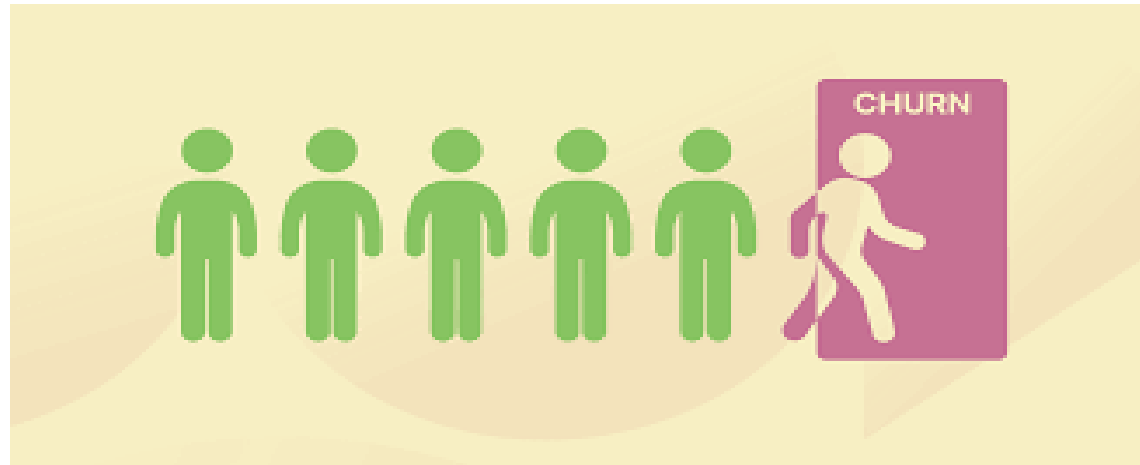
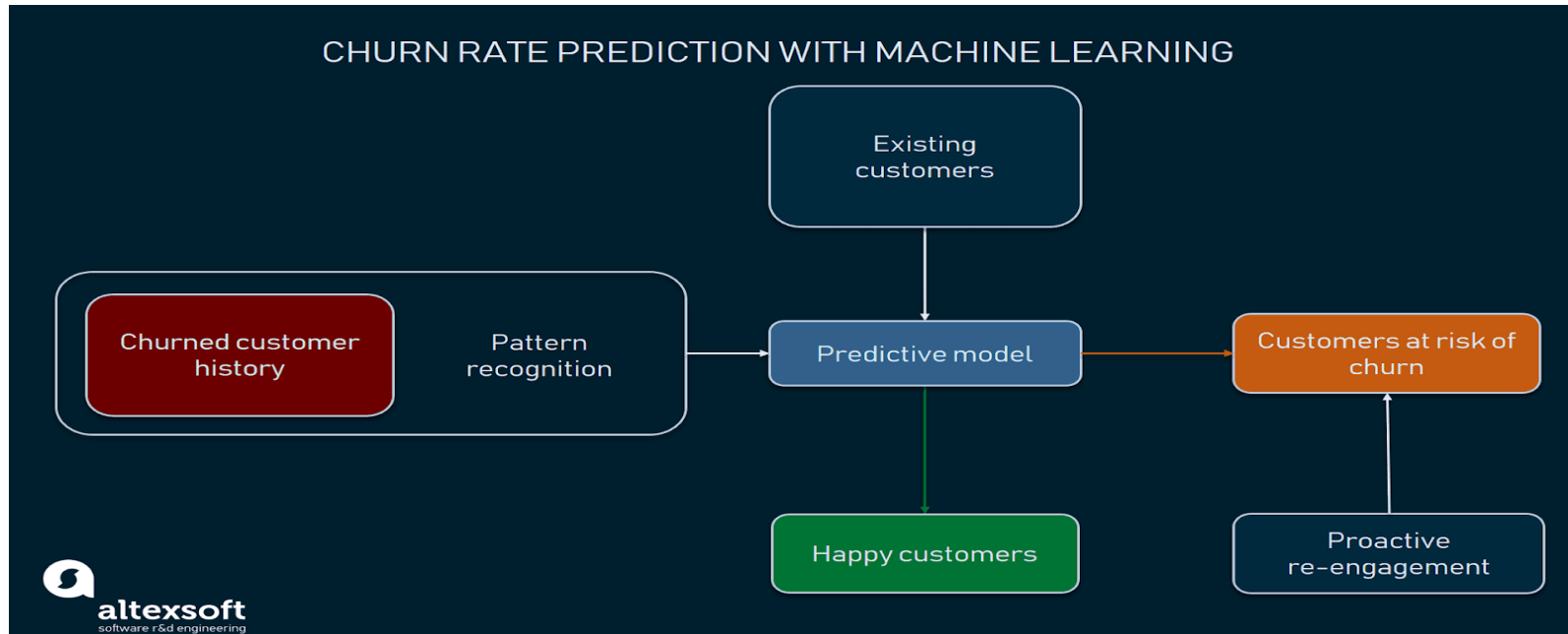


