Problem Statement

Business Problem Overview

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.

Main Goals:

•For many incumbent operators, retaining high profitable customers is the number one business goal.

•To reduce customer churn, telecom companies need to predict which customers are at high risk of churn.

In this project, you will analyse customer-level data of a leading telecom firm, build predictive models to identify customers at high risk of churn and identify the main indicators of churn.

Understanding Customer Behaviour During Churn

Customers usually do not decide to switch to another competitor instantly, but rather over a period of time (this is especially applicable to high-value customers). In churn prediction, we assume that there are three phases of customer lifecycle :

The ‘good’ phase: In this phase, the customer is happy with the service and behaves as usual.

The ‘action’ phase: The customer experience starts to sore in this phase, for e.g. he/she gets a compelling offer from a competitor, faces unjust charges, becomes unhappy with service quality etc. In this phase, the customer usually shows different behaviour than the ‘good’ months. Also, it is crucial to identify high-churn-risk customers in this phase, since some corrective actions can be taken at this point (such as matching the competitor’s offer/improving the service quality etc.)

The ‘churn’ phase: In this phase, the customer is said to have churned. You define churn based on this phase. Also, it is important to note that at the time of prediction (i.e. the action months), this data is not available to you for prediction. Thus, after tagging churn as 1/0 based on this phase, you discard all data corresponding to this phase.

In this case, since you are working over a four-month window, the first two months are the ‘good’ phase, the third month is the ‘action’ phase, while the fourth month is the ‘churn’ phase.

Main indicator of churn

From analysis it is clear that the factors affecting the churn are total_ic_mou_8 (Total incoming call: Minutes of usage in the action phase), total_rech_amt_diff (Total recharge amount difference), total_og_mou_8 (Total outgoing call: Minutes of usage in the action phase), arpu (Average revenue per user), roam_ic_mou_8 (Roaming incoming call: Minutes of usage in the action phase), roam_og_mou_8 (Roaming outgoing call: Minutes of usage in the action phase), std_ic_mou_8(STD incoming call: Minutes of usage in the action phase), std_og_mou_8 (STD outgoing call: Minutes of usage in the action phase), av_rech_amt_data_8(average recharge amount in the action phase).

Steps to help reduce churn

- Give special; discounts to customers according to their usage
- Provide additional internet services on recharge.
- Speak to customers to fulfil their desires.
- Lower tariffs on data usage,a better 2G area coverage where 3G is not available.
- Expansion of 3G network where 3G is currently not available.