**RELAX INC. [Emine Erdogan]**

Relax Inc. defines “an -adopted user- as a user who has logged into the product on three separate days in at least one seven-day period”. This analysis has two objectives: identifying the loyal customers and identifying the factors that predict future user adoption.

The customer adoption dataset contains information on 12,000 customers, including their name, user ID, email, creation source, creation time, time of last login, subscription to marketing emails/mails, and group ID over the past two years. By using the account creation and last login time, it is possible to determine users’ account age and those who are more likely to be "adopted users" than those who had just signed up. After converting creation time and last login time to datetime format, results showed that out of 12,000 users, there are 8,823 customers who had "user history".

The customer engagement dataset contains 8,823 users and 207,917 total logins. After converting time stamps to datetime format and grouping login counts according to time, it was revealed that 1,656 of these users are adopted users. This means that they logged in to the app on three different days in last seven days.

The two datasets (customer engagement and customer adoption) were then merged using the user IDs. The columns for name, email, group ID, and invited by user ID were dropped from the dataset since they do not have directly reportable results. By grouping users based on their creation source, chi2 test revealed that users who received organizational invitations and those who have personal projects were more engaged with the application. Subscription to marketing emails/mails did not make any significant difference among customers in terms of engagement. The adoption rate is lower in very new accounts but other than that, the adoption rate didn't change for adopted users much over the past two years.

After creating dummies for creation source column, random forest model was run since the data is imbalanced. The model has a high accuracy score of .95, with the user history being the most important feature. To increase the number of adopted users, Relax inc. should focus on encouraging existing users to log in and use the software regularly. Encouraging organizational invitations and users to invite others, as well as offering incentives for people to work on their personal projects using the software may also be effective.