PRESENTATION

SYRIATEL CUSTOMER CHURN

INTRODUCTION

As simply put, refers to the number of customers who want to leave or stop subscribing to SyriaTel telecommunications company. This has forced the company to look for ways how they will reduce their losses and spending on clients who don't want to stick around for very long by looking at the data the comapny has on all their clients.

BUSINESS PROBLEM

A telecommunications company based in the United States is seeking to reduce its customer attrition rate, which currently stands at 15%. This high churn rate is driving up marketing expenses as the company must continually acquire new customers. Presently, the company employs a random approach to offer discounts or incentives to certain customers without prior knowledge of their intent to leave or stay. Their objective is to proactively detect customers likely to churn and employ strategies to retain them, while avoiding unnecessary spending on customers who have no intention of leaving

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OBJECTIVES

Goal # 1

What are the primary customer characteristics that can effectively predict customer churn?

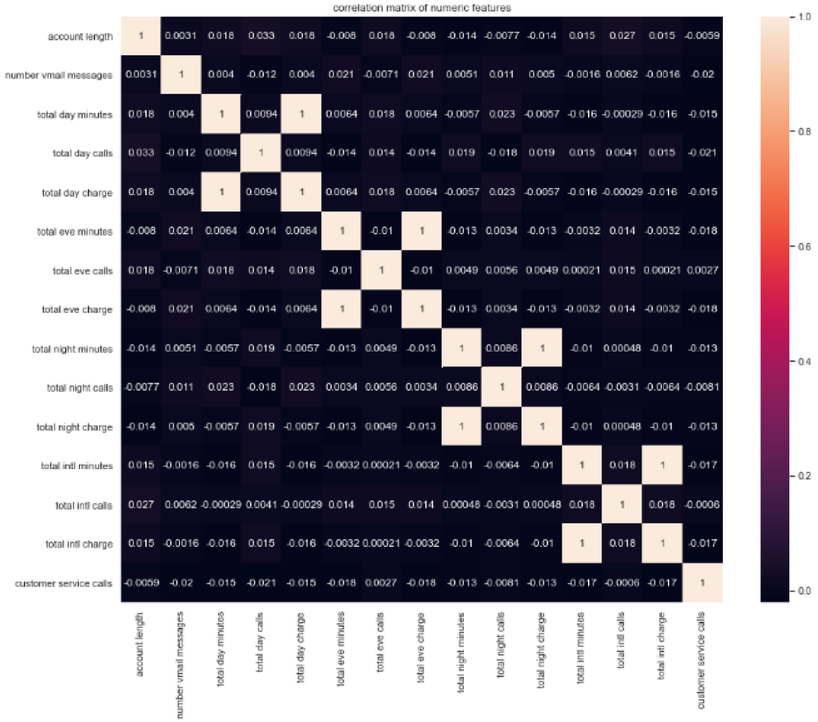
Goal # 2

Can we accurately identify customers who are on the verge of leaving using the correct model?

Goal # 3

Is it possible to minimize the allocation of discounts or incentives to customers who have no intention of churning?

OBJECTIVE 1



This effectively shows the correlation of the various variables and how they relate to one another .

-We ca see a high correlation between voice mail and voice message meaning if the customer doesnt answer it goes to voice mail.

-Correlation between the total day/eve/night/intl charge and total day/eve/night/intl minutes we can assume they charge per call time

