Usage Funnels with Warby Parker

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Quiz Funnel: Question 1

1.

To help users find their perfect frame, Warby Parker has a Style Quizthat has 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?"

The users' responses are stored in a table called survey.

Select all columns from the first 10 rows. What columns does the table have?

Quiz Funnel: Question 1 - Answer

To look at the first ten rows of the quiz table, the code to the right was used. The output of the query is shown in the table below.

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 quiz
LIMIT 10;
```

Quiz Funnel: Question 2

2.
Users will "give up" at different points in the survey.
Let's analyze how many users move from Question 1 to Question 2, etc.
Create a quiz funnel using the `GROUP BY` command.
What is the number of responses for each question?

Quiz Funnel: Question 2 - Answer

To find out the number of responses there are to each question, the code on the right was used. By COUNTing the number of distinct users we, can figure out how many people responded to a given question. In order to get a count in respect to each question however, we need to group the COUNT of user_id by the questions in the questrion column. The output of this query is shown below. As you can see, there are only five questions that are asked, and only about half of the users made it through the last question.

COUNT(DISTINCT user_id)	question
500	1. What are you looking for?
475	2. What's your fit?
380	3. Which shapes do you like?
361	4. Which colors do you like?
270	5. When was your last eye exam?

```
SELECT COUNT(DISTINCT user_id),
question
 FROM survey
 WHERE user_id IS NOT NULL
 GROUP BY 2;
```

Quiz Funnel: Question 3

- **3.**
- Using a spreadsheet program like Excel or Google Sheets, calculate the percentage of users who answer each question.:
- *Which question(s) of the quiz have a lower completion rates?*
- *What do you think is the reason?*
- Add this finding to your presentation slides!

Quiz Funnel: Question 3 - Answer

To find the question completion rates, very simple math was done within sqlite. You can see this math done in the query on the right. The result of the query is shown below.

The questions, in order of decreasing completion rate, are as follows:

1. What are you looking for? – 100%
2. What's your fit? - 95%
4. Which colors do you like? – 95%
3. Which shapes do you like? – 80%
5. When was your last eye exam? – 74.8%

From this, it is apparent that the last question was the question that most people gave up on/didn't want to answer. In my opinion, this is probably because most people don't know exactly when their last eye exam was. Additionally, it may just be that they lost interest after answering the last 4 questions. Maybe 5 questions is a little too long in regards to keeping the interest of the answerer.

Q1 comp rate	Q2 comp rate	Q3 comp rate	Q4 comp rate
0.95	0.8	0.95	0.74792243767313

```
 SELECT 475.0/500 AS 'Q1 comp rate',
380.0/475 AS 'Q2 comp rate',
361.0/380 AS 'Q3 comp rate',
270.0/361 AS 'Q4 comp rate';
```

Home Try-On Funnel: Question 4

4.

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, we will be conducting an A/B Test:

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

Let's find out whether or not users who get more pairs to try on at home will be more likely to make a purchase.

The data will be distributed across three tables:

- quiz
- home_try_on
- purchase

Examine the first five rows of each table

What are the column names?

Home Try-On Funnel: Question 4 - Answer

The query shown on the right outputs the first 5 rows of the three tables in question, “quiz,” “home_try_on,” and “purchase.” This output is shown below, and the names of the columns are for each table are included.

quiz

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

```
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;
```

Home Try-On Funnel: Question 4 – Answer - Continued

purchase

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

home_try_on

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

Home Try-On Funnel: Question 5

5.
We'd like to create a new table with the following layout:

Each row will represent a single user from the browse table:
- If the user has any entries in home_try_on, then is_home_try_onwill be 'True'.
- number_of_pairs comes from home_try_on table
- If the user has any entries in is_purchase, then is_purchase will be 'True'.

Use a LEFT JOIN to combine the three tables, starting with the top of the funnel (browse) and ending with the bottom of the funnel (purchase).
Select only the first 10 rows from this table (otherwise, the query will run really slowly).

Home Try-On Funnel: Question 5 - Answer

The query shown on the right left joins quiz to home_try_on, and home_try_on to purchase on their respective user_id columns. The query also creates new columns representing true or false in regards to making a purchase, or having been a part of the Home Try-On program. Additionally, there is a column that is created that represents how many pairs of shoes the user was sent if they were a part of the Home Try-On program (either 3 or 5 pairs). The output of the query is the first 10 rows of the new table that we have formed through our joins and column creations. This is shown below.

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 quiz.user_id,
   home_try_on.user_id IS NOT
NULL AS 'is_home_try_on',

home_try_on.number_of_pairs,
   purchase.user_id IS NOT
NULL AS 'is_purchase'
FROM quiz
LEFT JOIN home_try_on
   ON quiz.user_id =
home_try_on.user_id
LEFT JOIN purchase p
   ON purchase.user_id =
quiz.user_id
LIMIT 10;
```

Actionable Insights – Question 6/Final Prompt

6.

