Waze Churn Project | Preliminary Data summary

Prepared for: Waze leadership team

Overview

- The Waze data team is now working on a data analytics initiative targeted at boosting overall growth by reducing monthly user attrition on the Waze app.
- Waze aims to learn more about user behavior in order to boost retention. This report provides information on the project's status and Milestone 4 outcomes, which will have an impact on the project's future progress.

Objective

Target Goal: Create a two-sample hypothesis test to investigate and determine whether there is a statistically significant difference between the mean number of rides and device type (Android versus iPhone).

Impact: Statistical studies, such as the one performed for Milestone 4, allow the Waze data team to draw conclusions about the demographics from which the data was collected and learn more about their users.

Results

[12]:
```
# 1. Isolate the `drives` column for iPhone users.
iPhone_drives = df[df['device_type'] == 1]['drives']

# 2. Isolate the `drives` column for Android users.
android_drives = df[df['device_type'] == 2]['drives']

# 3. Perform the t-test
stats.ttest_ind(a=iPhone_drives, b=android_drives, equal_var=False)
```

[12]:
```
TtestResult(statistic=1.463523206885235, pvalue=0.143351972680206, df=11345.066049381952)
```

Since p-value is 0.143, which is larger than the significant level (0.05), the null hypothesis cannot be rejected. This indicates that there is no statistically significant difference between iPhone users and Android users in terms of the occurrence of driving at least 1 km during the month.

- According to the estimates, drivers who interact with the application via iPhone have a greater average number of drives.
- The t-test results showed that there is no statistically significant difference in mean number of rides between iPhone and Android users.

Next Steps

➔ Based on the findings of this hypothesis test, the Waze data team proposes doing more t-tests on other variables to understand more about user behavior.

➔ Furthermore, because the user experience is consistent, transient modifications in marketing or user interface may have an impact, providing more data for research into customer churn behavior.