OBJECTIVE 2

```
acc train: 100.0
acc test: 95.1
              precision    recall  f1-score   support

           0       0.97      0.97      0.97       862
           1       0.83      0.81      0.82       138

    accuracy                           0.95      1000
   macro avg       0.90      0.89      0.90      1000
weighted avg       0.95      0.95      0.95      1000
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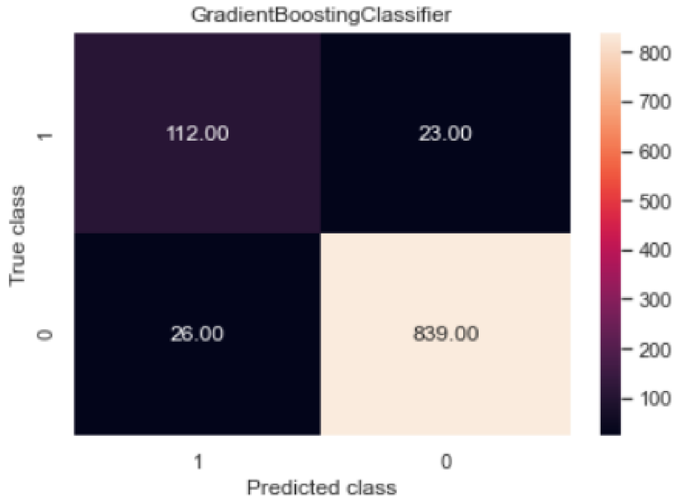
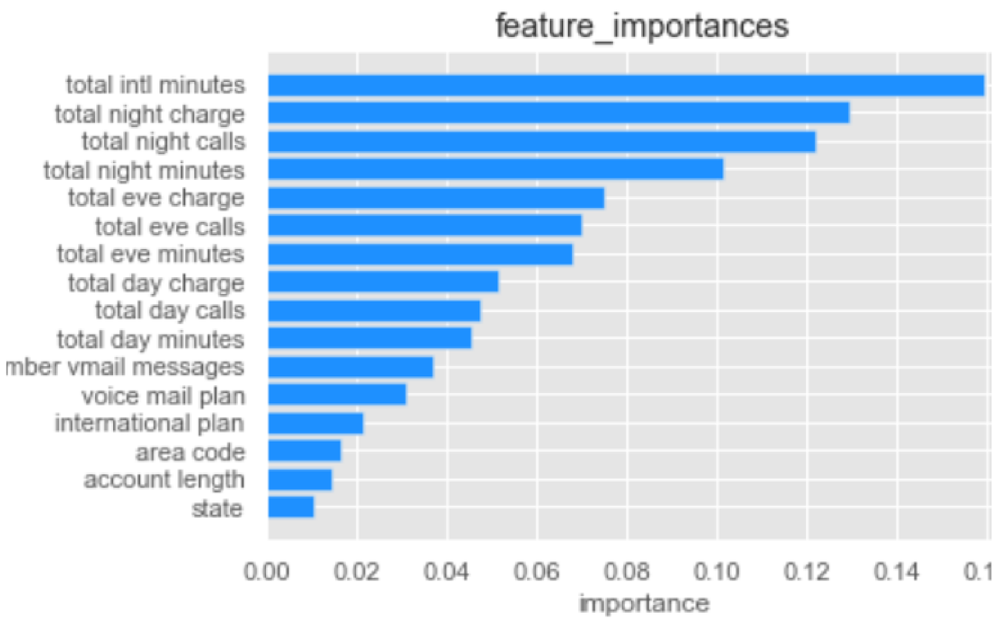


This model had the highest recall score which is why I'm taking this as my final model. The GradientBoostingClassifier model has performed well in predicting customer churn. The precision score for class 1 (churn) is 0.88, which means that when the model predicts a customer will churn, it is correct 88% of the time. The recall score for class 1 is 0.82, which means that the model correctly identifies 82% of all customers who actually churn. The F1-score for class 1 is 0.85, which is a harmonic mean of precision and recall and indicates the overall performance of the model for class 1. Additionally, the macro-average F1-score is 0.91, which means that the model performs well in both classes. The accuracy of the model on the test set is 0.96, which means that the model correctly predicts 96% of all customers' churn status

OBJECTIVE 3



The top three factors influencing the prediction of customer churn are total intl minutes, total night charge and total night calls. This implies that customer with total intl minutes and total night charge are more inclined to churn. Additionally, customers who make night calls are also at a greater risk of churnin

RECOMMENDATIONS

1

Utilize the "customer service calls" variable to identify customers who frequently contact customer service. Implement a proactive approach to address their concerns and provide solutions to their issues, which may help improve their satisfaction and reduce the likelihood of churn.

2

Monitor "total day minutes," "total eve minutes," "total night minutes," and "total intl minutes" to identify customers who experience irregular call quality or service interruptions. Focus on improving the network performance and call quality in areas where customers are most affected.

3

Analyze the "international plan" and "voice mail plan" variables to understand customer preferences and behavior. Tailor retention offers and promotions based on individual customer needs and usage patterns, such as offering discounted international plans to customers who make frequent international calls.

4

Implement post-interaction customer surveys or feedback mechanisms, especially for customers with high "customer service calls" or those who have recently contacted customer support. Gather insights into their experiences and satisfaction levels, and use this feedback to make necessary improvements to your services and customer support processes.