UDACITY

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Analyze A/B Test Results

REVIEW
HISTORY

Meets Specifications

Hi,
You did an excellent job here. Calculating the significance for hypothesis testing using 3 different independent approaches. Each approach has its advantages and disadvantages. It is important to use the appropriate methods according to the type of data set and the question we want to answer.

If you have any further questions as you go forward, please do not hesitate to post them on the knowledge forum.

Code Quality

All code cells can be run without error.
Well done for implementing the A/B test, all code runs as expected and returns no error.

Docstrings, comments, and variable names enable the readability of the code.
The code is well-formatted and appropriately commented. That makes it easy to follow the analysis steps and identify a specific functional operation. If you like you can examine the python style document. https://www.python.org/dev/peps/pep-0008/

Statistical Analyses

All results from different analyses are correctly interpreted.

Statistical Significance

You are correct, we can observe a difference between the two categories but we need to perform a statistical test to appreciate if the difference is significant. In this report, you implemented 3 different statistical tests to appreciate if the difference is significant.

Simulation , Z-test , Logistic regression

Hypothesis Statement

The null and the alternative hypothesis are appropriate. The link here includes an example for the null and alternative hypotheses.

https://courses.lumenlearning.com/introstats1/chapter/null-and-alternative-hypotheses/

Statistical Test

You are correct, considering the results of the statistical test (p-value) and the suggested p-critical. Since p-value > p-critical, we can't reject the null.

http://www.itl.nist.gov/div898/handbook/prc/section1/prc131.htm

For all numeric values, you should provide the correct results of the analysis.

Results Similarity

Please note the similarity in the p_value calculated using the simulation and the z-test. These are independent methods. The difference that we get in Part III is due to the fact that the regression answers a two tail hypothesis test while the simulation and the z-test answer a one-tailed test.

Conclusions should include not only statistical reasoning but also practical reasoning for the situation.

Only for Graders

This rubric will be ungraded. The reviewer will be providing a code review for the student's jupyter notebook file.

This rubric will be ungraded. The reviewer will brief the students about the concepts learned in this section of the Nanodegree program.

section of the Nanodegree program.

Using bootstrap is very useful when the data set that we want to explore is small but we have an idea about the distribution of the data. Since we know what the distribution is, we can draw samples from a similar formalized distribution, which saves time and is much cheaper than conducting the experiment.

The A/B tests are important when we want to compare the results of an experiment compared to the baseline. Since it can be costly to make changes in a platform just to check if that platform is better. We can let a small sample of users check the platform and examine their behavior compared to the population. Please note that since different users use the original and the test platform at the same time, the only change is the platform. That is a very good design for a controlled experiment in which we change a single parameter.

Keep in mind that here we used logistic regression, the reason for that is that the target variable is categorical. In other cases when the target variable is continued, we will use linear regression.

This rubric is ungraded. IIf the learner has asked a question pertaining to the implementation of the project, the reviewer will provide an answer along with links to any helpful resources.

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