



Warby Parker Capstone

As interpreted by

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1. The Warby Parker Style Quiz

1.1-3 Style Quiz Results Table

By providing an online quiz, those seeking the right pair of frames from Warby Parker get a personalized guide based on their responses. This initial inquiry will lead them to styles suited to their taste, and then a home try-on

Question	User_Id	Response	2nd Step: How many responses to each question	3rd Step: Percentage of answers (rounded)
1. What are you looking for?	(id assigned to user upon start)	(logged response from user to each question)	500	50%
2. What's your fit?			475	48%
3. Which shapes do you like?			380	38%
4. Which colors do you like?			361	36%
5. When was your last eye exam?			270	27%

Using a separate calculation, I counted the number of user_id's in the Quiz table which came to 1000. For Step 3, we see that percentage of completion steadily drops. It is possible that the questions are not always the sort which people can answer readily, they're not all opinions. For example, they may not have a record of their last exam or know what 'fit' means.

1.4 Examining 3 tables

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Query Results						
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	
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
user_id			number_of_pairs		address	
d8add87-3217-4429-9a01-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-acc-49a7bb46c586			3 pairs		347 Madison Square N	
3bc8f97f-2336-4dab-bd86-e391609dab97			5 pairs		182 Cornelia St	

1.5 Looking at activity for each user

Now, we're looking at who reached the step of a home try on

```
select distinct q.user_id,  
case when hto.user_id is not null then  
'TRUE' else 'FALSE' end as  
is_home_try_on,number_of_pairs,case  
when p.user_id is not null then 'TRUE'  
else 'FALSE' end as is_purchase  
  
from quiz as 'q'  
left join home_try_on as 'hto'  
on q.user_id=hto.user_id  
left join purchase as 'p'  
on hto.user_id=p.user_id  
limit 10;
```

Query Results			
user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	TRUE	3 pairs	FALSE
291f1cca-e507-48be-b063-002b14906468	TRUE	3 pairs	TRUE
75122300-0736-4087-b6d8-c0c5373a1a04	FALSE	∅	FALSE
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	TRUE	5 pairs	FALSE
ce965c4d-7a2b-4db6-9847-601747fa7812	TRUE	3 pairs	TRUE
28867d12-27a6-4e6a-a5fb-8bb5440117ae	TRUE	5 pairs	TRUE
5a7a7e13-fbcf-46e4-9093-79799649d6c5	FALSE	∅	FALSE
0143cb8b-bb81-4916-9750-ce956c9f9bd9	FALSE	∅	FALSE
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	TRUE	5 pairs	FALSE
b1dded76-cd60-4222-82cb-f6d464104298	TRUE	3 pairs	FALSE

The conditional response wanted to show as 1 or 0, necessitating the need to specify how we wanted our response to appear. This shows us that of the first 10 user_id's, 3 of them did *not* proceed to the step of trying on glasses at home.

From here, we could look at percentages who move from one step to the next or even at those who received 3 or 5 pair at home_try_on moved on to purchase. There is a lot of data available for gleaning with just these four columns.

1.6 Data Analysis

For example, basic calculations show us who started the quiz, moved on to trying on at home, and then completed their purchase

Query Results		
Started	Tried	Purchased
1000	750	495

```
with Progress as(
select distinct q.user_id ,
case when hto.user_id is not null then
'TRUE' else 'FALSE' end as
is_home_try_on,number_of_pairs,case
when p.user_id is not null then 'TRUE'
else 'FALSE' end as is_purchase
from quiz as 'q'
left join home_try_on as 'hto'
on q.user_id=hto.user_id
left join purchase as 'p'
on hto.user_id=p.user_id)
```

```
select count(user_id) as
Started,count(case when
is_home_try_on='TRUE' then 1 else null
end) as Tried,count(case when
is_purchase='TRUE' then 1 else null
end) as Purchased from Progress;
```

We'll take this one step further to see our percentage of completion for each step and overall:

Query Results		
Browse to Try	Try to Buy	Overall Completion
0.75	0.66	0.495

```
with Totals as (
with Progress as(
select distinct q.user_id ,
case when hto.user_id is not null
then 'TRUE' else 'FALSE' end as
is_home_try_on,number_of_pairs,case
when p.user_id is not null then
'TRUE' else 'FALSE' end as
is_purchase
from quiz as 'q'
left join home_try_on as 'hto'
on q.user_id=hto.user_id
left join purchase as 'p'
on hto.user_id=p.user_id)
```

```
select count(user_id) as
Started,count(case when
is_home_try_on='TRUE' then 1 else
null end) as Tried,count(case when
is_purchase='TRUE' then 1 else
null end) as Purchased from
Progress)
```

```
select 1.0* Tried/Started as
'Browse to Try', 1.0*
Purchased/Tried as 'Try to
Buy',1.0* Purchased/Started as
'Overall Completion'
```

```
from Totals;
```

