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WARBY PARKER

Analysis of Warby Parker's Usage Funnels

Learn SQL from Scratch
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1. Quiz Funnel Observations

1.1 Count of Users Responding to Each Question

The table below shows the total number of users that have responded to each quiz funnel question.

As evidenced by the results, the questions with the lower completion rates are #3 and #5. The reasons for this could be that users may not have a clear idea of what frame shapes they like before trying them on (#3), and users may not remember when their last eye exam was or they may not have had one before (#5).

Question	User Count	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%

```sql
-- Query used to retrieve data

select
question, count(distinct(user_id)) as 'user_count'
from survey
group by question;
```

1.2 Quiz Responses Summary Results: Women's Eyewear

The tables below show the results of the Style Quiz focusing specifically on women's style eyewear preferences. The most popular fit preferences are narrow and wide representing 68% of total responses, the most popular shapes are rectangular and square representing 73% of total responses, and the most popular colors are tortoise and black representing 57% of total responses.

Fit	User Count
Narrow	189
Medium	131
Wide	103
I'm not sure. Let's skip it.	46

Shape	User Count
Rectangular	184
Square	158
Round	81
No Preference	46

Color	User Count
Tortoise	142
Black	126
Crystal	106
Neutral	58
Two-Tone	37

```
-- Query used to retrieve data

select fit,
count(distinct(user_id))
from quiz
where style like 'Women%'
group by fit
order by
count(distinct(user_id)) desc;

select shape,
count(distinct(user_id))
from quiz
where style like 'Women%'
group by shape
order by
count(distinct(user_id)) desc;

select color,
count(distinct(user_id))
from quiz
where style like 'Women%'
group by color
order by
count(distinct(user_id)) desc;
```

1.3 Quiz Responses Summary Results: Men's Eyewear

The tables below show the results of the Style Quiz focusing specifically on men's style eyewear preferences. The most popular fit preferences are narrow and medium representing 73% of total responses, the most popular shapes are rectangular and square representing 71% of total responses, and the most popular colors are tortoise and black representing 58% of total responses.

Fit	User Count
Narrow	174
Medium	142
Wide	79
I'm not sure. Let's skip it.	37

Shape	User Count
Rectangular	176
Square	132
Round	80
No Preference	44

Color	User Count
Tortoise	128
Black	121
Crystal	81
Two-Tone	58
Neutral	44

```
-- Query used to retrieve data

select fit,
count(distinct(user_id))
from quiz
where style like 'Men%'
group by fit
order by
count(distinct(user_id)) desc;

select shape,
count(distinct(user_id))
from quiz
where style like 'Men%'
group by shape
order by
count(distinct(user_id)) desc;

select color,
count(distinct(user_id))
from quiz
where style like 'Men%'
group by color
order by
count(distinct(user_id)) desc;
```

2. Home Try-On Funnel Observations

2.1 Overall Quiz to Purchase Conversion Rate

Out of this data set, there are 1000 users taking the quiz and out of these users 495 ended up making a purchase translating to an almost 50% quiz to purchase conversion rate.

Total Users Quiz	Total Purchases	Completion Rate
1000	495	49.5%

```
-- Query used to retrieve data

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 = h.user_id)
select count(user_id), sum(is_purchase),
1.0 * sum(is_purchase) / count(user_id) as
'quiz_to_purchase'
from funnels;
```

2.2 Comparison of Conversion Rates at Different Stages

Breaking down the conversion rates further between the quiz to home try-on stage and the home try-on to purchase stage, we see that 75% of quiz takers go on to trying on 3 or 5 pairs of eyeglasses. However, after trying them, only 66% of the users go on to make a purchase.

