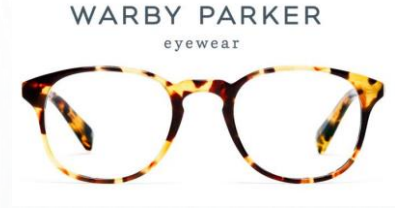# USAGE FUNNELS WITH WARBY PARKER
Analyze Data with SQL

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About The Project

Warby Parker is a transformative lifestyle brand with a lofty objective: to offer designer eyewear at a revolutionary price while leading the way for socially conscious businesses.

In this project, different Warby Parker's marketing funnels are analysed in order to calculate conversion rates.

Here are the funnels and the tables that I have been given:

Quiz Funnel:
•Survey

Home Try-On Funnel:
•quiz
•home_try_on
•purchase

- *This project is a collaboration with Warby Parker's Data Science team and uses <u>fictional data.</u>*
- *<u>Codecademy</u> database has been used for SQL queries.*

Quiz Funnel

There are 5 questions that have been asked on quiz funnel:

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

According to the table below, users gave up at different points in the survey. Only 13% of the customer answer the 5th question. It would make sense to :

- *Order the questions by their importance to the company*
- *Ask less questions to increase customer's overall experience*

question	number_of_responses	response_rate
1. What are you looking for?	500	25
2. What's your fit?	475	23
3. Which shapes do you like?	380	19
4. Which colors do you like?	361	18
5. When was your last eye exam?	270	13

```
--To see the column names
 SELECT *
 FROM survey
 LIMIT 10;


--To see which questions asked to customers

 SELECT *
 FROM survey
 GROUP BY question;


--To see how many customers responded each questions
And answering percentage of each questions

WITH temp_table (question, number_of_responses)
AS
(
    SELECT question, COUNT(DISTINCT user_id)
    FROM survey
    GROUP BY question
)
SELECT question,  number_of_responses,
number_of_responses * 100/(SELECT
sum(number_of_responses) FROM temp_table) AS
response_rate
FROM temp_table;
```

Home Try-On Funnel

Warby Parker's purchase funnel is:

Take the Style Quiz → Home Try-On → Purchase the Perfect Pair of Glasses

During the Home Try-On stage, an A/B Test has been conducted:

•50% of the users will get **3** pairs to try on
•50% of the users will get **5** pairs to try on

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

(Printed table is limited to 5 rows to show on this report easier. Normally it prints 1000 rows.)

| 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

```
--To discover first five rows of each table
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;

--To clean data and see only necessary info on the
table

SELECT 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 q.user_id = p.user_id;
```

Home Try-On Funnel
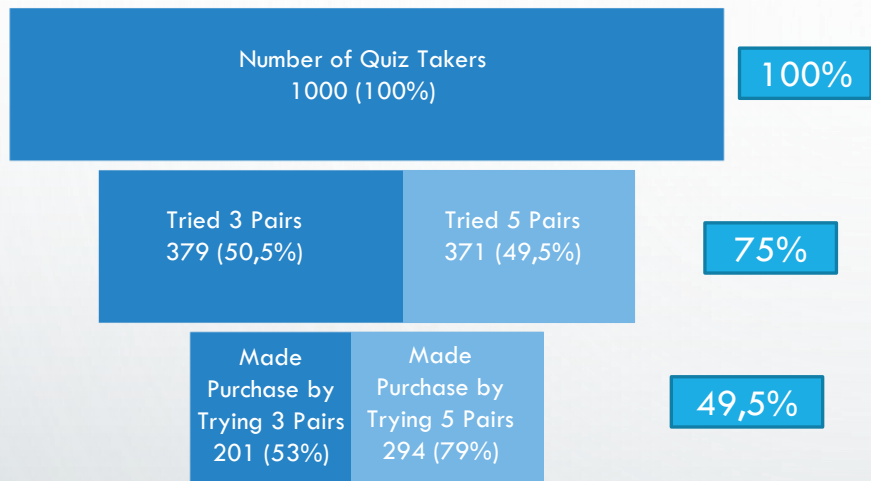

Following insights can be provided:

- After taking the quiz, 75% of the users decide to order pairs to try on at home.

- Users who get more pairs to try on at home are more likely to make a purchase. 79% of users who tried 5 pairs at home made a purchase. Although 53% of users who tried 3 pairs at home made a purchase.

- Overall conversion rate of the company is 49,5%.

```
--Previous table is used as temporary table to sum
up the results on new table

WITH temp_table AS(
  SELECT 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 q.user_id = p.user_id
)
SELECT COUNT (DISTINCT user_id) AS number_of_users,
is_home_try_on,number_of_pairs,is_purchase
FROM temp_table
GROUP BY is_home_try_on, number_of_pairs,
is_purchase;
```

number_of_users	is_home_try_on	number_of_pairs	is_purchase
250	0	∅	0
178	1	3 pairs	0
201	1	3 pairs	1
77	1	5 pairs	0
294	1	5 pairs	1

