questions.
- Despite also being a question about the user's preference, question 3 'Which shapes do you like' has a far larger response rate drop than question 4 'Which colors do you like?'.
- This might be because we are more likely to already have a favorite color that we would choose as our answer. Whereas the shape of glasses is more complex and usually requires previous try-on sessions in order to know one's preference. A first-time purchaser would not have such exposure for example.
- Like question 2 'What's your fit?', question 5 'When was your last eye exam?' is measurable and objective. However, the latter has a far larger response rate drop. Is the issue also within the question itself? Or could we attribute it to the fact that it's the final question of the quiz funnel, and therefore that a large drop would be expected?

# 3. Home Try-On Funnel

## 3.1 Looking at the data (limit to 5 rows)

Quiz 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

Home_Try_On table		
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-acc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St

## 3.1 Looking at the data (limit to 5 rows), continued

Purchase table					
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

## 3.2 Home\_Try\_On\_Funnel table

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

-- SQL code (partial)

```
WITH home_try_on_funnel AS(  
  SELECT DISTINCT q.user_id,  
    CASE  
      WHEN h.user_id IS NOT NULL  
      THEN 'True'  
      ELSE 'False'  
    END AS 'is_home_try_on',  
    CASE  
      WHEN h.number_of_pairs IS NULL  
      THEN 'N/A'  
      ELSE h.number_of_pairs  
    END AS 'number_of_pairs',  
    CASE  
      WHEN p.user_id IS NOT NULL  
      [...]  
    )  
  SELECT *  
  FROM home_try_on_funnel  
  LIMIT 10;
```

Using a WITH clause and two LEFT JOINS we can combine all three tables into one. This table includes the id of all the users who completed the quiz, as well as whether they tried-on glasses at home, received 3, 5 or no pairs, and made a purchase.

# 4. Actionable Insights

	A	B	C	D
1	number_of_pairs	is_purchase	Number of purchases	Purchase percentage within each group
2	3 pairs	False	178	
3	3 pairs	True	201	53%
4	5 pairs	False	77	
5	5 pairs	True	294	79%

26% more of the users that received 5 pairs of glasses completed a purchase compared to the users that only received 3 pairs.

**Users who got more pairs to try-on at home were more likely to make a purchase.**

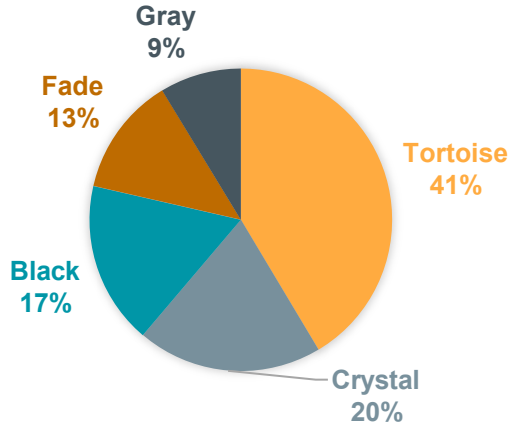
	A	B	C	D	E	F
1	Users that completed the quiz	Users that did at home try-on	Users that made a purchase	Conversion rate A to B	Conversion rate B to C	Conversion rate A to C
2	1000	750	495	75%	66%	49.5%

- Almost half the users that completed the quiz made a purchase.
- We see that we lose 25% of users on the second stage and then even more on the third stage with 34%. We know that to retain more people from B to C, Warby Parker should offer users 5 pairs to try-on at home as it has proven to be more successful. How can they also retain more people from A to B?

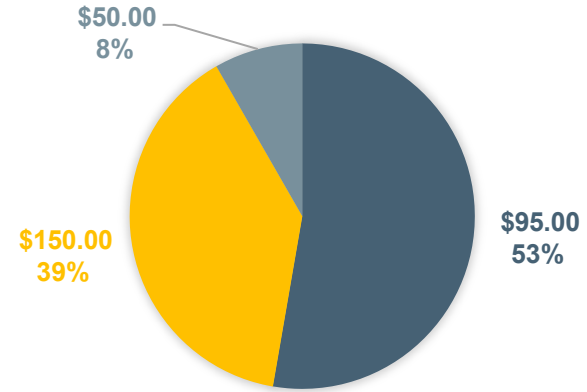
**Creating an A/B test during the quiz stage, that would address the issues in section 2.4, could help determine how to drive more customers to the try-on stage.**



### PURCHASES BY GROUP COLOR



### PURCHASES BY PRICE



- The top three purchased colors were Tortoise, Crystal and Black.
- More than half of the glasses purchased cost \$95. After \$95, \$150 was the most purchased price tag, even though there are \$50 glasses available: Warby Parker figured out the “revolutionary price” they were set to offer without compromising.

```
-- SQL code
```

```
SELECT model_name, color, price  
FROM purchase  
GROUP BY 1, 2  
ORDER BY 3 DESC;
```

model_name	color	price
Dawes	Driftwood Fade	150
Dawes	Jet Black	150
Lucy	Elderflower Crystal	150
Lucy	Jet Black	150
Brady	Layered Tortoise Matte	95
Brady	Sea Glass Gray	95
Eugene Narrow	Rose Crystal	95
Eugene Narrow	Rosewood Tortoise	95
Olive	Pearled Tortoise	95
Monocle	Endangered Tortoise	50

- As we saw in the previous section, Tortoise was the most purchased color. Looking at the unique combinations of model and color on the left, none of the highest priced glasses are available in Tortoise.
- Since \$150 glasses were significantly more purchased than \$50 ones, we can conclude that users don't find that price tag too out of reach: it could be beneficial for Warby Parker to invest in more colors for those models.

**Make models Dawes and Lucy available in the most popular color, Tortoise.\***

\*The data we have available doesn't allow us to know for sure whether those already exist, as it could just be that they weren't purchased.

Thank you for your time and attention.