



WARBY PARKER

MARKETING FUNNEL ANALYSIS

Learn SQL from Scratch

BY

NAVEEN VIJAYAKUMAR

Agenda



Introduction



Dataset overview



Funnel Analysis

- Overview
- A/B test
- Identified actionable insights



Conclusion

Introduction



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



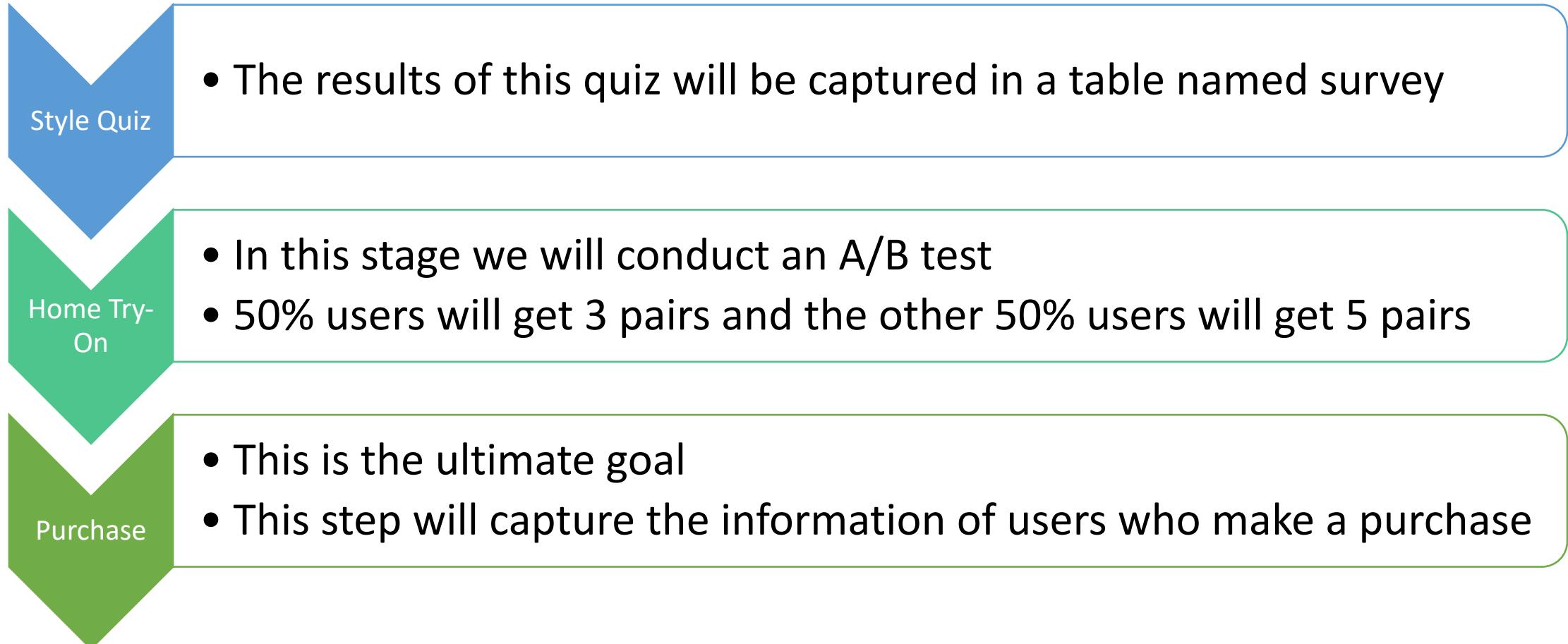
Project Scope: Analyze Warby Parker's funnels in order to calculate conversion rates and identify actionable insights

Database Overview

- The database is populated with fictional data for the purposes of this project
- 4 datasets were used during the course of this project, as shown in the database schema

Database Schema		
home_try_on		750 rows
user_id		TEXT
number_of_pairs		TEXT
address		TEXT
purchase		495 rows
user_id		TEXT
product_id		INTEGER
style		TEXT
model_name		TEXT
color		TEXT
price		INTEGER
survey		1986 rows
question		TEXT
user_id		TEXT
response		TEXT
quiz		1000 rows
user_id		TEXT
style		TEXT
fit		TEXT
shape		TEXT
color		TEXT

Funnel Analysis - Overview



Funnel Analysis

- To help users find their perfect frame, Warby Parker has a [Style Quiz](#)
- The users' responses are stored in a table called `survey`
- The images on the right show the SQL query and the data returned that display all the fields from the first 10 rows in the `survey` table

Query Results		
question	user_id	response
1. What are you looking for?	005e7f99-d48c-4fce-b605-10506c85aa7	Women's Styles
2. What's your fit?	005e7f99-d48c-4fce-b605-10506c85aa7	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

