**Executive Summary: Waze User Churn Project**

**Overview**

The purpose of this analysis was to understand user churn behavior in the Waze app by analyzing data from users who either churned (discontinued use of the app) or were retained. The dataset included variables related to app usage, including the number of drives, kilometers driven, driving days, and device type (Android or iPhone). By investigating these factors, the goal was to uncover patterns and provide actionable insights to reduce churn.

**Problem**

Waze has identified a significant number of users who churned, and the company is looking to understand the factors that contribute to this behavior. While users who churn and those who remain active may have distinct usage patterns, the challenge lies in identifying the key drivers of this churn and whether these can be mitigated to improve user retention.

**Solution**

The solution to this problem involved a thorough exploration of the dataset, focusing on:

* Descriptive Statistics: We calculated key statistics such as median and mean values for variables like kilometers driven, number of drives, and driving days.
* Device Segmentation: We examined whether there was a difference in churn behavior based on device type (iPhone vs. Android).
* User Profiles: We compared the behaviors of churned versus retained users to identify distinguishing characteristics.
* Churn Analysis by Engagement: We explored the frequency of driving (drives per day and kilometers driven per driving day) to understand if higher engagement was a predictor of churn.

**Key Insights**

1. Churned Users vs. Retained Users:
   * Churned users had more drives and drove longer distances (e.g., 200 km more per month) but did so over fewer days.
   * Retained users, on the other hand, used the app on more days but with fewer drives and shorter distances per day.
2. Device Type:
   * The percentage of Android and iPhone users was almost identical across both churned and retained groups, suggesting that device type does not play a significant role in predicting churn.
3. Driving Behavior:
   * The median churned user drove significantly longer distances and had more drives per driving day compared to the median retained user. This could indicate that churned users are more engaged but may also represent a different type of user, such as long-haul truckers, whose needs may not align with Waze’s current features.
4. Potential Anomalies:
   * Some users had extraordinarily high values for kilometers driven (up to 21,183 km), which likely represents atypical use cases and might skew overall behavior. These users could be outliers, and their data may need further examination to ensure accurate representation.

**Next Steps**

1. Further Investigation into User Types:
   * Waze should investigate whether the churned users are largely comprised of a specific type of user (e.g., long-haul truckers, business drivers) whose needs differ significantly from typical commuters.
   * Conduct additional analysis on in-app behavior to determine if certain features or lack thereof are contributing to churn.
2. User Feedback and Satisfaction:
   * Collect qualitative data, such as user feedback and satisfaction surveys, to understand why these high-engagement users are churning. This could provide valuable context beyond usage patterns.
3. Feature Customization:
   * Consider developing customized features or services for high-engagement users, particularly those who drive long distances, to address their unique needs. This could include more robust routing options or additional real-time information for long journeys.
4. Expand Dataset:
   * Waze should enrich the dataset with additional variables such as user demographics, trip types, and in-app engagement metrics. This would allow for a deeper analysis of churn and help identify new factors that could contribute to user retention.

**Impact**

The insights from this analysis provide Waze with a clearer understanding of how user behavior correlates with churn. By identifying the unique driving patterns and behaviors of churned users, Waze can make more informed decisions about feature development and user engagement strategies. The ultimate goal is to improve retention rates, especially among high-engagement users, by tailoring the app experience to meet their specific needs. Additionally, addressing the needs of this niche group of users may reduce churn, increase satisfaction, and ensure Waze remains a competitive player in the navigation app market.