1.6 Data Analysis

Maybe I want to see what is most popular:

Query Results		
Browse to Try	Try to Buy	Overall Completion
0.75	0.66	0.495
style	model_name	count(*)
Women's Styles	Eugene Narrow	116
Men's Styles	Dawes	107
Men's Styles	Brady	95
Women's Styles	Lucy	86
Women's Styles	Olive	50
Men's Styles	Monocle	41

```
select style,model_name,count(*) from
purchase
group by model_name order by count(*)
desc;
```

Or narrowed further:

Query Results		
Browse to Try	Try to Buy	Overall Completion
0.75	0.66	0.495
style	model_name	count(*)
Women's Styles	Eugene Narrow	116
Women's Styles	Lucy	86
Women's Styles	Olive	50

```
select style,model_name,count(*) from
purchase where style like 'women%'
group by model_name order by count(*)
desc;
```

Another step further shows the completion rate for Women's vs. Men's style, focusing on which Women's styles are most popular.

Query Results		
Started	Tried	Purchased
1000	750	495
Browse to Try	Try to Buy	Overall Completion
0.75	0.66	0.495
Style_W Completion		Style_M Completion
0.252		0.243
style	model_name	count(*)
Women's Styles	Eugene Narrow	116
Women's Styles	Lucy	86
Women's Styles	Olive	50

Indicating purchaser's of Women's styles are only slightly more likely to fully complete their purchase than those buying Men's styles.

```
with Styles as (
with Progress as(
select distinct q.user_id , p.style as
'the_style',
case when hto.user_id is not null then
'TRUE' else 'FALSE' end as
is_home_try_on,number_of_pairs,
case when p.user_id is not null then
'TRUE' else 'FALSE' end as is_purchase
from quiz as 'q'
left join home_try_on as 'hto'
on q.user_id=hto.user_id
left join purchase as 'p'
on hto.user_id=p.user_id)
```

```
select count(user_id) as Started,
count(case when is_purchase='TRUE'
and the_style like 'M%' then 1 else null
end) as M_Purchased,
count(case when is_purchase='TRUE' and
the_style like 'W%' then 1 else null end)
as W_Purchased from Progress)
```

```
select
1.0* W_Purchased/Started as 'Style_W
Completion',
1.0* M_Purchased/Started as 'Style_M
Completion'
from Styles ;
```


1.6 Data Analysis

We could also look at percentages of purchases based on the A-B group. First, how many people who completed the Home Try on got 3 or 5 pair of glasses to try?

Query Results		
Send_3	Send 5	total_purchased
379	371	495

```
select
  COUNT(CASE WHEN number_of_pairs = '3
pairs' THEN 1 else null END) AS
'Send_3',
  COUNT(CASE WHEN number_of_pairs = '5
pairs' THEN 1 else null END) AS 'Send
5',
  count(case when p.user_id is not
null then 1 else null end) as
'total_purchased'
```

```
From home_try_on as 'hto'
left join purchase as 'p'
on hto.user_id=p.user_id;
```

This further reduction indicates another way of reviewing our numbers, percentage, showing that the difference between the AB groups was less than 2% purchase rate.

Query Results	
3_pair_Purchased	5_pair_Purchased
0.7656565656565656	0.74949494949495

```
with Counts as
(select
  COUNT(CASE WHEN number_of_pairs
= '3 pairs' THEN 1 else null END)
AS 'Send_3',
  COUNT(CASE WHEN number_of_pairs
= '5 pairs' THEN 1 else null END)
AS 'Send_5',
  count(case when p.user_id is not
null then 1 else null end) as
'total_purchased'
```

```
From home_try_on as 'hto'
left join purchase as 'p'
on hto.user_id=p.user_id)
```

```
Select
1.0* Send_3/total_purchased as
'3_pair_Purchased',
1.0* Send_5/total_purchased as
'5_pair_Purchased'
from Counts;
```

Coming from another direction, we can look at which color of glasses was most frequently purchased

Query Results	
color	count(*)
Ø	505
Driftwood Fade	63
Elderflower Crystal	44
Endangered Tortoise	41
Jet Black	86
Layered Tortoise Matte	52
Pearled Tortoise	50
Rose Crystal	54
Rosewood Tortoise	62
Sea Glass Gray	43

```
select p.color,count(*)
from quiz as 'q'
left join purchase as 'p'
on q.user_id=p.user_id
group by p.color;
```

Conclusion

Analyzing data does not require extensive, multi-faceted research. With just a few pieces of well-distributed data, many things can be learned about the customer base a company is working with. Using Sql, a few examples were shown here but many, many more could be elicited, allowing companies - fledgling or forged - to grow their business in a powerful way.