TELECOM

PREDICT CUSTOMER CHURN



What drives higher churn rate of customer & how can Telecoms tackle this problem?



Agenda

Goal 

Data Overview 

Model 

Implication 

Summary 

Goal

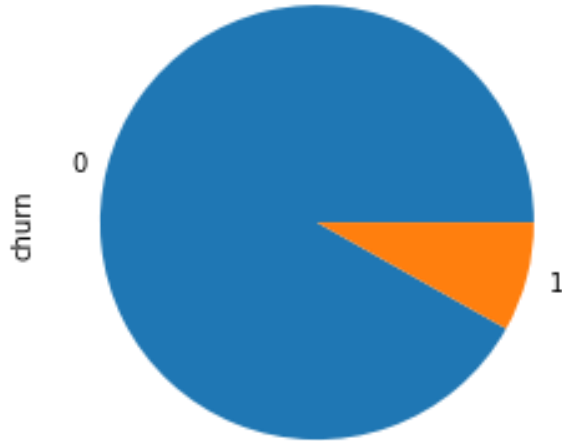
Develop a model to predict customers likely to churn

Challenges:

- In the telecom industry, customers are able to choose from multiple service providers and actively switch from one operator to another. In this highly competitive market, the telecommunications industry experiences an average of 15-25% annual churn rate. Given the fact that it costs 5-10 times more to acquire a new customer than to retain an existing one, customer retention has now become even more important than customer acquisition.

