Statistical Testing for Waze User Churn Prediction Project

Executive Summary

Overview

The Waze data team is developing a machine learning model to predict user churn. Churn quantifies the number of users who have uninstalled the Waze app or stopped using the app. This project focuses on monthly user churn. An accurate model will help prevent churn, improve user retention, and grow Waze's business.

Problem

The leadership team has requested the data team to use hypothesis testing to analyze the relationship between mean amount of rides and device type.

Solution

The data team ran a two-sample hypothesis test to analyze the relationship between mean drive counts and device type. There is no statistically significant difference in mean amount of rides between iPhone users and Android users.

Details

Steps conducted in the hypothesis test:

1. Calculated the average values of 'drives' for each 'device'.
    a. Android: 66.23
    b. iPhone: 67.86
2. Isolated the 'drives' column for iPhone users.
3. Isolated the 'drives' column for Android users.
4. Chose 5% (0.05) as the significance level
5. Conducted a two-sample t-test to determine if there is a statistically significant difference in the average drive counts between devices.
    a. P-value = 0.1434 or 14.34%

Hypothesis test results:

There is no statistically significant difference in the mean amount of rides between iPhone users and Android users.

Next Steps

Consider implementing strategies for improving the app, such as user experience, on both device types.