July, 2020

TELECOM CUSTOMER CHURN BEHAVIOR

Know about how relative factors affect your customers' behaviors

Nowadays, telecom industry faces fierce competition in satisfying its customers. The role of churn prediction system is not only restricted to accurately predict the risk of customer churn but also to interpret customer churn behavior.

Demographic Characteristics

Factors related to customers' own conditions. For example, in this case study, the data we use have following variables tell about customers' demographic information like income group, credit rating, occupation, marital status, prizm code, etc

Telecom Behavior

These kind of factors are related to customers' telecom behaviors. Like how many minutes the customers use monthly; how long do the customer join this telecom service. In addition, buys via mail order and respond to mail offer are examples to show how customers use their handsets. We all include such factors into this type.

Company Service

These factors show how the telecom company perform. Variables like blocked calls, customer care calls both show how the company serve their customers. These factors will definitely influence customers' attitude to the service and further affect customer churn. Also, factor like service area is another example in this type.

Our Goals:
We will help company to know

WHAT ARE YOUR CUSTOMERS' WHEREABOUTS: LEAVE OR KEEP?

Customer churn model will help the companies to predict the risk of customers' leaving which will help them have an estimated customer volume for future.
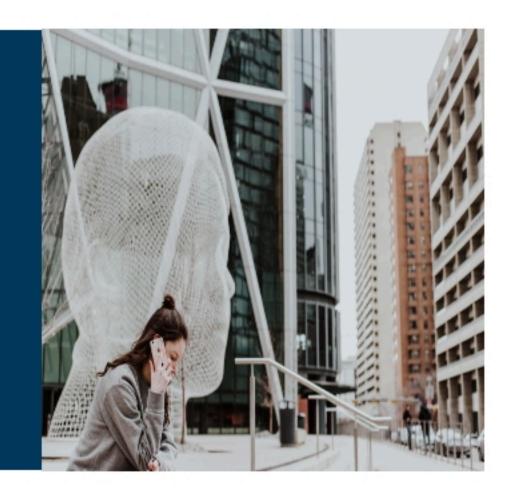
IF CUSTOMERS LEAVE: KNOW THE COMPANIES' REVENUE LOSS

When the customers leave, they will cause revenue loss. Companies can get an estimated number from the customer churn model. This estimated amount will help them to adjust their future budget for companies' development

WHAT IS YOUR TARGET CUSTOMER GROUP: CUSTOMER SEGMENTATION

Divide the customers into different groups to get the customer segmentation and get the measurement the companies want to find their target group

Customer Churn

After several experiments on machine learning models' parameter tuning, we finally get the best performed prediction model whose predicted accuracy is 1.5% higher than general models.

This customer churn predicting model will help the telecom companies in several aspects. The first function is that customer churn label will help companies to predict their revenue loss and help them to set more accurate budgets for next month.

The second one is that companies could set up improved strategy for leaving group after knowing about which customer will have a high risk to leave. If companies gradually improved the part they do not perform well, they will increase their business volume in a long-term.

Overall, good predicting models will help the companies to research the common features of leaving group and take precautions.

Our Results

254,805 dollars $

Predicted Revenue Loss

3,712 users

These customers will leave

18.6%

Nearly one fifth of the customers will leave in the next month

Customer Segmentation: Find your target customer group

For customer segmentation, we want to divide the total customers into different group and apply detailed analysis on different group or to see the factors performances. The factors could be the one which companies are interested most.

We divided the customers based on similar characteristics. Then for each factor in the database, we plot the distribution for different groups. For the three main factor types, there are features in each type which will show great difference among three customer groups. These kind of factors would be helpful when companies want to set certain business strategy for certain group.

Here we will introduce some factors briefly.

For demographic characteristics, whether the user is homemaker or not will be an important influence on telecom service use. Companies could do surveys on homemakers and non-homemakers to see which kind of group have a high risk to leave. Another influential demographic feature is adjustments to credit rating.

If we see the distribution depended on customers' telecom behaviors, we will find that the duration of having current equipment and retention offers accepted or not are two important factors to separate customers. If companies want to enlarge the business volume, they can start to analyze data from these two aspects.

Finally, we focused on telecom companies' service factors. Actually, this type of features are the most important ones, because these can be improved by companies themselves. From our visualization, number of blocked calls and customer care calls matter more. Telecom companies need to pay more attention on them!