# DOMAIN ORIENTED CASE STUDY ON TELECOM CHURN

BY

Sagar Banerjee,

Sagar Bangera

&

Sahil Rohira

# PROBLEM STATEMENT

Customers in the telecom sector can actively switch between operators and choose from a variety of service providers. In this exceptionally cutthroat market, the media communications industry encounters a normal of 15-25% yearly beat rate.

Given the way that it costs 5-10 times more to gain another client than to hold a current one, client maintenance has now become considerably more significant than client procurement.

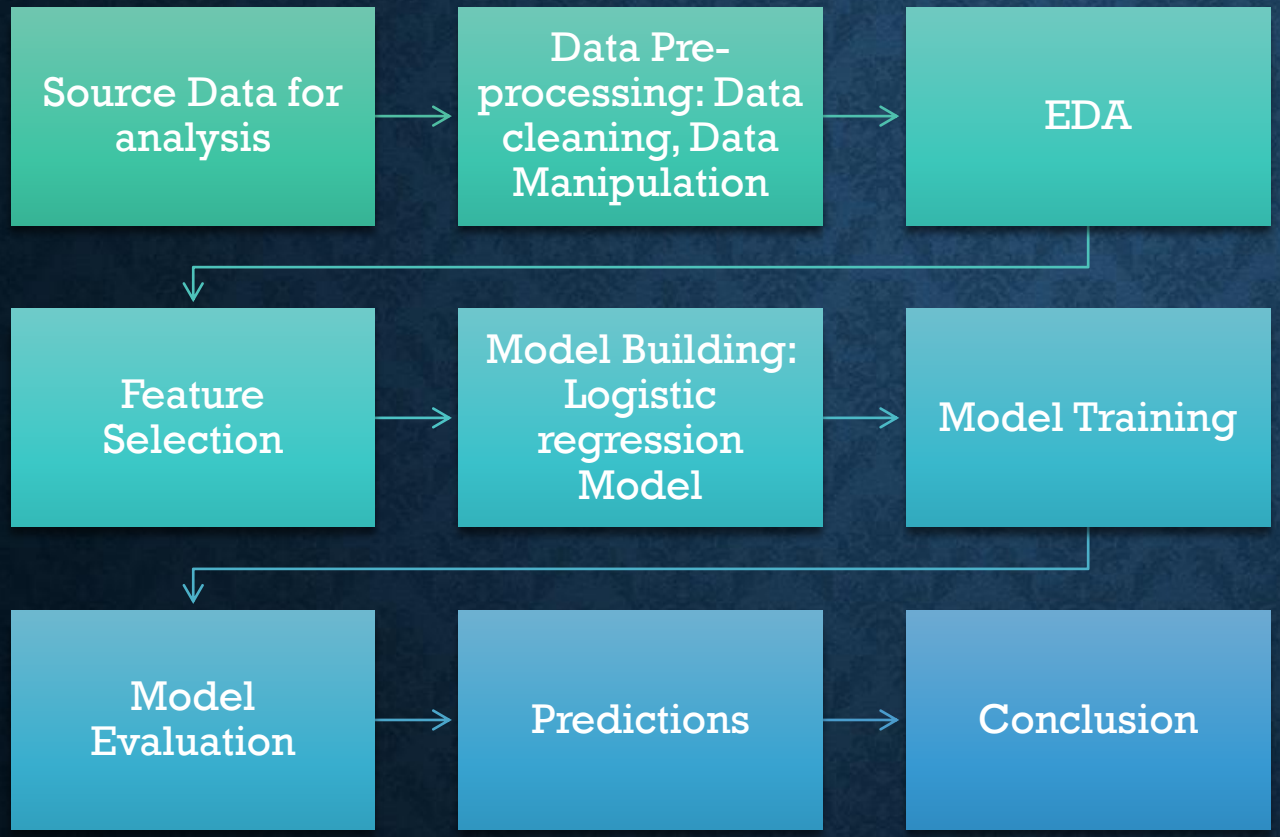
The primary objective of many established businesses is to keep customers who generate high profits. To decrease client, agitate, telecom organizations need to foresee which clients are at high gamble of beat.

Hence, agitate expectation is normally more basic (and non-trifling) for prepaid clients, and the term 'stir' ought to be characterized cautiously. Additionally, postpaid is more prevalent in Europe and North America than prepaid is in India and Southeast Asia.

