Customer retention strategy building using Predictive modeling

**Case Study: Fiber bits**

**Business Objective:**

“Fiber Bits” is an internet service provider company. They are in the market from last 10 years. They lost almost 42% of their customers in last 3 years. Some new customers joined during the same time period. But, the company is concerned about the high attrition rate in the customer base. They want to get an idea on what are the main factors that lead to customer attrition.  To reduce the attrition rate, they have introduced vouchers and other benefits program. The objective is to identify the customers who are most likely to quit in next 2 years and try to retain them by offering free vouchers and benefits.

**Problem Statement and Scope of Model**

The company has collected around 10000 customer historical data from last three years. We need to build a model that identifies the customers who are most likely to leave. We need to quantify the chance of attrition for each of the customer. The model will be used on the active customers. The free vouchers and benefits will be given to customers with higher probability to attrite in next three years. For example below are two customers, who is most likely to leave. Which customer should we try to retain by sending free vouchers

|  |  |  |
| --- | --- | --- |
| Customer | Cust1 | Cust2 |
| Income | 2586 | 1581 |
| months\_on\_network | 75 | 35 |
| Num\_complaints | 4 | 3 |
| number\_plan\_changes | 1 | 2 |
| Relocated | 1 | 0 |
| monthly\_bill | 121 | 133 |
| technical\_issues\_per\_month | 4 | 1 |
| Speed\_test\_result | 85% | 95% |

**Data:**

The data consists of nearly 10,000 customers. Below are the list of variables and their descriptions.

|  |  |
| --- | --- |
| Variable name | Description |
| active\_cust | The Dependent variable  Active-1  (Customer Attrition=No)  Not Active – 0 (Customer Attrition=Yes) |
| Income | Estimated monthly income |
| months\_on\_network | Months on network (Months from the service start day)) |
| Num\_complaints | Total complaints till now |
| number\_plan\_changes | Number of times the service plan is changed |
| Relocated | 1- Relocated  0 – Not relocated |
| monthly\_bill | Average monthly bill |
| technical\_issues\_per\_month | Technical issues per month |
| Speed\_test\_result | Percent of (Actual speed/Promised speed) |

**Analysis Steps**

         Data validation

         Data cleaning

         Identification of analysis technique

         Building predictive model

         Removing multicolliniarity

         Final model

         Calculating probabilities for cust-1 & cust-2

         Final observations and inferences

         Documentation of the approach, codes and results