Waze: Predicting User Churn

Exploratory Data Analysis (EDA) - Executive Summary

ISSUE / PROBLEM

The Waze team seeks to create a ML model to predict user churn. In this phase, the data team will clean, structure, validate, and study different trends and correlations that distinguish churn from and retention behavior. This is part of a larger effort at Waze to increase growth.

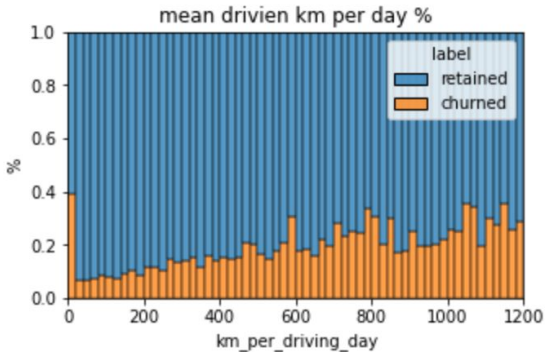
RESPONSE

The Data Team conducted an exploratory data analysis that looked at trends distinguishing between user churn or retention behavior: kms driven, distance traveled, favorite places visited, number of sessions, and number of driving days.

Data was cleaned and re-structured to draw different parallels into what makes a user churn or not.

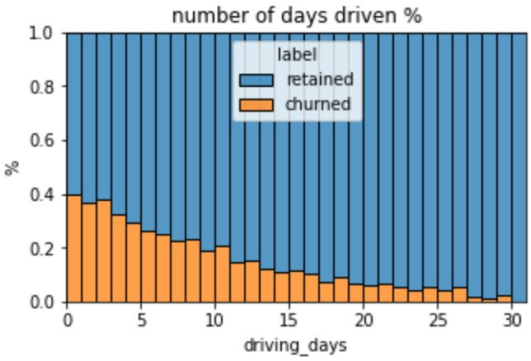
IMPACT

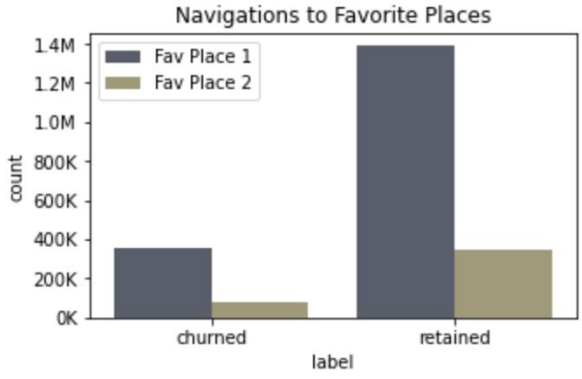
This analysis revealed that the future prediction model will need to account for the 700 missing labels, heightened activity particularly in this last month relative to overall activity, and missing days (we have some months that only report 30 in contrast to 31 in others).



Churn rate increases with distance traveled. It's worth finding out the motivation behind those distances, is it business or pleasure?

Churn rate decreases with number of days traveled. In other words, The more often they used the app, the less likely they were to churn.





The kind of navigation was investigated to find that retained users visit their favorite places more and plays a major role in retention!

KEY INSIGHTS

- We have 18% churned users, and 82% retained users, with a uniform distribution of user tenure ranging from 0 to 9.5 years, which is great! Tenured users happened to use the app a lot last month, so it's worth investigating the "why" behind their sudden heightened-activity.
- Our drivers drive a lot. The longest distance driven last month was half the circumference of the earth.
- Churn rate is higher for user that drive longer distances, while Retention rate is higher for users that drive more often.
- We noticed that fewer people open the app during the month, while more people don't use the app to drive at all during the month. What does this mean? People open the app more than they open the app to drive.