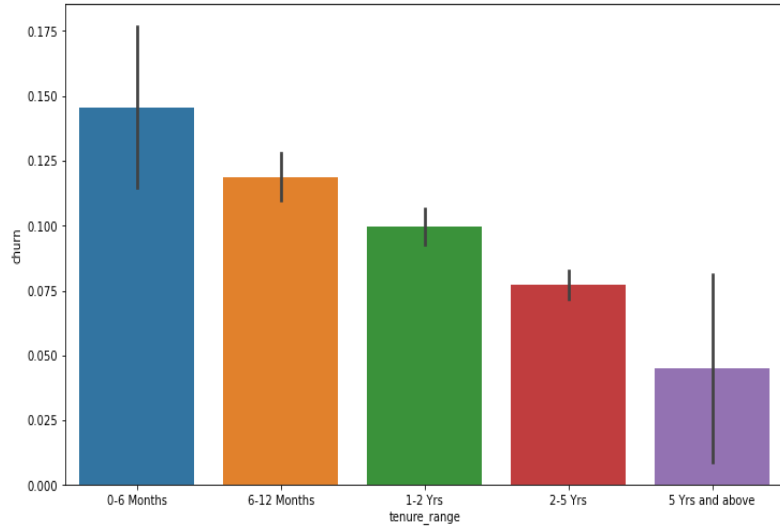
Data Overview

EDA

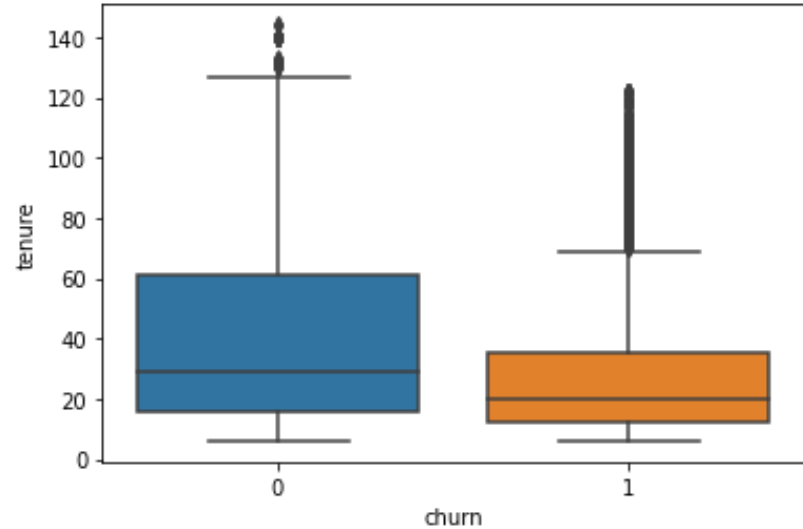


- We have 92% customers belong non-churn and 8% customers belong to Churn type.
 - Dataset contains 99999 no of rows.
 - 226 no of columns.
 - Number of float data type - 179
 - Number of int data type - 35
 - Number of object data type - 12
-
- We are left with 30,001 rows of records and 141 columns are available to explore after data cleaning.

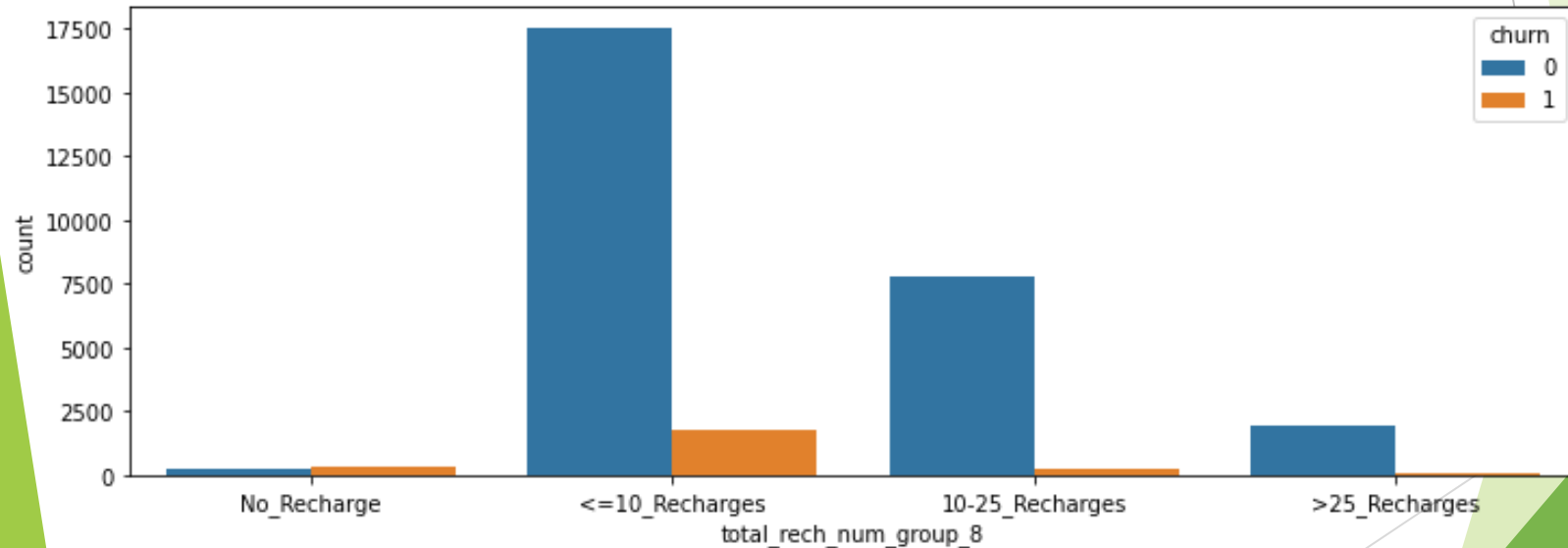
The churn rate is observed to be highest within the first 0-6 months, gradually decreasing as customers retain in the network