# BUSINESS OBJECTIVE

The business objective is to foresee the stir of the great worth clients in the ninth month, utilizing the data (features) from the previous three months.

Customers with a high value are those who are in or above the 70th percentile. percentile of the normal re-energize sum in the initial two months (the great stage)



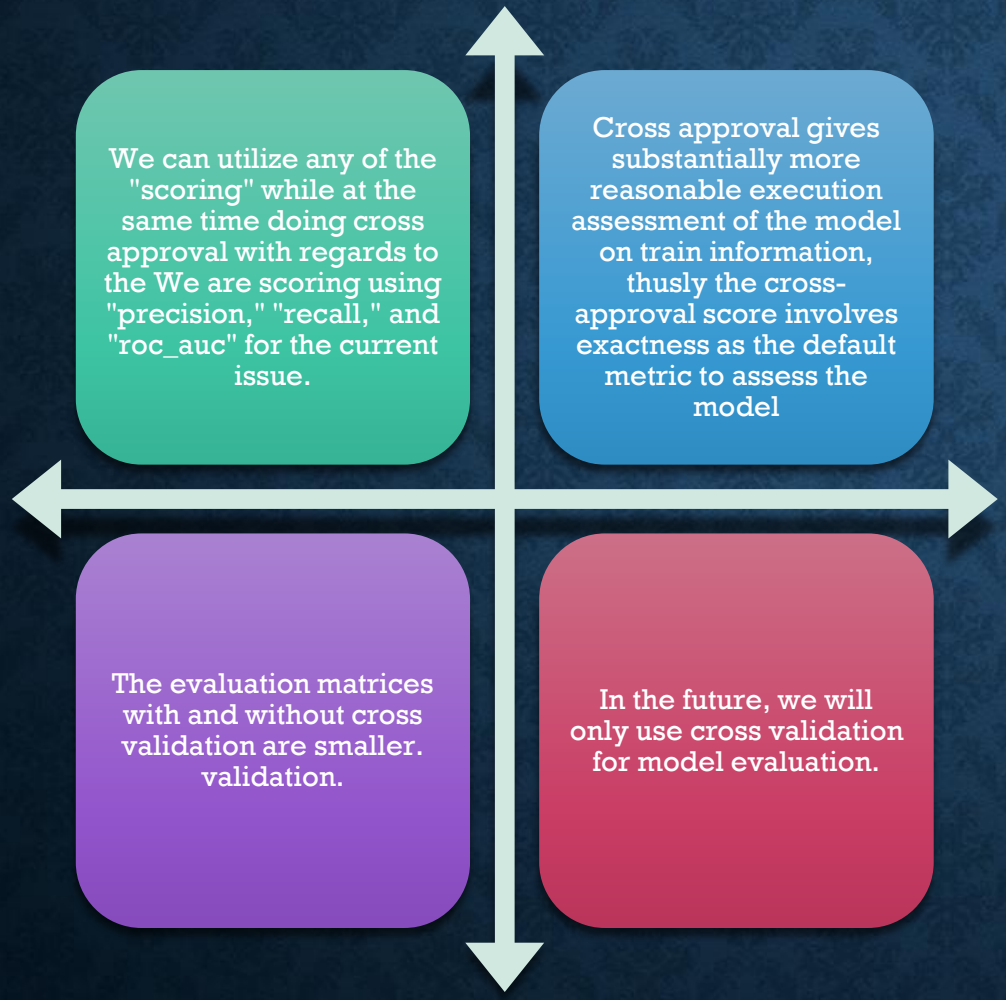

# TECHNIQUES FOR SOLVING PROBLEMS

# MODEL BUILDING

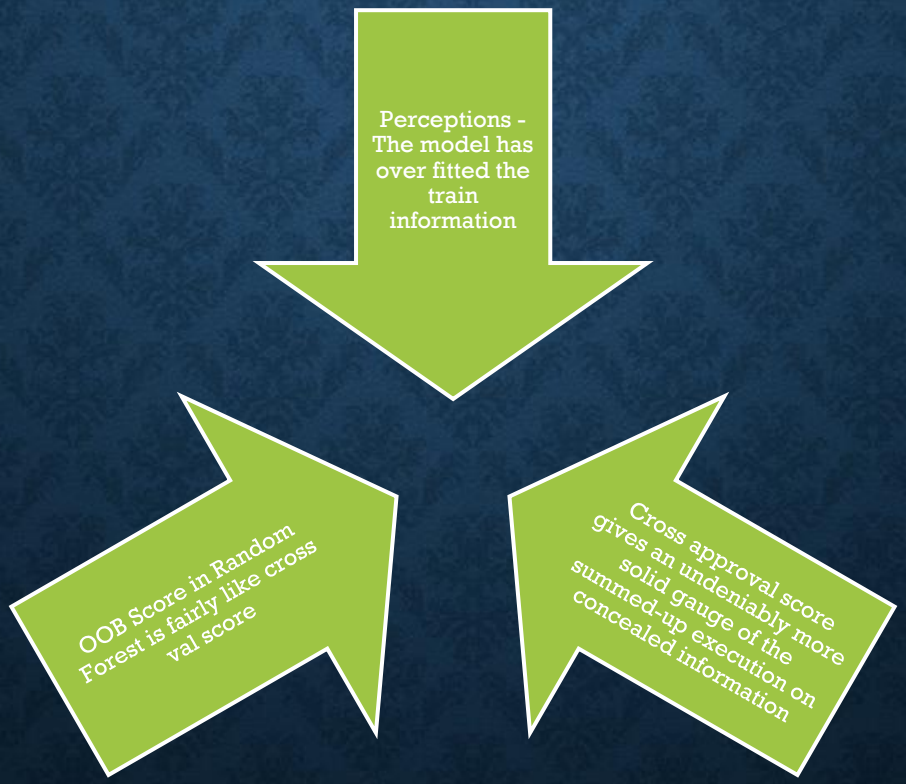
- Base Model - LOGISTIC REGRESSION WITHOUT ANY TUNING

1. For the issue articulation, accuracy and review are the significant measurements.
2. The base model is assessed on train utilizing various measurements.
3. It has an exceptionally low accuracy and review.
4. This is logical because of information lopsidedness.

# MODEL EVALUATION - TRAIN SET USING CROSS VALIDATION



# MODEL EVALUATION ON TRAIN SET



# LOGISTICE REGRESSION MODEL - MANUAL RFE

Ten random estimators were used. Seems as though 10 isn't the ideal assessor and thus the approval result dropped.

We will utilize cross approval highlight choice - rfecv, which is likewise a lot quicker.

This above is a manual cycle and for circle consumes a large chunk of the day in the event that the quantity of elements is high.

We can robotize this and obtain a similar outcome by utilizing rfecv which is likewise a lot quicker.

# RANDOM FOREST HYPER-PARAMETER TUNING USING CROSS VALIDATION

Randomized searchcv is an exceptionally proficient strategy that is utilized to recognize the best set of hyper boundary values in a smaller number of cycles.

This method works very well for big jobs at a lower cost and in less time. informational indexes and models with enormous quantities of hyper boundaries.

