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Warby Parker. Usage Funnels

Learn SQL from Scratch

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30 January, 2019

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1. Get familiar with Warby Parker

What is Warby Parker?

- 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. Founded in 2010 and named after two characters in an early Jack Kerouac journal, Warby Parker believes in creative thinking, smart design, and doing good in the world. For every pair of eyeglasses and sunglasses sold, a pair is distributed to someone in need.

2. Quiz Funnel

2.1 Style Quiz

To help users find their perfect frame, Warby Parker has a Style Quiz with 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?

We are going to look at this data and see if there are ways for Warby Parker to retain users, not "losing" them before they finish the quiz.

2.2 The “survey” table

Users’ responses to the Style Quiz are stored in the “survey” table. Here’s a sample from the table.

```
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

2.3 Not all questions get answered

Users will “give” up at different points in the survey. The table below shows the number of responses to each question and percentage of users who answered each question. Understanding why some questions “lose” users can help Warby Parker approach users more effectively, and subsequently convert them to customers.

```
SELECT question,
COUNT(DISTINCT user_id)
FROM survey
GROUP BY 1;
```

question	COUNT(DISTINCT user_id)	Answer percentage
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% (rounded)

2.4 Style Quiz. Conclusions and recommendations

Questions 3 and 5 have the lowest answer percentage. Interestingly, users seem to know their fit, but not the shapes they like.
Question 3: It may be useful to display various shapes, so users have a visual reference. If technology permits, offering users the opportunity to “try on” shapes in augmented reality may capture their attention.
Question 5, it’s probable that many users don’t remember when they had their last eye exam, or haven’t had one. It’s also possible that this being the last question, they didn’t make it that far in the survey. Using geoservices to suggest locations near users where they can take an eye exam may be useful, or this question could be replaced with something else like “What do you need glasses for?”

question	COUNT(DISTINCT user_id)	Answer percentage
1. What are you looking for?	500	100%
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3. Purchase Funnel

3.1 Purchase funnel

Warby Parker's purchase funnel is
Take the Style Quiz -> Home Try-On -> Purchase the Perfect Pair of Glasses

In the Home Try-On stage, they are conducting an A/B Test in which

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

The table below aggregates data to show how many pairs each user got for home try-on and whether a purchase was made. The value "1" in the home try-on and purchase columns means "yes". The value "0" means "no".

```
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 h.user_id = q.user_id
LEFT JOIN purchase AS '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

3.2 Conversion rates

We can analyse the data from the table in the previous slide to get information about conversion rates.

The table below shows overall conversion rates.

66% of users who tried on glasses went on to make a purchase.

```
WITH overall_conversion 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 h.user_id = q.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',
1.0 * SUM(is_home_try_on) / COUNT(user_id) AS
'quiz_to_try_on',
1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS
'try_on_to_purchase'
FROM overall_conversion;
```

num_quiz	num_home_try_on	num_purchase	quiz_to_try_on	try_on_to_purchase
1000	750	495	0.75	0.66

3.3 Purchase rates

So we know that 66% of home_try_on went on to make a purchase. But what is the difference in purchase rates between customers who had 3 number_of_pairs with those who had 5?

79% of users who got 5 pairs of glasses to try on made a purchase, as opposed to 53% of those who tried on 3 pairs!

```
WITH purchase_rates 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 h.user_id = q.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',
1.0 * SUM(is_home_try_on) / COUNT(user_id) AS
'quiz_to_try_on',
1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS
'try_on_to_purchase'
FROM purchase_rates
GROUP BY number_of_pairs
ORDER BY number_of_pairs;
```

number_of_pairs	num_quiz	num_home_try_on	num_purchase	quiz_to_try_on	try_on_to_purchase
0	250	0	0	0.0	0
3 pairs	379	379	201	1.0	0.530343007915567
5 pairs	371	371	294	1.0	0.792452830188679

3.4 Purchase funnel. Conclusions and recommendations

Users who had 5 pairs of glasses to try on were significantly more likely to make a purchase. Try-on to purchase was 79% for those receiving 5 pairs, as opposed to 53% for those who tried on 3 pairs.

Recommendation: discontinue sending 3 pairs for try-on and provide all users 5 pairs for try-on.

4. Additional queries

4.1 Style quiz top 5 results

Interestingly, we see that question 5. “When was your last eye exam” falls in the top 5, even though this was the question with the lowest completion rate. Similarly, question 3 “What shapes do you like?” also makes it into the top 5, despite having the second lowest completion rate.

```
SELECT question,
response,
COUNT(DISTINCT user_id)
FROM survey
GROUP BY 2
ORDER BY 3 DESC
LIMIT 5;
```

question	response	COUNT(DISTINCT user_id)
1. What are you looking for?	Men's Styles	242
1. What are you looking for?	Women's Styles	209
2. What's your fit?	Narrow	208
5. When was your last eye exam?	<1 Year	141
3. Which shapes do you like?	Rectangular	141

4.2 Men or women?

Assuming that the majority of men's styles are purchased by men, and women's styles by women, there is only an insignificant difference in the number of men and women buyers.

```
SELECT COUNT(*) AS 'num_buyers',
style AS 'Style'
FROM purchase
GROUP BY 2;
```

num_buyers	Style
243	Men's Styles
252	Women's Styles

4.3 Common purchases

The table below shows the most common purchases. Based on this information, when sending glasses for try-on, Warby Parker could include Eugene Narrow (women's) or Dawes (men's), if not otherwise specified by the client.

model_name	style	num_purchased
Eugene Narrow	Women's Styles	116
Dawes	Men's Styles	107
Brady	Men's Styles	95
Lucy	Women's Styles	86
Olive	Women's Styles	50
Monocle	Men's Styles	41

```
SELECT model_name,
style,
COUNT(user_id) AS 'num_purchased'
FROM purchase
GROUP BY 1
ORDER BY num_purchased DESC;
```

4. Summary

4. Summary

Based on the data that was analysed, we can make the following conclusions and recommendations:

1. At the Style Quiz level, reconsider questions 3 and 5 as they have the lowest completion rate.
2. Continue providing 5 pairs of glasses for try-on as this has a significantly higher purchase rate.
3. With the glasses provided for home try-on, it may boost sales to include one of the top selling models: Eugene Narrow for women, Dawes for men, if not contradicted by Style Quiz results.
4. There is no significant difference in the number of men and women buying glasses, no action to increase gender-based sales is required.