The plot indicates that customers with longer tenure tend to exhibit lower churn rates, indicating their sustained engagement with telecom services



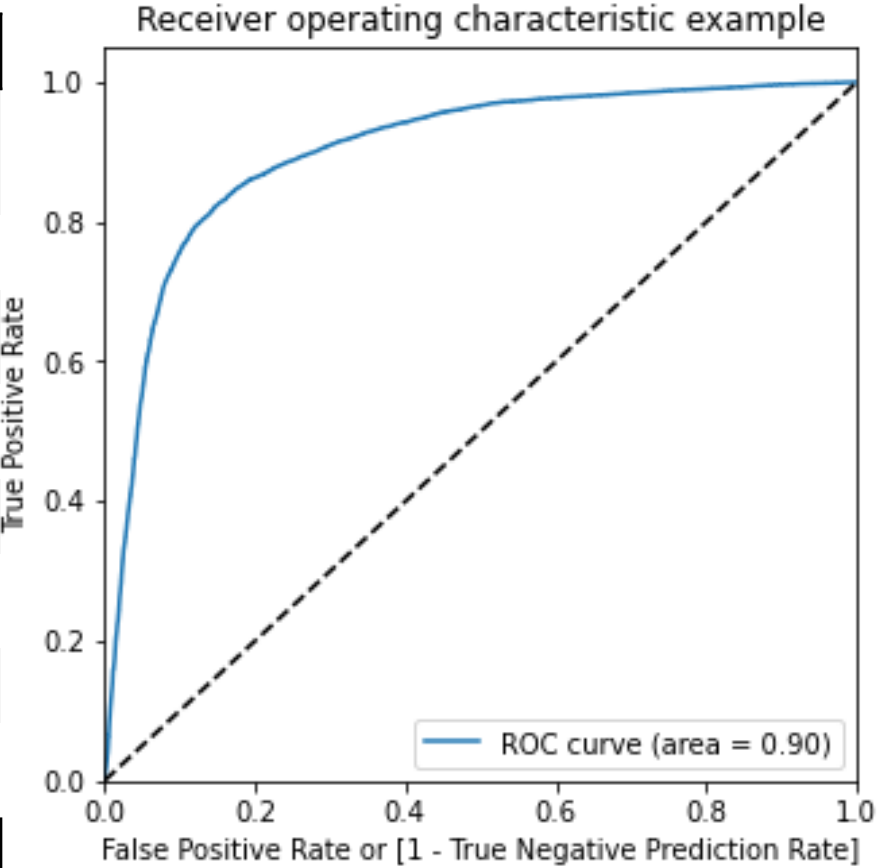
It is observed that as the number of recharge rate increases, the churn rate decreases.

