

Capstone Project 1: MuscleHub A/B Test

Lukas Pauly

Overview

Goal & Initial Hypothesis:

Assessing the current sign-up process for MuscleHub under the assumption, that if the mandatory fitness test is deleted from the sign-up process, visitors will be more likely to purchase a membership.

Data available:

Qualitative: A handful of conducted interviews painted a controversial picture regarding the attractiveness of a fitness test to potential customers.

Quantitative: Visitor numbers, applicant numbers and the number of signed customers

Tasks:

- 1) Get & prepare data
- 2) Identify groups in the data
- 3) Check & visualize significant differences between groups in each of the funnels step

Current Sign-up process:

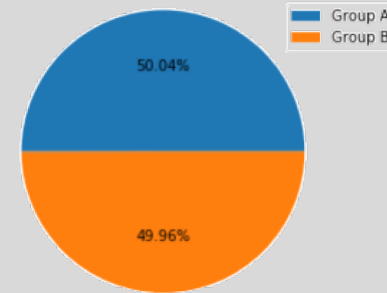
1. Take a fitness test with a personal trainer
2. Fill out an application form
3. Process the first payment for a membership fee

Descriptive Statistics

Customer Information:

MuscleHub collected Data about 5004 unique store visitors during the time of the A/B test, while 575 of them actually applied and 450 finally purchased a membership during the respective time period.

Group size:



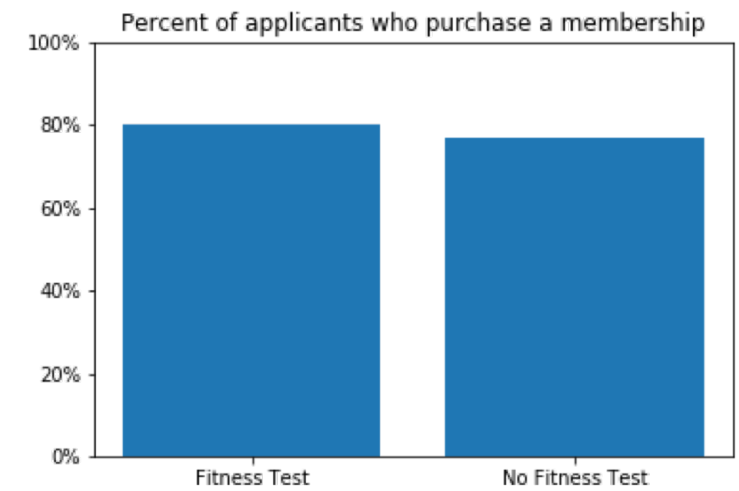
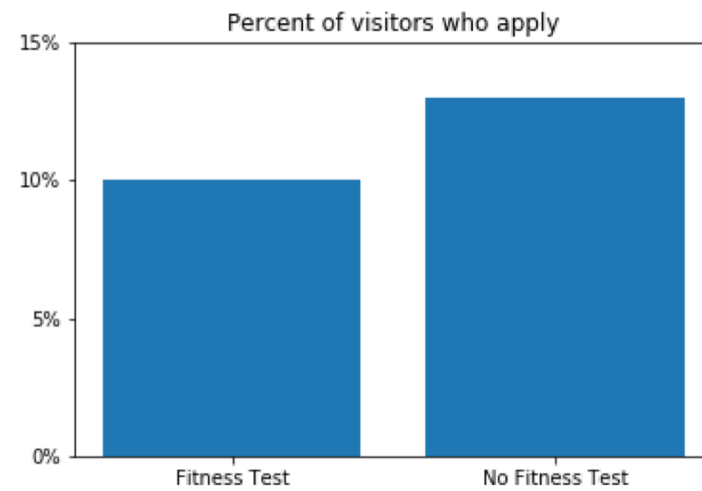
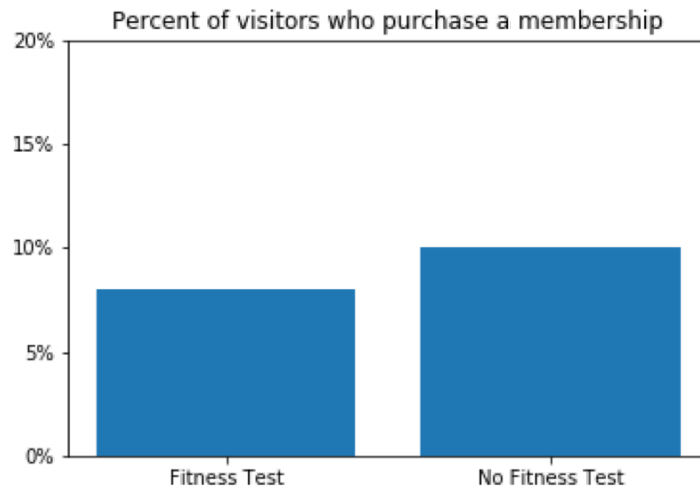
Roughly half of the visitors were assigned to group A and B respectively (2504 visitors in group A and 2500 visitors in group B)

Funnel:



	Total	A	B
Visitors	5004	2504	2500
Applied	575	250	325
Purchases	450	200	250

Funnel Performance



Significance analysis

Test Subject	Test Statistics	Statistically Significant?
More people without a fitness test (group B) apply at MuscleHub Group A: 9,98% Group B: 13.00%	Chi Square Test -> P-Value: 0.000964	P-Value < 0.05 → Significant
More people from group A than group B purchase a membership after applying Group A: 80.00% Group B: 76.92%	Chi Square Test -> P-Value: 0.432586	P-Value > 0.05 → Not Significant
Overall, more visitors without a mandatory fitness training (Group B) become members Group A: 7.98% Group B: 10.00%	Chi Square Test -> P-Value: 0.014724	P-Value < 0.05 → Significant

Final Recommendation


Eliminate the fitness test from the application process!

Overall the A/B test **confirmed the initial hypothesis** that **visitors not participating** in the initial fitness test **are more likely to purchase a membership**. This is also backed by the higher conversion rate from visitors to applicants, for the group of people not taking the fitness test.

One possible reason might be intimidation, which was also indicated by some of the interviewees during the conducted qualitative interviews.

The data also suggested that more people from group A than from group B actually purchase a membership after applying. Nevertheless, this result was not statistically significant at all and therefore cannot be seen as representative.

Potential solution: Offer an optional training test with a personal trainer after purchasing the membership. This would satisfy the needs of both groups, people who like the test and people who do not like it.

A low-angle, rear-view shot of a person's legs as they run on a dark asphalt road. The runner is wearing grey socks and dark running shoes. A bright yellow dashed line runs down the center of the road, leading towards a horizon where the sun is setting or rising, creating a warm, golden glow. The sky is filled with soft, textured clouds.

Thank you for your attention!

Do you have any questions?

Hit me up at: *Lukas_pauly@web.de*