

1) In the case of total searches made I was interested to see if users performed more searches as a result of the new feature since there was a 100% search rate regardless of group which makes sense as users participating in the study would be engaging with the app to some degree. In the case of searches it did seem to slightly increase the overall searches made by the test group in comparison to the control group. However, that was not shown in the test where I was able to reject the null hypothesis since I found a p value greater than our acceptance level of 0.05 meaning I could not be confident it was due to natural variance and I found that the test group saw no significant increase in the number of searches made compared to the control group.

I chose to use the unique counts for vdps and sales made since I was curious to see if the new feature was correlated with an increase in conversion rates between the control and test group for more substantial levels of engagement than searches. In the case of the new product I found in my testing that it was associated with a decrease in vdps activity since I failed to reject the null hypothesis and could be confident this drop wasn't just natural variance. In the case of sales made however it had no statistical significance and I was able to reject the null hypothesis similar to the number of searches made.

2) I found that there is a substantial difference between the number of desktop and mobile device users from consumers. This could be due to a number of reasons such as better online service from the desktop or potentially an older demographic of consumers who are less prone to use mobile devices suggesting that further research may be beneficial.

In the case of regional differences, there appears to be an outlier in the Pacific Northwest which has many more consumers than the other regions. Following this there appears to be another gap between New England and the Midwest compared to the Southwest and Southeast which saw another decrease in users. This could be due to several things such as the company having a larger presence in the Pacific Northwest or the time of day that searches were chosen. Another thing is following treatment car sales in the midwest dropped by close to 50% which I found to be statistically

significant. However, I did also notice that for New England the Pacific Northwest there was modest returns in all three departments following the new feature. Even so, the results proved to be statistically significant in New England alone in terms of sales.

3) I would not recommend the continued development of the product because it failed to increase engagement across the three factors such as vdps and sales. Furthermore, it produced a slight decrease in the conversion rate of vdps engagement per user in the overall test group when compared to the control group and had no statistical impact on either total searches between groups or sales made per user as a whole. Furthermore, there was some increases in engagement across two regions, New England the Pacific Northwest. However, after testing their significance I found that only New Englands was substantial enough to be credible. Because of these factors, I believe it would be beneficial to save resources for other projects and means of garnering engagement that show better results as a whole and not just for a single region.