Telecom Customer Churn Analysis

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Summary

1. Customer retention is as crucial as customer acquisition when it comes to increasing revenue.
2. It is much more expensive to sign in a new client than keeping an existing one.
3. It is advantageous for telecom companies to know what leads a client towards the decision to leave the company. Also churn prediction allows companies to develop loyalty programs.
4. Analyze the customer churn rate for bank because it is useful to understand why the customers leave.
5. Predictive behavior modeling i.e. to classify if a customer is going to churn or not.
6. Choose the most reliable model that will attach a probability to the churn to make it easier for customer service to target right customer in order to minimize their efforts to prevent churn.

Recommendation:

1. Using SMOTE we are getting the highest recall score of 87% **BUT the test accuracy is low.** And the high gap between train and test accuracy indicates that model is suffering from **high variance.** we can remedy this by tuning SMOTE a little in further work.
2. I always find it better to display the results in tabular form at the end. PrettyTable is a nice way of creating such tables.

Business Implication:

1. The challenge is reducing the class imbalance while simultaneously getting a high recall score without overfitting. It’s achievable by acquiring a larger dataset and doing a more rigorous hyperparameter tuning for the classifier and SMOTE.
2. Customer retention can be reduced.

THANK YOU