



# Capstone Project

Funnels **WITH** Warby Parker

Learn SQL **FROM** Scratch

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**Get Familiar **WITH** Warby Parker**

# THE STRUCTURE OF THE “SURVEY” TABLE

THE “SURVEY” TABLE IS CONSISTED OF THREE COLUMNS -

- ❖ THE “QUESTION” COLUMN
- ❖ THE “USER\_ID” COLUMN
- ❖ THE “RESPONSE” COLUMN

BELOW ARE THE FIRST FOUR ROWS RETURNED BY THE QUERY TO THE RIGHT.

-- The First Query

```
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

What **IS** The Quiz Funnel?

# THE NUMBER OF RESPONSES FOR EACH QUESTION

TO HELP USERS FIND THE PERFECT FRAME FOR THEIR GLASSES, WARBY PARKER HAS A STYLE QUIZ THAT INCLUDES 5 QUESTIONS.

I FOUND THAT **500** USERS ANSWERED THE FIRST QUESTION; **475** ANSWERED THE SECOND QUESTION; **380** ANSWERED THE THIRD QUESTION; **361** ANSWERED THE FOURTH QUESTION, **AND** ONLY **270** USERS ANSWERED THE LAST QUESTION.

```
-- The Second Query

SELECT Question AS 'Question', COUNT(*) AS 'Responses'
FROM Survey
GROUP BY 1;
```

QUESTION	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

# QUESTIONS THAT HAVE LOWER COMPLETION RATES

IN EXCEL, I DIVIDED THE NUMBER OF PEOPLE COMPLETED EACH STEP BY THE NUMBER OF PEOPLE COMPLETED THE PREVIOUS STEP. THE QUESTION THAT HAS THE LOWEST COMPLETION RATE IS THE LAST QUESTION (74%), “WHEN WAS YOUR LAST EYE EXAM?”- THAT MAKES SENSE, THE LAST EYE EXAM OF THE USER HAS NOTHING TO DO WITH THE STYLE OF THE FRAME! SOME USERS WERE ALSO RELUCTANT TO ANSWER THE THIRD QUESTION (“WHICH SHAPES DO YOU LIKE?”) - THIS QUESTION HAS A COMPLETION RATE OF 80%. THESE FINDINGS SUGGEST THAT THE THIRD AND THE LAST QUESTIONS ARE MORE SENSITIVE THAN THE REST OF THE QUESTIONS.

QUESTION	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	74%

# Home Try-ON Funnel



# THE STRUCTURE OF THE QUIZ, HOME TRY ON AND PURCHASE TABLES

THE QUIZ TABLE HAS THE COLUMNS:

- USER\_ID
- STYLE
- FIT
- SHAPE
- COLOR

THE HOME\_TRY\_ON TABLE HAS THE COLUMNS:

- USER\_ID
- NUMBER\_OF\_PAIRS
- ADDRESS

AND THE PURCHASE TABLE HAS THE COLUMNS:

- USER\_ID
- PRODUCT\_ID
- STYLE
- MODEL\_NAME
- COLOR
- PRICE

```
-- The Third Query  
  
SELECT * FROM Quiz LIMIT 5;  
  
SELECT * FROM Home_Try_On LIMIT 5;  
  
SELECT * FROM Purchase LIMIT 5;
```

# CREATING A NEW TABLE WITH A SPECIFIC LAYOUT

I CREATED A NEW TABLE WITH THE COLUMNS USER\_ID, IS\_HOME\_TRY\_ON, NUMBER\_OF\_PAIRS AND IS\_PURCHASE. IF THE USER HAS ANY ENTRIES ON HOME\_TRY\_ON, IS\_HOME\_TRY\_ON WILL BE '1' ('TRUE'). OTHERWISE IT WILL BE '0' ('FALSE'). NUMBER\_OF\_PAIRS IS AN ATTRIBUTE COMES FROM THE HOME\_TRY\_ON TABLE. IF THE USER HAS ANY ENTRIES IN THE PURCHASE TABLE, IS\_PURCHASE WILL BE '1'. I USED A LEFT JOIN TO COMBINE THE THREE TABLES, STARTING FROM THE QUIZ TABLE ALL THE WAY TO THE PURCHASE TABLE. BELOW ARE THE FIRST FOUR ROWS RETURNED BY THE QUERY TO THE RIGHT.