Comparison of Answers From Two Funnels

Distribution of Answers for Each Questions
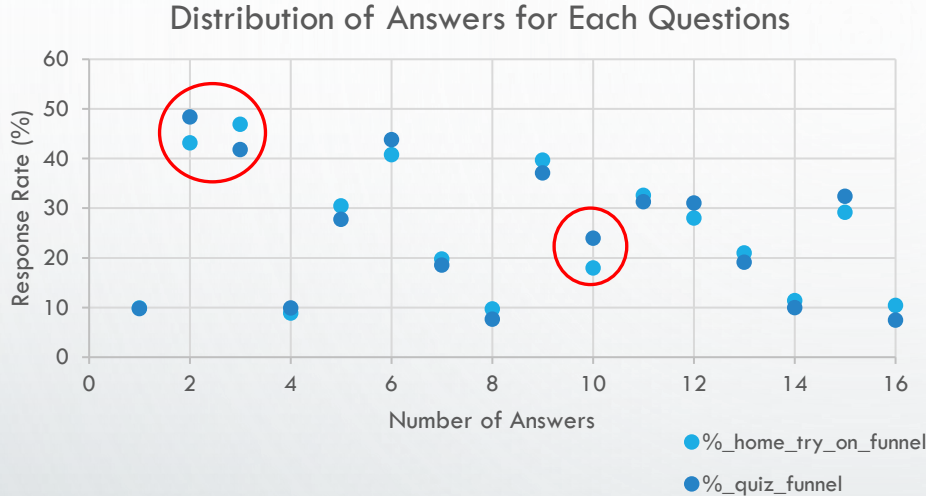
There are 4 common questions that have been asked on quiz funnel (survey table) and home try-on funnel (quiz table) and they lead to 16 different type of answers.

The results of each answer has been compared on the scatter plot above and it is visible that $2^{nd,}$ 3rd and 10th answers has the biggest difference between the funnels.

```
--To see if the same users join the survey and take
the quiz

SELECT *
FROM survey S
JOIN quiz q
ON s.user_id = q.user_id;


--There is no user who takes both of them. To see the
distribution on survey table

SELECT COUNT(DISTINCT user_id) AS number_of_people ,
question, response
FROM survey
GROUP BY question, response;


--To compare with each response to same questions at
survey&quiz tables

SELECT COUNT(DISTINCT user_id) AS number_of_people,
style
FROM quiz
GROUP BY style;


SELECT COUNT(DISTINCT user_id) AS number_of_people,
fit
FROM quiz
GROUP BY  fit;


SELECT COUNT(DISTINCT user_id) AS number_of_people,
shape
FROM quiz
GROUP BY  shape;
```
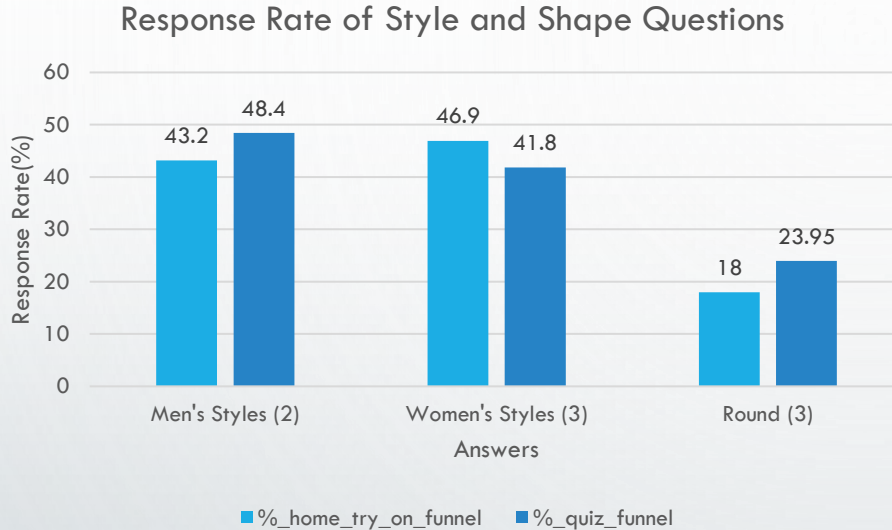
Comparison of Answers From Two Funnels

Response Rate of Style and Shape Questions

Response Rate(%)

- Men's Styles (2): %_home_try_on_funnel = 43.2, %_quiz_funnel = 48.4
- Women's Styles (3): %_home_try_on_funnel = 46.9, %_quiz_funnel = 41.8
- Round (3): %_home_try_on_funnel = 18, %_quiz_funnel = 23.95

Answers

■ %_home_try_on_funnel   ■ %_quiz_funnel

- Apparently, second and third answers are for the question of style.

- There is almost 5% of deviation between two funnel users.

- It means, style of the users who take the survey and style of the users who has intention to purchase are 5% different.

- Since 5% deviation falls in acceptable margin, it can be concluded that the results from the survey can be used for marketing decisions.

```
--To see if the same users join the survey and take
the quiz

SELECT *
FROM survey S
LEFT JOIN quiz q
ON s.user_id = q.user_id;

--There is no user who takes both of them. To see the
distribution on survey table

SELECT COUNT(DISTINCT user_id) AS number_of_people ,
question, response
FROM survey
GROUP BY question, response;

--To compare with each response to same questions at
survey&quiz tables

SELECT COUNT(DISTINCT user_id) AS number_of_people,
style
FROM quiz
GROUP BY style;

SELECT COUNT(DISTINCT user_id) AS number_of_people,
fit
FROM quiz
GROUP BY  fit;

SELECT COUNT(DISTINCT use`r_id) AS number_of_people,
shape
FROM quiz
GROUP BY  shape;
```