Funnel Analysis

- Users will "give up" at different points in the survey.
- The images show the query and the number of responses for each survey question

```
SELECT question, COUNT(response) AS  
'# of responses' FROM survey  
GROUP BY question;
```

Query Results	
question	# of 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

Funnel Analysis

- The results from the previous query were imported to an excel spreadsheet to calculate the completion rate of survey questions in percentage – as shown in the image
- There is a drop in completion rate % for questions 3 and 5
- Possible reasons could be
 - Users have many shapes to chose from
 - Loss of interest beyond 2 questions
 - Don't remember when their last eye exam was

Question	# of 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%



Funnel Analysis – A/B test

- A/B testing is a method of comparing two versions of a campaign, webpage, etc. against each other to determine which one performs better
- In this project A/B testing is carried out based on the number of pairs tried at home, to determine
 - purchase rates
 - conversion rates across the funnel
- A/B testing is done by combining data from 3 tables - quiz, home try on and purchase

Funnel Analysis – A/B test

The images show the query, column names and first 5 rows of the 3 tables - quiz, home try on and purchase (in the same order)

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		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-accc-49a7bb46c586		3 pairs		347 Madison Square N	
3bc8f97f-2336-4dab-bd86-e391609dab97		5 pairs		182 Cornelia St	
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
0176fb3-9c51-4b1c-b593-87edab3c54cb	10	Women's Styles	Eugene Narrow	Rosewood Tortoise	95
01fdf106-f73c-4d3f-a036-2f3e2ab1ce06	8	Women's Styles	Lucy	Jet Black	150

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

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

```
SELECT *
FROM purchase
LIMIT 5;
```

Funnel Analysis – A/B test



We now want to join the 3 tables (quiz, home try on and purchase) to identify distinct users based on

- number of pairs they tried at home
- made a purchase



The results for these users will show up as TRUE and FALSE in the query results table upon meeting the determined conditions in the query



The images in the next slide show the query and the first 10 rows of the query results

Funnel Analysis – A/B test

Query Results			
user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc	True	3	False
291f1cca	True	3	True
75122300	False	NULL	False
75bc6ebd	True	5	False
ce965c4d	True	3	True
28867d12	True	5	True
5a7a7e13	False	NULL	False
0143cb8b	False	NULL	False
a4ccc1b3	True	5	False
b1dded76	True	3	False

```

SELECT DISTINCT substr(q.user_id,0,9) AS
'user_id',
CASE
WHEN h.user_id IS NOT NULL then 'True'
Else 'False'
End
AS 'is_home_try_on',
CASE
WHEN h.number_of_pairs is '3 pairs'
THEN 3
WHEN h.number_of_pairs is '5 pairs'
THEN 5
ELSE 'NULL'
END
AS 'number_of_pairs',
CASE
WHEN p.user_id IS NOT NULL THEN 'True'
ELSE 'False'
END
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 = h.user_id
LIMIT 10;

```

Funnel Analysis – A/B test

- Conversion rates

Quiz to Tried	75%				
Tried to Purchase	66%				
Quiz to Purchase	49%				
Query Results					
Quiz	Tried	Percentage tried %	Purchase	Percentage purchased %	Quiz to Purchase %
1000	750	75.0	495	66.0	49.5

- Purchase rates based on number of pairs tried

Query Results			
Pairs tried	Purchased	Percentage purchased	Quiz to Purchase
3 pairs	201	53.034	53.034
5 pairs	294	79.245	79.245

Funnel Analysis - Identified actionable insights

- Most common results of the style quiz – *Women's styles are more popular than men's Styles*

```
SELECT style AS 'Style',
COUNT(user_id) AS 'Result'
FROM quiz
GROUP BY style;
```

Style	Result
I'm not sure. Let's skip it.	99
Men's Styles	432
Women's Styles	469

- Most common type of purchase made – *Eugene Narrow model in Women's Styles is the highest purchased*

```
SELECT style AS 'Style',
model_name AS 'Model',
price AS 'Price',
COUNT(user_id) AS '# purchased' FROM purchase
GROUP BY 2
ORDER BY 4 DESC;
```

Style	Model	Price	# purchased
Women's Styles	Eugene Narrow	95	116
Men's Styles	Dawes	150	107
Men's Styles	Brady	95	95
Women's Styles	Lucy	150	86
Women's Styles	Olive	95	50
Men's Styles	Monocle	50	41



Conclusion

- Warby Parker should send out 5 pairs of glasses for users who want to try at home because as seen from the A/B test, the purchase rate is higher than that for 3 pairs (79% vs 53%)
- The company should assign majority of their marketing budget to advertise **Eugene Narrow** model for Women and **Dawes** model for Men as these were the highest selling models among their respective categories
- Survey completion rates can be increased by
 - reducing the number of questions
 - not having questions that may require the user to remember an event