

Quiz Design, Pair Trial Comparison, and the Sale of Glasses



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Quiz design and its effects on step-to-step conversion

- In a perfect world, conversion is 100% - here, however, that isn't the case. How close do we get, and is there a reason for being closer or further?
- The drop off from 1 to 2 and 3 to 4 is small, and we'll take it as a best case scenario, as it's nearly 100%
- Why might the 2-3 and 4-5 conversions be lower?
 - While presumably anyone interested in glasses knows their fit, that answer should be automatic; what shapes they like might take a bit more creative thought, more energy in other words, meaning a lower 2-3 conversion
 - As a result, we'd expect the 3-4 conversion to be high - one probably imagines color when they picture their ideal set of glasses
 - The low 4-5 conversion could perhaps be explained by the fact that, like being asked "How often do you work out?", the answer to question 5 might be a bit embarrassing
- In summary, 54% of people who begin the quiz end it, though 72% would if it ended at question 4; that may be worth considering, given later results

Question	Response count	Conversion %
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

General quiz funnel results

- 75% of people quizzed tried on glasses (since each quiz cell had answers, these people presumably got to question 4 if not 5)
- 66% of people who then tried on glasses purchased something
- Thus, 50% of people quizzed ended up buying something, which is great! I can't imagine the quiz cost anywhere near what it yielded
- As was mentioned above, as a result, if you were to remove question 5 on the quiz, you'd get a 33% jump in completion rate and hence an increase in overall sales
- If 54% of people who answer question 1 currently finish the quiz, 27% of all question 1-answerers buy something; that could be bumped to 36%

Quizzed who tried %	Tried who bought %
75.0	66.0

3 pair trial vs 5 pair trial

- The results were significant: 53% of 3 pair triers bought something, compared with 79% of 5 pair triers
- On the other hand, while, as a result, 5 pair triers bought more glasses overall, the average order was nearly identical, at about \$112-\$113 per user
 - One might have expected someone trying more pairs to purchase more, which isn't the case
- Nonetheless, I can't imagine the cost of sending two extra pair (no doubt nonzero) to be so much as to outweigh the 26% boost in conversion
- Also, while I'm sure it's clear, using a binomial test on these numbers indicate that, given the current data, this is definitely significant, with a pval in the 10^{-25} range

tried_3_conversion_pct	tried_5_conversion_pct
53.0	79.0

3 total purchase	3 purchase per customer
22765.0	113.26

5 total purchase	5 purchase per customer
33030.0	112.35

Popular quiz results and correlation with purchases

- The results of the quiz reflected purchasing fairly closely: the most popular quiz result was Narrow; Rectangular; and Tortoise, while the most-purchased item was the Jet Black Eugene Narrow, Tortoise not being available for that model
- Given that 'Narrow' as an answer beat its next best option by about a 33%, and 'Tortoise' beat 'Black' by a much thinner 4% or so, it's no great surprise that narrow was prioritized above black
- Speaking of purchase impacts, to scratch the surface, women's styles were purchased at a marginally higher rate than men's, making up a 4% larger pool (data not shown here)
 - Given that gender is only reflected in purchase data, not much can be gleaned about the effects of gender on quizzing or trial pairs
 - Geography, too, would be a nice data point, but using google to autofill the states or cities of street addresses would probably be fairly inaccurate

		Most popular model			
		Eugene Narrow			
		Most popular color			
		Jet Black			
color	count(color)	fit	count(fit)	shape	count(shape)
Tortoise	292	Narrow	408	Rectangular	397
Black	280	Medium	305	Square	326
Crystal	210	Wide	198	Round	180
Neutral	114	I'm not sure. Let's skip it.	89	No Preference	97
Two-Tone	104				

Summary of recommendations

- Removing question five of the quiz would boost the percentage of question 1-answerers who end up buying something from 27% to 36%
 - People who received 5 pairs instead of 3 ended up buying something 79% of the time vs 53% for 3 pair triers, a figuratively and statistically significant difference
 - Quiz results were a good predictor of purchases, and this could perhaps be used to gauge future demand
 - A more thorough analysis could be made if I knew more about Darby Parker's products, but without knowing, say, the color and fit of a Driftwood Fade pair of Brady's, it's tough to say more or be more certain of the rankings beyond first and second place for color, say - a project for the next time!
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