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An Overview of Warby Parker Quiz & Try-On Funnels

Learn SQL from Scratch

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1. Quick Overview of Warby Parker

1.1 Quick Overview of Warby Parker

Warby Parker is an online retailer that specializes in selling eyeglasses. Their goal is to make it easy to buy new and stylish glasses and frames without having to an eye doctor or glasses retailer. They offer a large collection of styles for both men and women. To make customers' shopping experiences easier, Warby Parker employs two programs to help find the perfect frames.

- The Style Quiz

In the style quiz, users are able to answer a few questions to help narrow down which glasses are right for them. They are asked simple questions like favorite color and shape, as well as questions about head shape and most recent eye exams.

- Home Try-On Program

In order to help zero in on just the right new glasses, Warby Parker allows customers to order frames for home try-on. Customers receive the glasses, try them on at home, and then decide whether or not they want to make a purchase.

We will be taking a closer look at these two programs in relation to Warby Parker's ultimate goal: encouraging the customer to make a purchase.

2. Examining the Style Quiz

2.1 Examining the Style Quiz

Shopping for new glasses can be difficult. In order to make the experience of glasses shopping easier, Warby Parker provides style quiz. The style quiz is a series of questions which offers users a chance to narrow down their choices for new glasses frames. Users who take the style quiz face the following 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?

By answering the questions in the style quiz, users can get a better idea of which frames match their criteria. Additionally, by looking the data that users provide, we can understand what information users are more willing to share, and what they are likely to withhold.

2.2 Examining the Style Quiz, Response Overview

The style quiz response data is stored in a table called *survey*. The survey table contains the following columns:

- Question
- User Id
- Response

We can use this data to get a clear picture of how users are responding to the style quiz.

```
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

2.3 Examining the Style Quiz, Response Breakdown

By looking at distinct individual users who took the style quiz, we can understand which questions were easily answered, and where some users stopped.

Using the data below, we can see that more users provided answers to questions 2 and 4, while the numbers for questions 3 and 5 slipped slightly.

What does this mean in relation to the style quiz?

Question	Distinct Users Answered	Percentage Answered
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)
FROM survey
GROUP BY 1;
```

2.4 Examining the Style Quiz, Breakdown of Question 3

Question 3. Which shapes do you like? Why are people slipping up?

- The first two questions can be answered easily, while question 3 brings more variables into the mix.
  - It is relatively easy to know which style you are looking for (women's, men's) and the frame fit (wide, narrow, medium). Question 3 introduces individual taste, which is very subjective.

- Some users may not know the difference between shape styles.
  - Such a drop in quiz-takers could indicate that some users don't know how to answer the question. The fact that there are more users who gave up on the quiz (90) than answered "No Preference" (29) may point to this.

Question 3 Response	Number of Answers
Square	119
Rectangular	141
Round	91
No Preference	29

```
SELECT response,
COUNT(DISTINCT user_id)
FROM survey
WHERE question = '3. Which shapes do you like?'
GROUP BY 1;
```

2.4 Examining the Style Quiz, Breakdown of Question 5

Question 5. When was your last eye exam? Reluctant or embarrassed to share?

- There is a larger percentage decrease in users who answered question 5 than any other question. This means that this may be a more sensitive question in comparison to the others.
- Some users may be reluctant to share medical information, no matter how innocuous.
- Users may not remember when they last had an eye exam, and would rather quit the quiz than answer “Not Sure.”

3. Home Try-On A/B Comparison

3.1 Home Try-On A/B Comparison, Overview

If users find it difficult to decide on new glasses, Warby Parker allows prospective customers to order a few different frames to try on at home. That way, customers can see for themselves if they like a certain frame over another. Some customers are allowed three pairs to try on at a time, while others are sent five pairs. Knowing this about the home try-on program, we can use the data from program users to find interesting patterns and answer important questions.

- How many customers ended up making a purchase after their home try-on? (Conversion Rate)
- What is the purchase rate of customers who are given three frames to try on?
- What is the purchase rate of customers who are given five frames to try on?
- How do customers who try on three frames compare to those who try on five in relation to purchases made?

