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# Warby Parker

Marketing usage funnels analysis

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# Getting Familiar with 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.

- In this analysis, we take a look at Warby Parker's marketing funnels to provide better insight into their quiz structure and conversions to purchase. In addition, we also look at the results of one of their A/B testing experiments.

This project was a collaboration with Warby Parker's Data Science team (thank you!) and uses fictional data.

Info and data from codeacademy.com

# Quiz Funnel

Warby Parker has a Style Quiz to help users find a frame

a) A quick glance shows us the columns and types of data for each. Columns include question, user_id, and response

b) Digging into the funnel, we can see how many users made it to each through each question. It appears that completing question 5 has the lowest rate, likely because they do not remember when or have not had an eye exam.

A

```
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-B704-27e3573684cd | Round |
| 4. Which colors do you like? | 00a556ed-f13e-4c67-B704-27e3573684cd | Two-Tone |
| 1. What are you looking for? | 00a556ed-f13e-4c67-B704-27e3573684cd | I'm not sure. Let's skip it. |
| 2. What's your fit? | 00a556ed-f13e-4c67-B704-27e3573684cd | Narrow |
| 5. When was your last eye exam? | 00a556ed-f13e-4c67-B704-27e3573684cd | <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 |

B

```
SELECT question, COUNT(DISTINCT user_id) AS 'count'
FROM survey
GROUP BY question;
```

| question | count |
|---|---|
| 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 | % |
|---|---|
| 1. What are you looking for? | 100% |
| 2. What's your fit? | =475/500= 95% |
| 3. Which shapes do you like? | =380/475= 80% |
| 4. Which colors do you like? | =361/380= 95% |
| 5. When was your last eye exam? | =270/361= 75% |

# Home Try-On Funnel

After completing the quiz, users are divided into 2 groups for A/B testing. Group A will get 3 pairs to try on, Group B will get 5 pairs to try on.

a) A quick glance shows us the columns and types of data for each.
**quiz** columns include user_id, style, fit, shape, and color
**home_try_on** columns include user_id, number of pairs, and address
**purchase** columns include user_id, product_id, style, model_name, color, price

b) Of users who took the quiz, we wanted to understand how many got glasses to try on at home, how many pairs they received, and if they purchased any frames.

A

```
SELECT *
FROM quiz
LIMIT 5;

SELECT *
FROM home_try_on
LIMIT 5;

SELECT *
FROM purchase
LIMIT 5;
```

| 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 |
|---|---|---|
| d8addd87-3217-4429-9a01-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 |
| 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 |

B

```
SELECT DISTINCT q.user_id,
       CASE WHEN h.number_of_pairs IS NOT NULL THEN 'True'
            ELSE 'False' END AS 'is_home_try_on',
       h.number_of_pairs,
       CASE WHEN p.price 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 q.user_id = p.user_id
LIMIT 10;
```

| 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 | Ø | 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 | Ø | False |
| 0143cb8b-bb81-4916-9750-ce956c9f9bd9 | False | Ø | False |
| a4ccc1b3-cbb6-449c-b7a5-03af42c97433 | True | 5 pairs | False |
| b1dded76-cd60-4222-82cb-f6d464104298 | True | 3 pairs | False |

# Measuring Conversions

Now we can measure conversions in the funnel
survey -> home try-on -> purchase

a) Here we can see the number of users who made it through each stage. We can also represent this data as a proportion of users who converted at each point. While 75% of people who finish the quiz order glasses to try on, only 66% of people who try on glasses will end up purchasing.

b) However, when we look at the results from the A/B testing, we see that users are more likely to purchase if they tried on 5 pairs instead of 3 (79% vs 53% respectively).

A

```
WITH conversions AS
(SELECT DISTINCT q.user_id,
       h.number_of_pairs IS NOT NULL AS 'is_home_try_on',
       h.number_of_pairs,
       p.price IS NOT NULL AS 'is_purchase'
FROM quiz q
LEFT JOIN home_try_on h ON q.user_id = h.user_id
LEFT JOIN purchase p ON q.user_id = p.user_id)

SELECT COUNT(user_id) AS '# completed survey',
       SUM(is_home_try_on) AS '# home try on',
       SUM(is_purchase) AS '# purchase',
       1.0*SUM(is_home_try_on)/COUNT(user_id) AS 'quiz to home',
       1.0*SUM(is_purchase)/SUM(is_home_try_on) AS 'home to purchase'
FROM conversions;
```

| # completed survey | # home try on | # purchase | quiz to home | home to purchase |
|---|---|---|---|---|
| 1000 | 750 | 495 | 0.75 | 0.66 |

B