Total Users Quiz	Total Home Try-Ons	Total Purchases	Quiz to Home Try-On Rate	Try-On to Purchase Rate
1000	750	495	75%	66%

```
-- Query used to retrieve data

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 = h.user_id)
select count(user_id), sum(is_home_try_on),
sum(is_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 funnels;
```

2.3 Purchase Rates of 3 vs. 5 Try-On Pairs

As part of A/B testing, roughly half of all home try-on participants were given 3 pairs and the remaining half given 5 pairs of eyeglasses to try. The try-on to purchase rate of 5 pairs is 26% higher than that of 3 pairs. Specifically, over half of the 3 pair try-on participants ended up making a purchases whereas almost 80% of the 5 pair try-on participants ended up making a purchase.

Number of Try-On Pairs	Total Home Try-Ons	Total Purchases	Try-On to Purchase Rate
3 Pairs	379	201	53%
5 Pairs	371	294	79%

```
-- Query used to retrieve data

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 = h.user_id)
select number_of_pairs, sum(is_home_try_on) as
'total_try_on', sum(is_purchase) as 'total_purchase',
round(1.0 * sum(is_purchase) / sum(is_home_try_on),2)
as 'try_on_to_purchase'
from funnels
group by number_of_pairs;
```

2.4 Most Popular Women's Styles Purchased

The most popular model amongst women's style eyewear is the Eugene Narrow which accounted for 116 pairs sold or 46% of total women's eyewear sales based on this data set.

The most popular color choices are Rosewood Tortoise and Rose Crystal with the least popular color choice being Jet Black.

```
-- Query used to retrieve data

select product_id, model_name, color,
count(distinct(user_id))
from purchase
where style like 'Women%'
group by product_id
order by count(distinct(user_id)) desc;
```

Product ID	Eyeglasses Model	Color	Purchases
10	Eugene Narrow	Rosewood Tortoise	62
9	Eugene Narrow	Rose Crystal	54
6	Olive	Pearled Tortoise	50
7	Lucy	Elderflower Crystal	44
8	Lucy	Jet Black	42

2.5 Most Popular Men's Styles Purchased

The most popular model amongst men's style eyewear is the Dawes which accounted for 107 pairs sold or 44% of total men's eyewear sales based on this data set. The second most popular style is the Brady which had 95 pairs sold or 39% of total sales.

The least popular model is the Monocle with only 41 pairs sold or 17% of total sales.

```
-- Query used to retrieve data

select product_id, model_name, color,
count(distinct(user_id))
from purchase
where style like 'Men%'
group by product_id
order by count(distinct(user_id)) desc;
```

Product ID	Eyeglasses Model	Color	Purchases
3	Dawes	Driftwood Fade	63
1	Brady	Layered Tortoise Matte	52
4	Dawes	Jet Black	44
2	Brady	Sea Glass Gray	43
5	Monocle	Endangered Tortoise	41

3. Conclusion and Recommendations

3.1 Concluding Remarks and Recommendations

The following are the main takeaways from this analysis

- Users that were given more pairs of eyewear to try on at home were also more likely to make a purchase. Therefore, Warby Parker should provide 5 pairs as part of the Home Try-On program. Future A/B testing can use 5 or more pairs to determine which is the optimal quantity of sample eyewear.

- Encourage users to complete the Style Quiz and eventually participate in the Home Try-On program since this leads to sales. One way is to remove questions with the lowest completion rate such as the eye exam one (#5).

- The most popular women's style eyewear model is Eugene Narrow and the most popular colors are tortoise and crystal combinations. As such, production and marketing efforts for women's style eyewear should focus on these attributes as well as future eyewear design considerations.

- The least popular men's style eyewear model is Monocle so it would be advisable for Warby Parker to closely track sales performance for this model. If sales do not improve in the future this model should be considered for discontinuation.

- Take the Style Quiz survey responses with a grain of salt. Although the style quiz predicted the most popular model based on fit for women's style eyewear (Narrow fit with the most sales being Eugene Narrow model), the color preferences were not predictive of final purchase decisions (Black was ranked the second highest in the survey yet it contributed to the least sales).