3.1 Home Try-On A/B Comparison, Data Overview

Data for the home try-on analysis will come from three tables, along with their respective columns:

- quiz
  - User_id
  - style
  - fit
  - shape
  - color
- 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;
```

We will use the data in these tables to answer the questions mentioned above.

3.3 Home Try-On A/B Comparison,

To give us a clear overview of the try-on completion rate, we will formulate a new table from the three original tables. Included will be four columns which should give us enough information to find some interesting conclusions. The new table contains the following columns:

- user_id
  - A distinct id per customer
- is_home_try_on
  - 1 = home try-on user; 0 = not a home try-on user
- number_of_pairs
  - The number of pairs of glasses sent to the customer. Will be either 3 or 5
- is_purchase
  - 1 = complete purchase; 0 = did complete purchase

```
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 p.user_id = q.user_id
  LIMIT 10;
```

Data From Our New Table, Named *Results*

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

3.4 Try-On A/B Comparison, Overall Conversion Rate

From our made table, we can create a query which will give us an idea about both how many customers use the home try-on program, as well as how many who use the program go on to make a purchase.

Out of 1000 customers, 750, or 75% used the home try-on program. Out of those 750 customers, 495, or 66% made a purchase. From start to finish, the conversion rate is 66%

It looks like the home try-on program has been pretty successful, but let's dig a little deeper.

```
WITH results 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 p.user_id = q.user_id
  )

  SELECT COUNT(*) AS 'num_cust',
  SUM(is_home_try_on) AS 'num_try_on',
  SUM(is_purchase) AS 'num_purchase',
  1.0 * SUM(is_home_try_on) / COUNT(user_id),
  1.0 * SUM(is_purchase) / SUM(is_home_try_on)
  FROM results;
```

num_cust	num_try_on	num_purchase	% of customers who use home try-on	% of home try-on users who made a purchase
1000	750	495	75%	66%

3.4 Try-On A/B Comparison, Comparing Purchase Rates of 3 pairs to 5 pairs cont.

We can see that out of the 750 customers that participated in home try-on, those who received 3 pairs of glasses and those who received 5 pairs are pretty evenly split. We should find some interesting data while looking at their purchase rates.

```
SELECT number_of_pairs,
 COUNT (DISTINCT user_id)
 FROM home_try_on
 GROUP BY 1;
```

number_of_pairs	COUNT (DISTINCT user_id)
3 pairs	379
5 pairs	371

3.4 Try-On A/B Comparison, Comparing Purchase Rates of 3 pairs to 5 pairs cont.

We will first be looking at users who were sent three pairs of glasses.

- In the data given, there were 379 customers who were sent three pairs for home try-on.
- Given the shown query, we can surmise that out of those 379 customers, 201 eventually made a purchase.
- That is a purchase rate of just over 59%.

The campaign seems quite successful, but let's look at customers who received 5 frames

number_of_pairs	COUNT (DISTINCT is_purchase)
3 pairs	201

```
WITH results AS(
SELECT q.user_id,
  CASE
     WHEN h.user_id IS NOT NULL THEN 'True'
               ELSE 'False'
     END AS 'is_home_try_on',
  h.number_of_pairs,
  CASE
     WHEN p.user_id IS NOT NULL THEN 'True'
               ELSE 'False'
     END 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 number_of_pairs,
COUNT(is_purchase)
FROM results
WHERE number_of_pairs = '5 pairs' AND is_purchase = 'True'
GROUP BY 1;
```

3.4 Try-On A/B Comparison, Comparing Purchase Rates of 3 pairs to 5 pairs cont.

- Out of the 750 customers who used the home try-on program, 371 received 5 pairs of glasses to try on.
- Of the 371 customers who tried on 5 pairs of glasses, 294 went on to make a purchase.
- This is a purchase rate of 79%

number_of_pairs	COUNT (DISTINCT is_purchase)
5 pairs	294

```
WITH results AS(
SELECT q.user_id,
  CASE
     WHEN h.user_id IS NOT NULL THEN 'True'
               ELSE 'False'
     END AS 'is_home_try_on',
  h.number_of_pairs,
  CASE
     WHEN p.user_id IS NOT NULL THEN 'True'
               ELSE 'False'
     END 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 number_of_pairs,
COUNT(is_purchase)
FROM results
WHERE number_of_pairs = '5 pairs' AND is_purchase = 'True'
GROUP BY 1;
```

3.5 Try-On A/B Comparison, Purchase Rate Summary

- Our overall conversion rate for the home try-on program was 66%
  - 1000 -> 750 -> 495
- 750 customers received glasses to try on, and they were pretty evenly split between 3 and 5 pairs

- Customers who received 3 pairs of glasses had a purchase rate of 59%

- Customers who received 5 pairs of glasses had a purchase rate of 79%

Customers who received 5 pairs of glasses to try on were 46% more likely to make a purchase than those who received 3 pairs.
Both campaigns are successful in getting customers to make purchases, but sending 5 pairs of glasses to try on sees more success.

number_of_pairs	Customers	Customers Who Made a Purchase	Purchase Rate
3 pairs	379	201	59%
5 pairs	371	294	79%