Randomized search cv is like matrix search cv yet haphazardly takes tests of boundary blends from all conceivable boundary mixes.

The distinction in execution of the main 20 models are practically the same. 0.94xxx. If we If you want a decent model that takes into account, both the computational power and any model in the rundown. For the ongoing case, we will push forward with the best model.

# MODEL EVALUATION

EVALUATION OF LOGISTIC REGRESSION MODEL:

Observation - The strategic relapse model functioned admirably on train and test information.

EVALUATION OF RANDOM FOREST MODEL

Logistic regression gives a superior review esteem, consequently, at long last thought of model is Logistic regression.

# CONCLUSION

- The roaming costs must be taken into consideration by the telecom company. They need to give great proposals to the clients who are utilizing administrations from a wandering zone.
- The organization needs to zero in on the STD and ISD rates. Maybe, the rates are excessively high. Give them some sort of STD and ISD bundles.
- To investigate both issues expressed above, it is wanted that the telecom organization gathers client inquiry and objection information and work on their administrations as per the necessities of clients. Given our business issue, we require higher recall to keep their customers.
- As giving a proposal to a client not going to stir will cost less when contrasted with losing a client and bring new client, we really want to have high pace of accurately recognizing the genuine up-sides, consequently review.  Give offers to clients who has a stir likelihood of over 10%
- For times while beating is high, organization can target considerably more modest limit for example 8%.