

A/B Test Report: [Test Name]

Introduction

In this report, we analyze the results from our recent A/B test on [Test Name]. The goal of this test was to determine if a new design or feature (Treatment Group) would result in a higher conversion rate compared to the current design (Control Group).

Key Findings

The conversion rates for both groups are as follows:

- Control Group: 0.1204
- Treatment Group: 0.1188

Although the Treatment Group had a slightly lower conversion rate than the Control Group, the difference was minimal (only -0.0016 or -1.31%) and may not be statistically significant due to a p-value of 0.189883.

Business Impact

The estimated annual revenue impact of this change is approximately \$-2,160,215. This means that if we were to implement the new design, we would expect a decrease in annual revenue by roughly \$2,160,215.

Additionally, on a daily basis, we anticipate an average of -79 fewer conversions with the new design.

Diagnostic Checks

Our analysis found no sample ratio mismatch and a Bayesian Probability of 9.50% (Treatment > Control). The Power was calculated to be 25.87%, indicating that our test may have been underpowered, which means we might not have detected a significant effect even if one truly existed.

Advanced Insights

We observed a correlation between session duration and conversions (-0.0009). Additionally, heterogeneous effects were found across different quartiles of session durations. These findings suggest that the impact of the new design may vary based on the length of user engagement.

Recommendation

Given the low confidence in our results (P-value and Bayesian Probability) and the potential revenue risk, it is recommended not to proceed with implementing the new design at this time.

Appendix

For a more detailed technical report, please refer to the attached `diagnostic_plots.png` summary of key visualizations or contact the data analysis team. This report includes further analysis, methodology explanations, and limitations of our study.

We will continue to monitor the data, gather more insights, and perform additional tests to determine if the new design has potential for improvement in the future.