SyriaTel Customer Churn Analysis

Objective:

The objective was to build a classifier to determine if a customer would 'soon' leave SyriaTel and to determine if there were predictable patterns.

Business Understanding:

While many variables influence customer churn rate, the leading causes of churn can be attributed to one of "the big three: "**Average** subscription length, Customer acquisition cost, Customer lifetime value (CLV). SyriaTel is a telecommunications company in Syria. They have been informed that some of their customers have started to churn, discontinue their service. This analysis will determine what features will indicate if a customer will ("soon") discontinue their service.

Questions posed to answer with my classifier:

1. What features are primary determinants of customer churn and to what extent.
2. What are the ways that these findings can be interpreted and how can SyriaTel implement cost effective solutions?
3. Will these solutions be feasible in reducing the customer churn rate by at least 7%?

Building a Classifier:

In order to rank my classifiers, I used ROC as a measure of accuracy.

I moved through multiple models to maximize ROC:

1. Logistic Regression
2. K-Nearest Neighbors
3. Decision Tree
4. Gradient Boost
5. Random Forest
6. XGBoost

Contributors of high churn: Value of one

- High total number of day minutes
- High number of customer service calls
- High number of night minutes
- High number of international minutes

Contributors of Low Customer churn: Value of Zero

- Customers with a voicemail plan
- Customers with higher numbers of voicemails
- High number of international calls

Findings

Within the dataset, it was evident that the SyriaTel business model was to charge customers based on the number of minutes that they used. However, it is evident that within the contributors of high customer churn, all factors lead to higher bills that is deterring the customers from continuing their phone plan.

Recommendation for Syria Tel

1. My recommendation for SyriaTel was to create a flat monthly fee for its users so that they would be more likely to stay with the company. By calculating the average charge per user, I found that it is about $55. For this business model to work for both SyriaTel and their customers, the best solution would be for them to charge a monthly fee to the demographic of customers who are charged $40 or less monthly and a higher tier plan for the users who use their phones more.
2. Cost analysis of customer acquisition and retainment Investigation into how to better assist customers to reduce the need to call customer service.
3. Investigation into retention efforts for international plan holders (currently 42% churn)
4. Investigate potential trends in high churn states Investigate ways to incentive customers with total day chargers over $55 (currently 100% churn).