```
-- The Fourth Query

SELECT DISTINCT Quiz.User_ID, Home_Try_On.User_ID IS
NOT NULL AS 'Is_Home_Try_On', Number_of_Pairs,
Purchase.User_ID IS NOT NULL AS 'Is_Purchase'
FROM Quiz LEFT JOIN Home_Try_On ON Quiz.User_ID =
Home_Try_On.User_ID LEFT JOIN Purchase ON
Home_Try_On.User_ID = Purchase.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	Φ	0
75BC6EBD-40CD-4E1D-A301-27DDD93B12E2	1	5 PAIRS	0

# CONVERSIONS COMPARISON

USERS ANSWERING THE QUIZ	USERS TRYING PAIRS	PURCHASERS	PERCENTAGE OF USERS FROM QUIZ TO HOME TRY-ON	PERCENTAGE OF USERS FROM HOME TRY-ON TO PURCHASE
1,000	750	495	75%	66%

**250** USERS ABANDONED THE QUIZ. **255** USERS WHO TRIED DIFFERENT KINDS OF EYE-GLASSES DECIDED NOT TO MAKE A PURCHASE. THESE RESULTS ARE INCONCLUSIVE. WE SHOULD INVESTIGATE A LITTLE MORE.



```
-- Conversions Comparison
```

```
WITH Funnels AS (
```

```
SELECT DISTINCT Quiz.User_ID,  
Home_Try_On.User_ID IS NOT NULL AS  
'Is_Home_Try_On', Number_of_Pairs,  
Purchase.User_ID IS NOT NULL AS  
'Is_Purchase'
```

```
FROM Quiz LEFT JOIN Home_Try_On ON  
Quiz.User_ID = Home_Try_On.User_ID  
LEFT JOIN Purchase ON  
Home_Try_On.User_ID = Purchase.User_ID  
)
```

```
SELECT COUNT(*) AS 'Users Answering  
The Quiz', SUM(Is_Home_Try_On) AS  
'Users Trying Pairs', SUM(Is_Purchase)  
AS 'Purchasers', 1.0 *  
SUM(Is_Home_Try_On) / COUNT(User_ID)  
AS 'Percentage of Users From Quiz To  
Home Try-On', 1.0 * SUM(Is_Purchase) /  
SUM(Is_Home_Try_On) AS 'Percentage of  
Users From Home Try-On To Purchase'  
FROM Funnels;
```

# DIFFERENCE IN PURCHASE RATES

I CALCULATED THE PURCHASE RATE FOR EACH TYPE OF CUSTOMER.

PURCHASE RATE OF USERS WHO TRIED 3 PAIRS = BUYERS THAT TRIED 3 PAIRS / TOTAL AMOUNT OF BUYERS

PURCHASE RATE OF USERS WHO TRIED 5 PAIRS = BUYERS THAT TRIED 5 PAIRS / TOTAL AMOUNT OF BUYERS

**INSIGHT #1:** USERS WHO TRIED 5 PAIRS TEND TO BUY MORE THAN USERS WHO TRIED 3 PAIRS! WARBY PARKER SHOULD DEFINITELY LET THE USERS TRY 5 PAIRS INSTEAD OF 3!

```
-- Difference In Purchase Rates

SELECT ROUND(1.0 * (SELECT COUNT(*) FROM Funnels WHERE
Number_of_Pairs = '3 pairs' AND Is_Purchase = 1) /
(SELECT COUNT(*) FROM Funnels WHERE Is_Purchase = 1),
2) AS 'Purchase Rate of Users Who Tried 3 Pairs',
ROUND(1.0 * (SELECT COUNT(*) FROM Funnels WHERE
Number_of_Pairs = '5 pairs' AND Is_Purchase = 1) /
(SELECT COUNT(*) FROM Funnels WHERE Is_Purchase = 1),
2) AS 'Purchase Rate of Users Who Tried 5 Pairs';
```