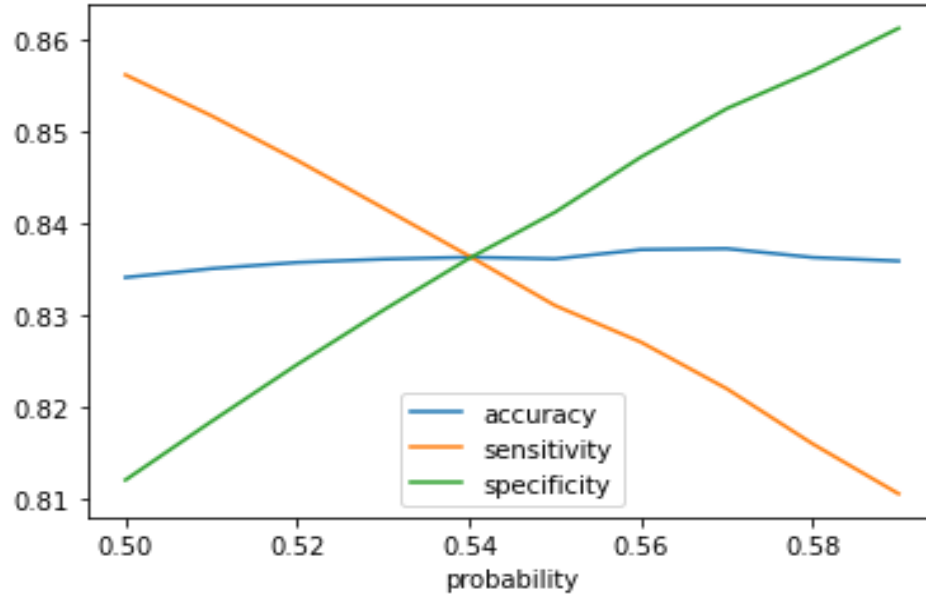


| Model

GENERALIZED LINEAR MODEL REGRESSION

Dep. Variable:	churn	No. Observations:	38576
Model:	GLM	Df Residuals:	38450
Model Family:	Binomial	Df Model:	125
Link Function:	logit	Scale:	1.0000
Method:	IRLS	Log-Likelihood:	nan
Date:	Mon, 01 Mar 2021	Deviance:	nan
Time:	15:17:56	Pearson chi2:	2.47e+14
No. Iterations:	100		
Covariance Type:	nonrobust		

