Relax Inc. Take Home Challenge

Adopted Users: There are 1602 adopted users out of 12,000, giving an adoption rate of **13.35%**.

Factors Impacting Adoption

I looked at already available factors such as creation_source, org_id, mailing_list opt in etc. The crosstabs of these factors (Tables 1-4) with adopted user doesn't give any significant insight into a class/org that generates an adoption rate significantly different than the overall average of 13.35%.

is_adopted_user creation_source	False	True	Total	percent_adopted
GUEST_INVITE	1803	360	2163	16.64
ORG_INVITE	3701	553	4254	13.00
PERSONAL_PROJECTS	1947	164	2111	7.77
SIGNUP	1794	293	2087	14.04
SIGNUP_GOOGLE_AUTH	1153	232	1385	16.75

Table 1: Adopted users by creation_source

is_adopted_user org_id	False	True	Total	percent_adopted
0	308	11	319	3.45
1	219	14	233	6.01
2	186	15	201	7.46
3	154	14	168	8.33
4	143	16	159	10.06

Table 2: Adopted users by org_id

is_adopted_user opted_in_to_mailing_list	False	True	Total	percent_adopted
0	7818	1188	9006	13.19
1	2580	414	2994	13.83

Table 3: Adopted users by mailing list opt ins

is_adopted_user enabled_for_marketing_drip	False	True	Total	percent_adopted
0	8852	1356	10208	13.28
1	1546	246	1792	13.73

Table 4: Adopted users by marketing drip enabling

I then decided to study the **login pattern** of a user post signup, by looking at the no. of logins made by the user in the first 7, 14, 30 & 60 day period after signup. As can be seen in Table 5, users with 2 or more logins in the first 30 days have a much higher probability (60.50%) of becoming adopted users, while users with 1 or less logins have just a 2.4% chance of adopting. With this insight, two simple classification rules provide a **90.6% accuracy** and **85.2% recall** for adopted users.

Table 5: Adopted users by logins in first 30 days

is_adopted_user login_first_30days	False	True	Total	percent_adopted
1 or less	9507	237	9744	2.43
2 or more	891	1365	2256	60.51

Classification Rules
Rule 1: Classify anyone with 1 or less logins as non-adopters
Rule 2: Classify anyone with 2 or more logins as adopters.

Overall Accuracy = (1365 + 9507) / 12000 = **90.60%**

Recall (adopted users) = 1365 / 1602 = **85.20%**