Once we have the data in this format, we can analyze it in several ways:

- We can calculate overall conversion rates by aggregating across all rows.
- We can compare conversion from quiz→home_try_on and home_try_on→purchase.
- We can calculate the difference in purchase rates between customers who had 3 number_of_pairs with ones who had 5.
- And more!

We can also use the original tables to calculate things like:

- The most common results of the style quiz.
- The most common types of purchase made.
- And more!

What are some actionable insights for Warby Parker?

Actionable Insights – Answers/Conclusions

Calculating Overall Conversion rates:

The query on the right allows us to…
1) Gather the numbers required to calculate conversion rates
2) Computes the conversion rates
The result of the query is shown below. It can be concluded that Warby Parker has ~50% success rate with getting his users from his online quiz to purchasing one of his items. This number could improve by tweaking the quiz to ask more convenient questions, or, maybe Warby Parker should offer more items to try on at home.

COUNT(DISTINCT quiz.user_id)
1000
COUNT(DISTINCT home_try_on.user_id)
750
COUNT(DISTINCT purchase.user_id)
495

overall_conv (%)	quiz_to_home_conv (%)	home_to_purchase_conv (%)
49.5	75.0	66.0

```
 SELECT COUNT(DISTINCT
quiz.user_id)
FROM quiz;
SELECT COUNT(DISTINCT
home_try_on.user_id)
FROM home_try_on;
SELECT COUNT(DISTINCT
purchase.user_id)
FROM purchase;


SELECT (495.0/1000)*100 AS
'overall_conv (%)',
(750.0/1000)*100 AS
'quiz_to_home_conv (%)',
(495.0/750)*100 AS
'home_to_purchase_conv (%)';
```

Actionable Insights – Answers/Conclusions

Calculating the difference in purchase rates between customers who had 3 pairs vs 5 pairs in the Home Try-On program:

The query on the right utilizes temporary tables, and left joins to assess the difference in purchase rates between those who receive 5 pairs of shoes in the Home Try-On program versus 3 pairs. Left joins were used, beginning with the purchase table, in order to eliminate the user ids that weren't involved in a purchase. The left join results in a table comprised of solely information regarding users who purchased a product, and allows us to see more details about their purchase.

The conclusion is that those that received 5 pairs were more inclined to purchase a product.

The output of the query is shown on the next slide.

```
WITH joiner AS(
SELECT home_try_on.number_of_pairs,
home_try_on.user_id
FROM purchase
LEFT JOIN home_try_on
ON purchase.user_id = home_try_on.user_id)
SELECT COUNT(*)
FROM joiner
WHERE number_of_pairs = "3 pairs";

WITH joiner AS(
SELECT home_try_on.number_of_pairs,
home_try_on.user_id
FROM purchase
LEFT JOIN home_try_on
ON purchase.user_id = home_try_on.user_id)
SELECT COUNT(*)
FROM joiner
WHERE number_of_pairs = "5 pairs";

SELECT (201.0/750)*100 AS
'3_pairs_purchase_rate(%)', (294.0/750)*100 AS
'5_pairs_purchase_rate(%)';
```

Actionable Insights – Answers/Conclusions

Calculating the difference in purchase rates between customers who had 3 pairs vs 5 pairs in the Home Try-On program – Continued:

5 pairs purchase	
294	
3 pairs purchase	
201	
3_pairs_purchase_rate(%)	5_pairs_purchase_rate(%)
26.8	39.2

Actionable Insights – Answers/Conclusions

Most common results of the style quiz and the most common types of purchases made:
The query on the right outputs the count of the selected styles in the quiz, as well as the count of purchases for these styles. The output is as shown below:

womens style
469

mens style
432

Im not sure. Lets skip it.
99

purchase: womens
252

purchase: mens
243

```
SELECT COUNT(*) AS 'womens style'
FROM quiz
WHERE style = "Women's Styles";

SELECT COUNT(*) AS 'mens style'
FROM quiz
WHERE style = "Men's Styles";

SELECT COUNT(*) AS 'Im not sure. Lets
skip it.'
FROM quiz
WHERE style = "I'm not sure. Let's
skip it.";

SELECT COUNT(*) AS 'purchase: womens'
FROM purchase
WHERE style = "Women's Styles";

SELECT COUNT(*) AS 'purchase: mens'
FROM purchase
WHERE style = "Men's Styles";
```

Conclusions

- Seems men and women use this service in almost equal numbers
- Roughly 10% of users don’t know their style
- Those who received 5 pairs of shoes versus 3 pairs were more inclined to purchase a product. Their purchase rate was ~13% greater than those who had received 3 pairs of shoes
- Question 5 of the quiz was the least successful in terms of completion rate, and should probably be altered in order to generate more sales.