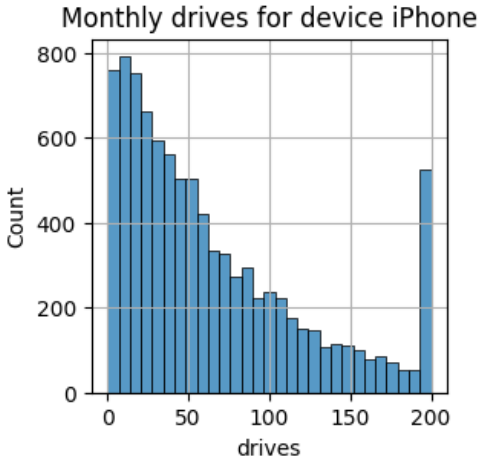
User Churn Project | Device Dependency: Hypothesis Testing

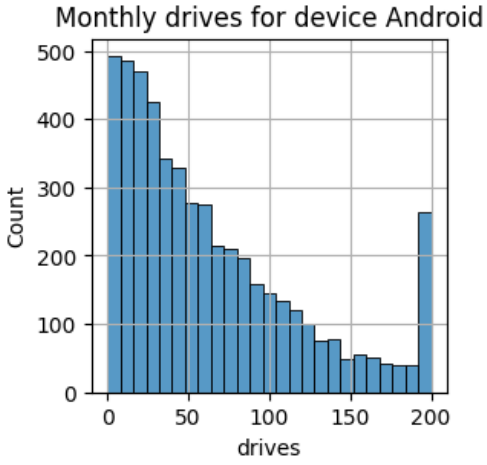
OVERVIEW

As first step in the development of a ML model for churning prediction, the relationshipd between mean monthly rides and device type (Android / iPhone) is analyzed. **This document reports the findings of this analysis.**

Observations

- The collected data shows a difference between the **mean drives per month** between Android and iPhone users.
- Is this observation significant or just due to chance? This is what we answer here.
- For iPhone: 95% CI [63.65, 65.47]
- For Android: 95% CI [62.29, 64.07]





Methodology

In order to judge the significance of this difference a hypothesis test for 2-samples was performed. Each sample includes the users of a specific device. The anaylsis was performed from two perspectives:

1) Assume the value for iPhone users is less or equal than that for Android users. Then try to proof that iPhone > Android
2) Assume the value for iPhone users is greater or equal than that for Android users. Then try to proof that iPhone < Android

This because rejecting the assumption is the only way to proof something in this type of test.

Results

iphone_drives_mean: 64.56
android_drives_mean: 63.18
Significance_Level: 5%
Probability observation under assumption:
In both cases greater than 5%

Interpretation

The assumption cannot be rejected. The collected data do not permit to establish a significance of the difference between the monthly mean drives of iPhone and Android users.

Next Steps

Continue with the design phase of the Machine Learning model for churning predictions