```
WITH conversions AS
(SELECT DISTINCT q.user_id,
       h.number_of_pairs IS NOT NULL AS 'is_home_try_on',
       h.number_of_pairs,
       p.price IS NOT NULL AS 'is_purchase'
FROM quiz q
LEFT JOIN home_try_on h ON q.user_id = h.user_id
LEFT JOIN purchase p ON q.user_id = p.user_id)

SELECT number_of_pairs,
       COUNT(user_id) AS '# completed survey',
       SUM(is_home_try_on) AS '# home try on',
       SUM(is_purchase) AS '# purchase',
       1.0*SUM(is_home_try_on)/COUNT(user_id) AS 'quiz to home',
       1.0*SUM(is_purchase)/SUM(is_home_try_on) AS 'home to purchase'
FROM conversions
WHERE number_of_pairs IS NOT NULL
GROUP BY number_of_pairs;
```

| number_of_pairs | # completed survey | # home try on | # purchase | quiz to home | home to purchase |
|---|---|---|---|---|---|
| 3 pairs | 379 | 379 | 201 | 1.0 | 0.530343007915567 |
| 5 pairs | 371 | 371 | 294 | 1.0 | 0.792452830188679 |

# Additional Analyses

a) We can find the most common quiz responses (what's the most popular). This can help the company know what future designs to focus on and what designs to include in advertisement campaigns

b) We can also find the most common purchases by gender. Including a popular pair in the try-on box or advertising certain pairs as "most popular items" may help increase conversions to purchse.

A

```
SELECT style, COUNT(style)
FROM quiz
GROUP BY style
ORDER BY COUNT(style) DESC;

SELECT fit, COUNT(fit)
FROM quiz
GROUP BY fit
ORDER BY COUNT(fit) DESC;

SELECT shape, COUNT(shape)
FROM quiz
GROUP BY shape
ORDER BY COUNT(shape) DESC;

SELECT color, COUNT(color)
FROM quiz
GROUP BY color
ORDER BY COUNT(color) DESC;
```

| style | COUNT(style) |
|---|---|
| Women's Styles | 469 |
| Men's Styles | 432 |
| I'm not sure. Let's skip it. | 99 |

| fit | COUNT(fit) |
|---|---|
| Narrow | 408 |
| Medium | 305 |
| Wide | 198 |
| I'm not sure. Let's skip it. | 89 |

| shape | COUNT(shape) |
|---|---|
| Rectangular | 397 |
| Square | 326 |
| Round | 180 |
| No Preference | 97 |

| color | COUNT(color) |
|---|---|
| Tortoise | 292 |
| Black | 280 |
| Crystal | 210 |
| Neutral | 114 |
| Two-Tone | 104 |

B

```
SELECT product_id, COUNT(product_id), style,
model_name, color
FROM purchase
GROUP BY product_id
ORDER BY style, COUNT(product_id) DESC;
```

| product_id | COUNT(product_id) | style | model_name | color |
|---|---|---|---|---|
| 3 | 63 | Men's Styles | Dawes | Driftwood Fade |
| 1 | 52 | Men's Styles | Brady | Layered Tortoise Matte |
| 4 | 44 | Men's Styles | Dawes | Jet Black |
| 2 | 43 | Men's Styles | Brady | Sea Glass Gray |
| 5 | 41 | Men's Styles | Monocle | Endangered Tortoise |
| 10 | 62 | Women's Styles | Eugene Narrow | Rosewood Tortoise |
| 9 | 54 | Women's Styles | Eugene Narrow | Rose Crystal |
| 6 | 50 | Women's Styles | Olive | Pearled Tortoise |
| 7 | 44 | Women's Styles | Lucy | Elderflower Crystal |
| 8 | 42 | Women's Styles | Lucy | Jet Black |

# Summary

- From this data we were able to visualize the quiz funnel and determine where people were dropping out.
- From the home try-on funnel, we were able to see that only 66% of people who tried on frames were making purchases.
    - A/B testing showed that sending 5 pairs of glasses was more likely to lead to a purchase than sending 3 pairs. Increasing to 5 pairs should help drive conversions.
    - We can also see the most popular styles people favored from the quiz responses and which styles were actually purchases. A popular style may be included for try-on even if it wasn't specifically requested, possibly leading to a purchase.
- Popular models can be used in advertisements to increase site traffic.