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Usage Funnels with Warby Parker

Learn SQL from Scratch

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What is the Quiz Funnel

1. Quiz Funnel

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Question 1

```
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. Quiz Funnel

Question 2

Create a quiz funnel using the GROUP BY command.

What is the number of responses for each question?

Question	Num_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

```
SELECT
   question AS 'Question',
   COUNT(DISTINCT user_id) AS 'Num_responses'
FROM survey
GROUP BY 1;
```

1. Quiz Funnel

Question 3
Which question(s) of the quiz have a lower completion rates?

Based on the calculation, question 3 and 5 have lower completion rates.
Question 3 asks for the shapes you like. I think the reason why people tend to stop for this question is that they do not have a specific type in mind, and therefore they would hesitate and further to stop answering the quiz questions.
Question 5 asks for eye exam details and it is the question with the lowest completion rate. I think this is because many people don't remember when they took the last eye exam, and even if they remember, it is very likely that they cannot locate the exam result. Therefore, they would need to stop right here and go schedule a new appointment for their eyes.

```
SELECT
   question AS 'Question',
   COUNT(DISTINCT user_id) AS 'Num_responses'
FROM survey
GROUP BY 1;
```

Question	Num_responses	Completion Rate
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%

A/B Testing with Home Try-On Funnel

2. Try-On Funnel

Question 4

Examine the first five rows of each table

quiz table

```
SELECT *
FROM quiz
LIMIT 5;
```

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

2. Try-On Funnel

Question 4

Examine the first five rows of each table

home_try_on table

```
SELECT *
FROM home_try_on
LIMIT 5;
```

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

2. Try-On Funnel

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Question 5

Select only the first 10 rows from this table

```
SELECT DISTINCT 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;
```

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

2. Try-On Funnel

Question 6 – Conversion rates

Based on the result, 250 people who entered the funnel left without experiencing the try-on service, and that is one fourth of the number of total participants. This shows that many people are not very comfortable with the option of trying them on at home. The reasons for this can be that they travel a lot or simply not at home very often. Having them to try-on at home is not convenient enough for them. Therefore, I think we can provide an option to reserve pairs for these people to try-on at the nearest store, so that they can simply stop by along their way and make the purchase cycle faster.

Of the 1000 people who finished the quiz, 75% of them finished home try-on, and only 66% of them made a purchase. This shows that only 66% of the people who tried them on at home found their favorite pair. To increase this rate, we can improve on the home try-on quiz to help everyone find their favorite pair easier, or to simply increase the number of pairs they can try at home.

```
With funnels AS (
SELECT DISTINCT
   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 AS q
LEFT JOIN home_try_on AS h
   ON q.user_id = h.user_id
LEFT JOIN purchase AS p
   ON p.user_id = q.user_id)

SELECT COUNT(*) AS num_quiz,
       SUM(is_home_try_on) AS num_home_try_on,
       SUM(is_purchase) AS num_purchase
FROM funnels;
```

	Count	Conversion Rate
num_quiz	1000	100%
num_home_try_on	750	75%
num_purchase	495	66%

2. Try-On Funnel

Question 6 – 3-pair & 5-pair Conversion rates

53% of the people who tried 3 pairs ended up making a purchase, and 79% of the people who tried 5 pairs made a purchase. Based on the result we can see that people who have more try-on options have a higher chance of making a purchase. Therefore, we should keep the 5 pair option instead of the 3 pair option. Maybe we can also try a 6 or 7 pair option to see if the conversion rate would keep increasing, and finalize on an option that produces the highest conversion rate.

number_of_pairs	num_quiz	num_home_try_on	Conversion rate	num_purchase	Conversion rate
-	250	0	-	0	-
3 pairs	379	379	100%	201	53%
5 pairs	371	371	100%	294	79%

```
With funnels AS (
SELECT DISTINCT
   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 AS q
LEFT JOIN home_try_on AS h
   ON q.user_id = h.user_id
LEFT JOIN purchase AS p
   ON p.user_id = q.user_id)

SELECT number_of_pairs,
       COUNT(*) AS num_quiz,
       SUM(is_home_try_on) AS num_home_try_on,
       SUM(is_purchase) AS num_purchase
FROM funnels
GROUP BY 1
ORDER BY 1;
```

1. Quiz Funnel

Question 6 - the most common results of style quiz

The most common style from the 1000 participant is women's style, with a count of 469. Men's style comes next, at 432. There is no significant differences between these two styles. However, 99 people chose "I'm not sure. Let's skip it" option. This makes me to think that not every pair of glasses can be categorized into gender, and there are types that works for both. So I would suggest to add a fourth option "unisex" to the quiz.

```
SELECT style, COUNT(*)
FROM quiz
GROUP BY 1
ORDER BY 2 DESC;
```

style	COUNT(*)
Women's Styles	469
Men's Styles	432
I'm not sure. Let's skip it.	99

1. Quiz Funnel

Question 6 - the most common types of purchase made

The most common types of purchase made are product id 3 and 10. To further stimulate sales, we can put posters of product 3 and 10 on the front page or places where it's easy to grab potential customers' eyes.

```
SELECT product_id, COUNT(*) AS 'Num_purchased'
FROM purchase
GROUP BY 1
ORDER BY 2 DESC;
```

product_id	Num_purchased
3	63
10	62
9	54
1	52
6	50
4	44
7	44
2	43
8	42
5	41

1. Quiz Funnel

Question 6 - the most common colors of purchase made

The most common colors or purchase made is Jet Black. Based on this result, it sold 23 pairs more than the second most popular color Driftwood Fade, and this is also the biggest sales difference among all colors. This shows that people tend to prefer jet black over other colors and jet black works across many styles of glasses. So, use storage space wisely, we can carry more jet black glasses in stock and relatively decrease the number in stock for other colors. This would ensure that jet black would not easily go out of stock and save costs on extra storage at the same time.

```
SELECT color, COUNT(*)
FROM purchase
GROUP BY 1
ORDER BY 2 DESC;
```

color	COUNT(*)
Jet Black	86
Driftwood Fade	63
Rosewood Tortoise	62
Rose Crystal	54
Layered Tortoise Matte	52
Pearled Tortoise	50
Elderflower Crystal	44
Sea Glass Gray	43
Endangered Tortoise	41

1. Quiz Funnel

Question 6 - model names vs. sales

According to the result on the right, it seems that glasses showcased by Eugene Narrow and Dawes have higher number of purchases as well as sales revenue. The number of purchase associated with Eugene Narrow is 116, which is almost three times as many as the number of purchases showcased by monocle, at 41. I believe that everyone has a beautiful side and can showcase a certain styles perfectly. So the reason why there are differences in number of purchases, I think, is that the glasses each model showcased may not fit their personality and style, and therefore did not give customers a perfect picture of the glasses themselves. To help with that, I think we can have multiple models showcasing one pair of glasses to see what does it look like on different styles of models. And also, to match the model's face better with the styles of each glasses to give a better idea of the reality look for all customers.

```
SELECT model_name,
       COUNT(*) AS 'Num_purchase',
       SUM(price) AS 'Sales'
FROM purchase
GROUP BY 1
ORDER BY 2 DESC;
```

model_name	Num_purchase	Sales
Eugene Narrow	116	11020
Dawes	107	16050
Brady	95	9025
Lucy	86	12900
Olive	50	4750
Monocle	41	2050