

CUSTOMER CHURN PREDICTION

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PROJECT OVERVIEW

The goal of this project is to build a classifier to predict whether a customer will soon stop using SyriaTel services . By leveraging data analysis techniques and modelling to provide valuable insights to stakeholders and management. We will use SyriaTel Cstomer Churn from kaggle.

Business Understanding

Syria Tel Company a telecommunication company wants to know the risk of customer churn. This project aims to utilize most significant predictors and create machine learning models to help in predicting whether a customer is likely to stop using SyriaTel services.

PROBLEM STATEMENT

There are so many factors that may lead to customer churn. Conducting data analysis may provide key insights to management of SyriaTel Company to help them in making informed decisions..

Objectives

- To develop a predictive model to predict customer churn .
- To identify key factors that influence customer churn.
- To analyze the performance of the model using various classification metrics.
- To provide actionable recommendation to SyriaTel management so that they can improve on profitability.

Methodology and Techniques

The research used an iterative model to visualize the features affecting the churn of customers. It also used iterative machine learning models to predict customer churn.

Data Understanding

Our dataset contains 21 columns and 3333 rows . We have 20 predictors and one target

- State: The state where the customer is located.
- Account Length: The number of days the customer has been with Syria Tel.
- Area Code: The code associated with the customer's phone number.
- Phone Number: The customer's phone number.
- International Plan: Whether the customer has an international calling plan (binary variable, yes/no)
- Number Vmail Messages: The number of voice mail messages received by the customer.
- Total Day minutes: The total number of minutes the customer spent on daytime calls.
- Total Day Calls: The total number of calls made by the customer during the day.
- Total Day Charge: The total charge for daytime calls.

- Voice Mail Plan: Whether the customer has a voice mail plan (binary variable, yes/no)
- Total Eve Calls: The total number of calls made by the customer during the evening.
- Total Eve Charge: The total charge for evening calls.
- Total Night Minutes: The total number of minutes the customer spent on nighttime calls.
- Total Night Calls: The total number of calls made by the customer during the night.
- Total Night Charge: The total charge for nighttime calls.
- Total Intl Minutes: The total number of international minutes used by the customer.
- Total Intl Calls: The total number of international calls made by the customer.
- Total Intl Charge: The total charge for international calls.
- Customer Service Calls: The number of calls made by the customer to customer service.

Conclusion

This analysis suggests that some predictors are strong predictors of customer churn.

They include Customer service calls ,international plan and total charges. They suggest that customers with international plan ,high total charges and more customer service calls are at a high risk of churn.

Recommendations

- Develop pricing strategies to handle charges associated with telecommunication products and services.
- Conduct a detailed analysis of the telecommunication's operations in states like Texas and Maryland, where higher churn rates have been observed.
- Implement a feedback mechanism to collect insights from customers who frequently reach out to customer service.
- Enhance self-service options to deliver clear and comprehensive information, minimizing the need for customer service contact.



Thank you

