

Star Digital's ad effectiveness assessment

Executive Summary

Star Digital carefully designed an experiment to test the effect of various online advertising channels on sales using a sample set of over 25,000 online customers. Most of the experimental design suggests that the test was carried out with no apparent reason that a causal conclusions could not be drawn. The one primary area of concern is that our analysis here was drawn from a small sample of the original experimental data set that could lead to selection bias. Upon testing for similarity between test and control groups, the data indicates that the number of impressions per customer between the groups are statistically similar, suggesting that we can be confident that two groups are identical. Upon examination of the amount of purchases in the control group versus the test group, our findings suggested that the group that received the Star Digital online ads, had a higher incidence of purchases than the group receiving the charity ads. Additionally, an examination of the number of individuals in each of the control and test group indicated that not enough data points were gathered to put forth a confident conclusion. Despite this, we went on to present our findings with a suggestion of caution. Upon examining the relationship between the number of impressions on the instances of purchase, we found that a 1% increase in number of impressions is having a positive impact on making a customer 0.13% more likely to purchase StarDigital's subscription package. Overall, the benefit gained and costs spent on using websites 1 to 5 suggests in a greater benefit than using website 6. Thus, we recommend that Star Digital apply their online advertizing budget to websites 1 to 5 in order to maximize the chance of conversion based on advertisements.