User Churn | Preliminary Data Summary

Commission Prepared for the Waze Leadership Team

OVERVIEW

The Waze team is currently developing a project aimed at increasing growth by reducing overall user churn within the Waze application. Churn refers to the number of users who uninstalled or ceased using the Waze app for a period of time.

In this initial phase of analysis, the team has obtained permission to use Waze's user data. The data has been inspected, organized, and prepared for analysis. Furthermore, preliminary insights have been gained from the summary statistics generated.

PROJECT STATUS

Goal: Analyze Waze user data to identify relationships and correlations between variables.

Methodology: A dataframe was constructed, with each row representing a single observation and each column representing a single variable. Descriptive statistics were calculated. User behavior was analyzed.

Impact: Key relationships between variables were identified, providing valuable insights for further analysis of Waze user data.

NEXT STEPS

- Given the exceptionally high driving metrics observed for both churned and retained users, it would be beneficial to supplement the current dataset with additional data that better represents the broader population, encompassing a wider range of driver profiles.
- It is also essential to investigate the data collection methods and consider potential improvements.
- To gain a more comprehensive understanding of the current and any new data, including the most relevant variables, it is recommended to conduct exploratory data analysis (EDA), utilizing descriptive statistics and visualizations.

KEY INSIGHTS

- The dataset comprises 82% retained users and 18% churned users. It includes 12 unique variables of various data types, including objects, floats, and integers.
- An analysis found that 700 rows in the label column were missing data. After further investigation, these were determined to be unlikely to introduce significant bias and therefore were not problematic for the overall dataset.
- Churned users averaged approximately 3 more drives in the past month compared to retained users. The median churned user drove about 200 more kilometers and 2.5 more hours than the median retained user in the same period.
- Churned users had more drives concentrated in fewer days and undertook longer, more extensive trips. This suggests a particular driver profile that warrants further exploration.
- Median users who churned drove 698 kilometers per driving day last month, which is approximately 240% the per-drive-day distance of retained users. Moreover, median churned users had 10 drives per driving day compared to retained users' 4.

Regardless of user churn, the users in this data exhibited a significantly higher driving volume than the average driver, suggesting a specific driver profile.