PREDICTING WHETHER A CUSTOMER WILL CHURN SYRIATEL.

A TELECOMMUNICATIONS COMPANY

BUSINESS UNDERSTANDING

Serving millions of customers across the country, it has played a significant role in:

- expanding and modernizing telecommunications infrastructure
- contributing to the country's connectivity and economic development.

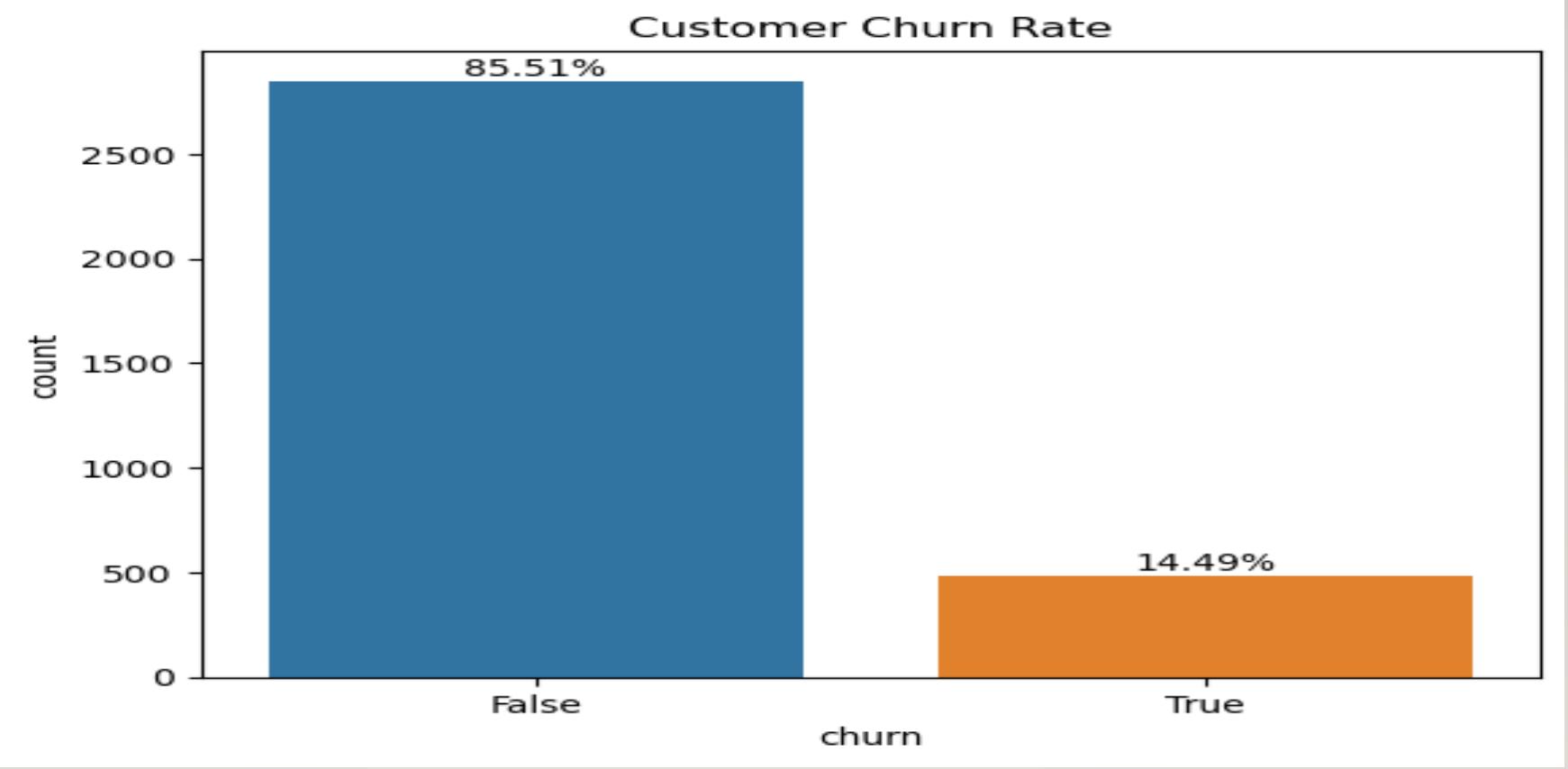
CONT.