PURCHASE RATE OF USERS WHO TRIED 3 PAIRS	PURCHASE RATE OF USERS WHO TRIED 5 PAIRS
41%	59%

# MOST COMMON RESULTS OF THE STYLE QUIZ

STYLE	APPEARANCES
WOMEN'S STYLES	469
MEN'S STYLES	432

FIT	APPEARANCES
NARROW	408
MEDIUM	305

SHAPE	APPEARANCES
RECTANGULAR	397
SQUARE	326

COLOR	APPEARANCES
TORTOISE	292
BLACK	280

```
-- Most Common Results of The Style Quiz
```

```
SELECT Style, COUNT(*) AS 'Appearances'  
FROM Quiz  
GROUP BY 1 ORDER BY 2 DESC LIMIT 2;
```

```
SELECT Fit, COUNT(*) AS 'Appearances'  
FROM Quiz  
GROUP BY 1 ORDER BY 2 DESC LIMIT 2;
```

```
SELECT Shape, COUNT(*) AS 'Appearances'  
FROM Quiz  
GROUP BY 1 ORDER BY 2 DESC LIMIT 2;
```

```
SELECT Color, COUNT(*) AS 'Appearances'  
FROM Quiz  
GROUP BY 1 ORDER BY 2 DESC LIMIT 2;
```

# THE MOST BELOVED EYEGLASSES

**INSIGHT #2:** CUSTOMERS WOULD LIKE TO HAVE A PAIR OF EYEGLASSES WITH A NARROW FIT, A RECTANGULAR SHAPE AND A TORTOISE COLOR! A MEDIUM FIT, A SQUARE SHAPE AND A BLACK COLOR ARE ALSO COMMON! WARBY PARKER SHOULD DEFINITELY LET ITS CUSTOMERS TRY PAIRS OF EYEGLASSES WITH THESE FEATURES!



# MOST COMMON TYPES OF PURCHASE MADE

**INSIGHT #3:** THE BEST SELLING PAIR OF EYEGLASSESS HAS THE PRODUCT ID OF 3. WARBY PARKER SHOULD LET ITS CUSTOMERS TRY THE PAIRS OF EYEGLASSES WITH THE PRODUCT IDS OF 3, 10, 9, 1 AND 6. BELOW YOU CAN FIND THE DETAILS ABOUT THESE PRODUCTS. THESE ARE THE FIVE BEST SELLING PRODUCTS OF THE COMPANY!

PRODUCT ID	APPEARANCES
3	63
10	62
9	54
1	52
6	50

PRODUCT ID	STYLE	MODEL NAME	COLOR	PRICE
3	MEN'S STYLES	DAWES	DRIFTWOOD FADE	150
10	WOMEN'S STYLES	EUGENE NARROW	ROSEWOOD TORTOISE	95
1	MEN'S STYLES	BRADY	LAYERED TORTOISE MATTE	95
9	WOMEN'S STYLES	EUGENE NARROW	ROSE CRYSTAL	95
6	WOMEN'S STYLES	OLIVE	PEARLED TORTOISE	95

-- Most Common Types of Purchase Made

```
SELECT Product_ID AS 'Product ID',  
COUNT(*) AS 'Appearances' FROM  
Purchase GROUP BY 1 ORDER BY 2 DESC  
LIMIT 5;
```

```
SELECT DISTINCT Product_ID, Style,  
Model_Name, Color, Price FROM Purchase  
WHERE Product_ID IN (3, 10, 9, 1, 6)  
ORDER BY 5 DESC;
```

# Thank You



# For An Outstanding Experience!