

Telecom Industry Analysis To predict whether the customer will stay or not

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Abstract

Customer attrition, also known as customer churn, customer turnover, or customer defection, is the loss of clients or customers.

Telephone service companies, Internet service providers, pay TV companies, insurance firms, and alarm monitoring services, often use customer attrition analysis and customer attrition rates as one of their key business metrics because the cost of retaining an existing customer is far less than acquiring a new one. Companies from these sectors often have customer service branches which attempt to win back defecting clients, because recovered long-term customers can be worth much more to a company than newly recruited clients.

Predictive analytics use churn prediction models that predict customer churn by assessing their propensity of risk to churn. Since these models generate a small prioritized list of potential defectors, they are effective at focusing customer retention marketing programs on the subset of the customer base who are most vulnerable to churn.

In this project I aim to perform customer survival analysis and build a model which can predict customer churn.

1.Problem statement

Dataset: https://github.com/Aditi-Verma-1709/Customer-Churn-Project/blob/main/customer_churn.csv

This problem statement, applied to Telecommunication analysis, gives data on gender, Senior Citizenship, Dependents, Tenure, Phone Service, Multiple Lines, Internet Service, Online Security, Online Backup, Device Protection, Tech Support, Streaming TV, Streaming Movies, Contract, paperless Billing, Payment Method, Monthly Charges, Total Charges and churn. It was required for a telecom industry to predict whether a customer will stay or not .

2.Business Needs Assessment

When Jio came up in Indian market with its facilities of free services and a 500 rupee mobile phone, Reliance industries took over most of the telecommunication market. It is therefore important for telecom services to have a predictive algorithm for them so that they could prevent themselves from such a steep decline in their businesses. Also, it allows telecom companies to allocate their resources effectively.

3.Target Specification

The proposed system will provide the telecom companies so that their sales may boost up and suggest them with the population to target to provide some extra discounted services to make their customers stay.

4.External Search

The sources that have been used to understand customer's behaviour in telecom industry are:

Customer gauge- <https://customergauge.com/blog/reducing-customer-churn-in-telecommunications>

Doxee- <https://www.doxee.com/blog/customer-experience/importance-of-customer-service-in-the-telecommunication-industry/>

Constraints: The operating data from only one telecom operator are taken into account in the research; that is to say, the selection of data is limited to some extent, so the future research may consider cross-platform data to improve the comprehensiveness and externality of research

5.Business Opportunity

Retaining old customers is less expensive than acquiring new ones. This model can help in that.

6.Conclusion

The phenomenon of customer churn in the telecommunications industry is inevitable due to several reasons. The most confusing thing about customer churn is that it is difficult to control. The reasons for customer churn are complex, some are obvious, and some are not obvious. However, operators in the telecommunications industry should be aware that customer loss will happen sooner or later, and they must take precautions and respond in advance. For telecom operators, solving the problem of customer churn has become the key to their survival.

All industries face the problem of customer churn, but customer churn in different industries differs according to industry characteristics. Although the problem of

customer churn in the telecommunications industry is not unique and the experience and lessons of customer management can be learned from other industries, the telecommunication industry has its own distinctive features compared to the retail and financial industries. The telecommunications industry is a product of technology. Due to changes in technology, the high-tech telecommunications industry will face the persistent problem of customer loss for a long time. Therefore, the telecommunications industry is actually an industry based on customer churn. It can be considered that customer churn is the blood that maintains the vitality of this industry and is also the key to the sustainable and healthy development of the industry.

7.Code Implementation on small scale

GitHub link: <https://github.com/Aditi-Verma-1709/Customer-Churn-Project/blob/main/Random%20Forest.ipynb>