User Adoption Analysis Report

Objective: Identify factors that contribute to user adoption.

Data: Analyzed user engagement and user information for 12,000 users.

Findings: Key factors influencing adoption include **Total visited count , Recency, Account age, User creation, Invited User.**

Preprocessing Steps:
1. Converted timestamps to datetime objects.
2. Handle missing values by imputation.
   a. If `last_session_creation_time` is null, replace it with creation time of the user.
   b. If `invited_by_user_id` is null we fill it with zero.
3. Merged user engagement data with user information.
   a. For calculating the adopted user.
   b. For total visited count for each user.

Feature Engineering:
1. Created features such as account age, total visited count, creation month, recency, is_invited, domain.
2. Encoded categorical variables.
   a. Creation Source.
   b. Domain.

Model Selection:
1. Developed a Random Forest model to predict user adoption.
2. This model is developed only for feature importance.

Conclusion
1. Recency and Total visited count are strong predictors of user adoption.
2. Also the User age is a strong prediction of user adoption older is more adopters.
3. If a user is invited by an older user it is more likely to be an adopted user.
4. Recommendations include focusing on recent activity users to make them adopted users.

Figure:

New users are unlikely to be adopted, but those who have recently activated on the site are more likely to become adopted users.

User Creation Time

User Last session