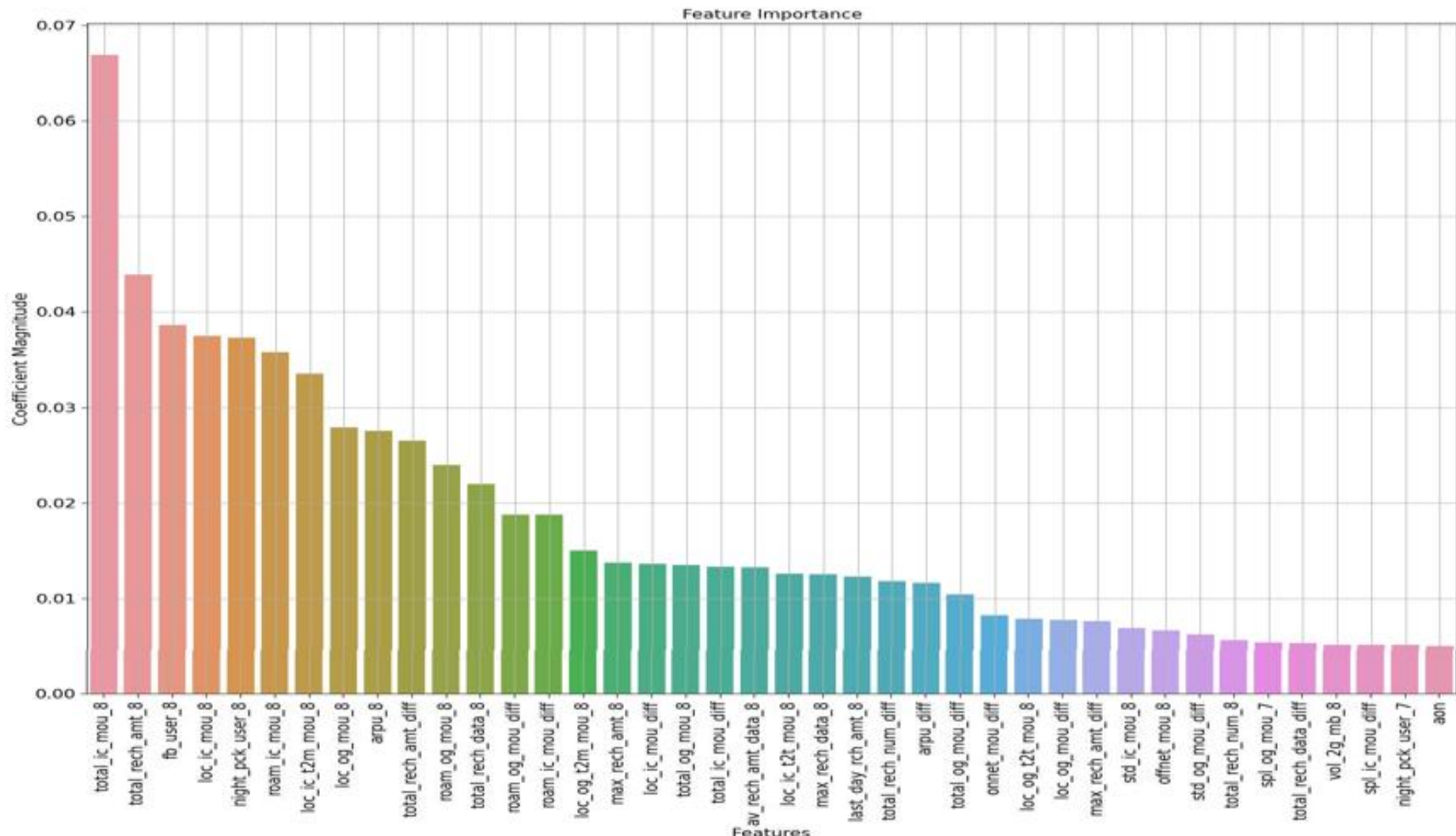




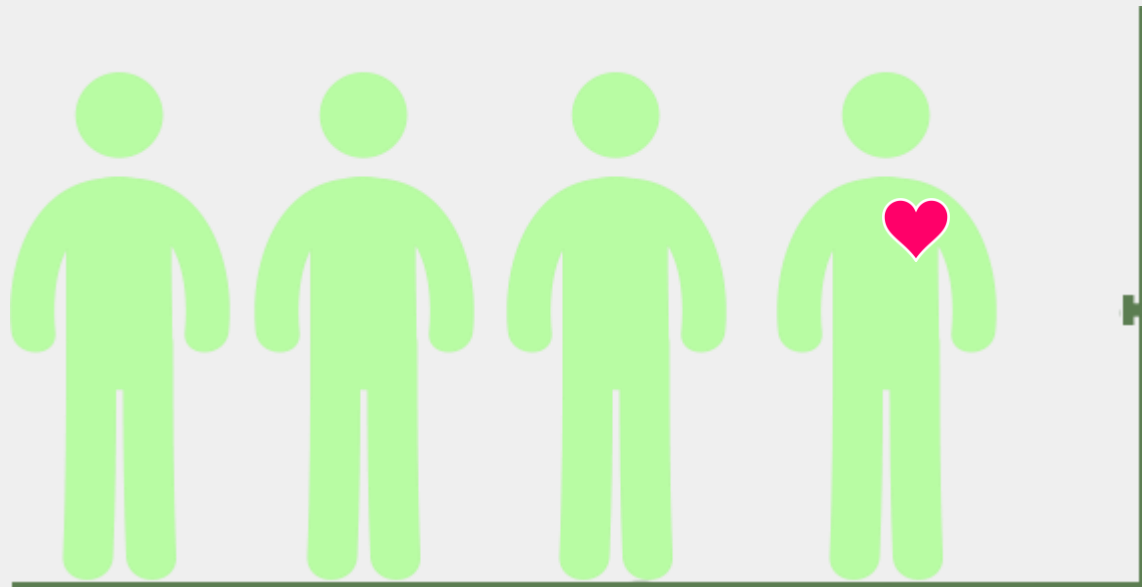
From the above graph we can conclude, the optimal cutoff point in the probability to define the predicted churn variable converges at 0.54

The background of the slide features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, ranging from light lime to dark forest green. These shapes are concentrated on the right side of the slide, creating a modern, layered effect. The left side of the slide is mostly white, providing a clean space for the text.

Implications



- The most important features are as shown in above graph.
- Average revenue per user more, those are likely to churn if they are not happy with the network.
- local calls minutes of usage has also has impact on churn .
- Large difference between recharge amount between 6th and 7th month, also impact churn.
- Users who are using more Roaming in Outgoing and Incoming calls, are likely to churn. Company can focus on them too.



Thank You