MuscleHub

Visitor Retention Data: A/B Test Results

Background

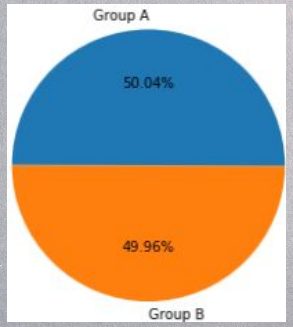
- New visitors to MuscleHub are currently given a fitness test with a personal trainer before applying for membership.
- It was proposed that this fitness test might intimidate prospective members and discourage them from applying.
- We conducted an A/B test to discover if visitors who took the fitness test were less likely to apply.

A/B Test

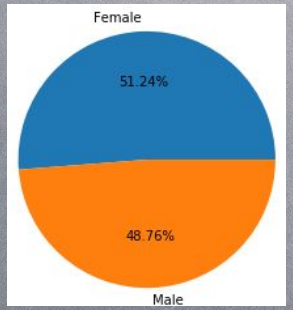
- New visitors after 1st July 2017 were split into two groups - ‘A’ and ‘B’.
- Group ‘A’ were given the fitness test as normal before applying.
- Group ‘B’ were not given the fitness test, and were immediately invited to apply.

Demographics

- New visitors were evenly split between the two groups:



- The male and female visitors were also evenly split between the groups:

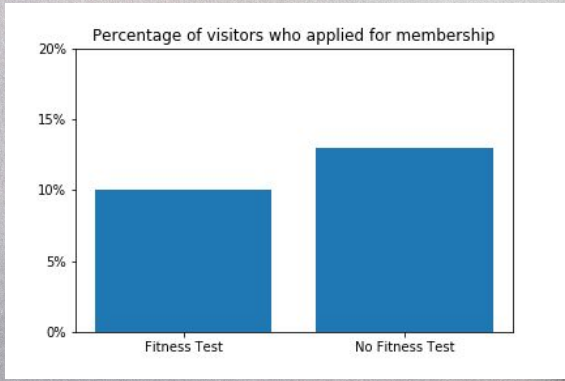


Dataset

- The dataset included 5004 entries containing the following visitor information:
  - First Name
  - Last Name
  - Gender
  - Email Address
  - Visit Date
  - Fitness Test Date (if applicable)
  - Application Date (if applicable)
  - Purchase Date (if applicable)

Testing

- I began by determining the percentage of visitors from each group who applied for membership:



- I found that approx. 10% of group ‘A’ (with fitness test) applied, and approx. 13% of group ‘B’ (without fitness test) applied.

Testing (cont.)

- I ran a Chi-Squared hypothesis test on this result to determine the statistical significance.
- The test returned a p-value of 0.00096.
- Since the p-value is lower than 0.05 ($p < 0.05$), we can conclude that the result is significant.

Why Chi-Squared?

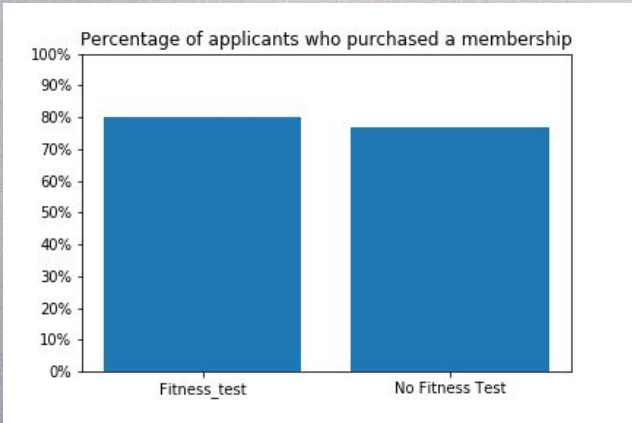
- A Chi-Squared test is used to compare two or more datasets which contain categorical data. It compares the datasets and determines if any variation is statistically significant.

- In this case we want to compare Group ‘A’ and Group ‘B’ - our two datasets.

- The data we have is categorical - visitors either did or did not apply for membership - as opposed to numerical (e.g. the number of visitors who apply each day).

Testing (cont.)

- I then determined the percentage of applicants who went on to purchase a membership:



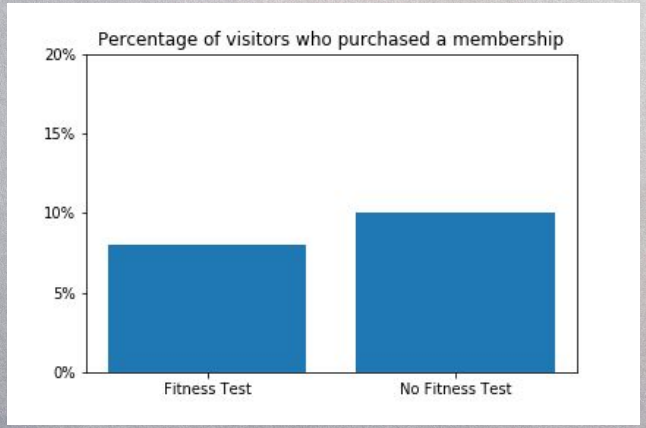
- Approx. 80% of applicants who had taken a fitness test purchased membership, compared to 77% of those who did not take a fitness test.

Testing (cont.)

- I ran another Chi-Squared test on this new dataset, which returned a p-value of 0.43.
- The p-value is greater than 0.05 ($p > 0.05$), so this result is not significant.
- We can conclude that there is no significant difference in purchase rates between applicants who had a fitness test and those who did not.

Testing (cont.)

- Finally, I looked at the percentage of total visitors who ended up purchasing membership:



- Approx. 8% of visitors who got a fitness test purchased membership, compared to 10% of those who did not get a fitness test.

Testing (cont.)

- Once again I ran a Chi-Squared test, which returned a p-value of 0.0147.
- The p-value is less than 0.05 ($p < 0.05$), so this result is statistically significant.
- We can conclude that there is a significant difference in purchase rates between visitors who had a fitness test and those who did not.

Visitor Interviews

- We also collected limited qualitative data in the form of interviews with visitors.

- Visitors who did not get a fitness test generally appreciated the lack of pressure - one potential customer said she appreciated not being “accosted by any personal trainers”.

- Visitors who took the fitness test had a more mixed reaction - one called it “super helpful”, but another said he “Regretted it”.

Recommendations

- Based on the results presented here, I would recommend removing the fitness test as part of the sign-up process.

- The overall membership purchase rate increase by 25% (from 8% to 10%) when the fitness test was removed - this increase is statistically significant.

- In addition, our qualitative data suggests that potential members feel less intimidated and pressured when they are not required to undergo a fitness test.