- The field faces complex challenges due to a number of vibrant competitive service providers, becoming difficult to retain existing customers.
- The cost of acquiring new customers is much higher than that of retaining the existing customers

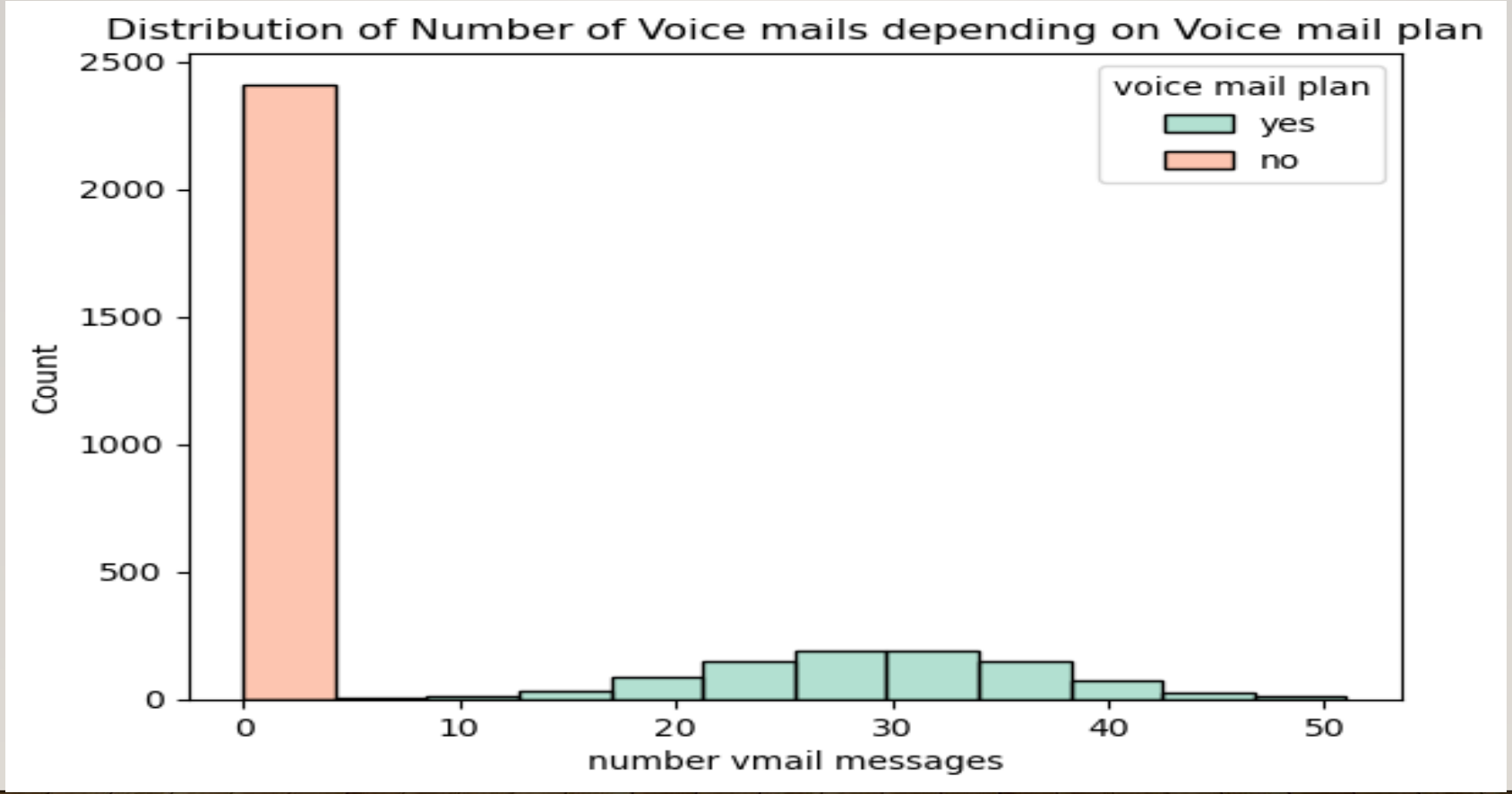
DATA UNDERSTANDING

- 483 disloyal customers have churned the services.
- There are 51 unique states represented.
- The churn rate was observed to be at 14.49%.

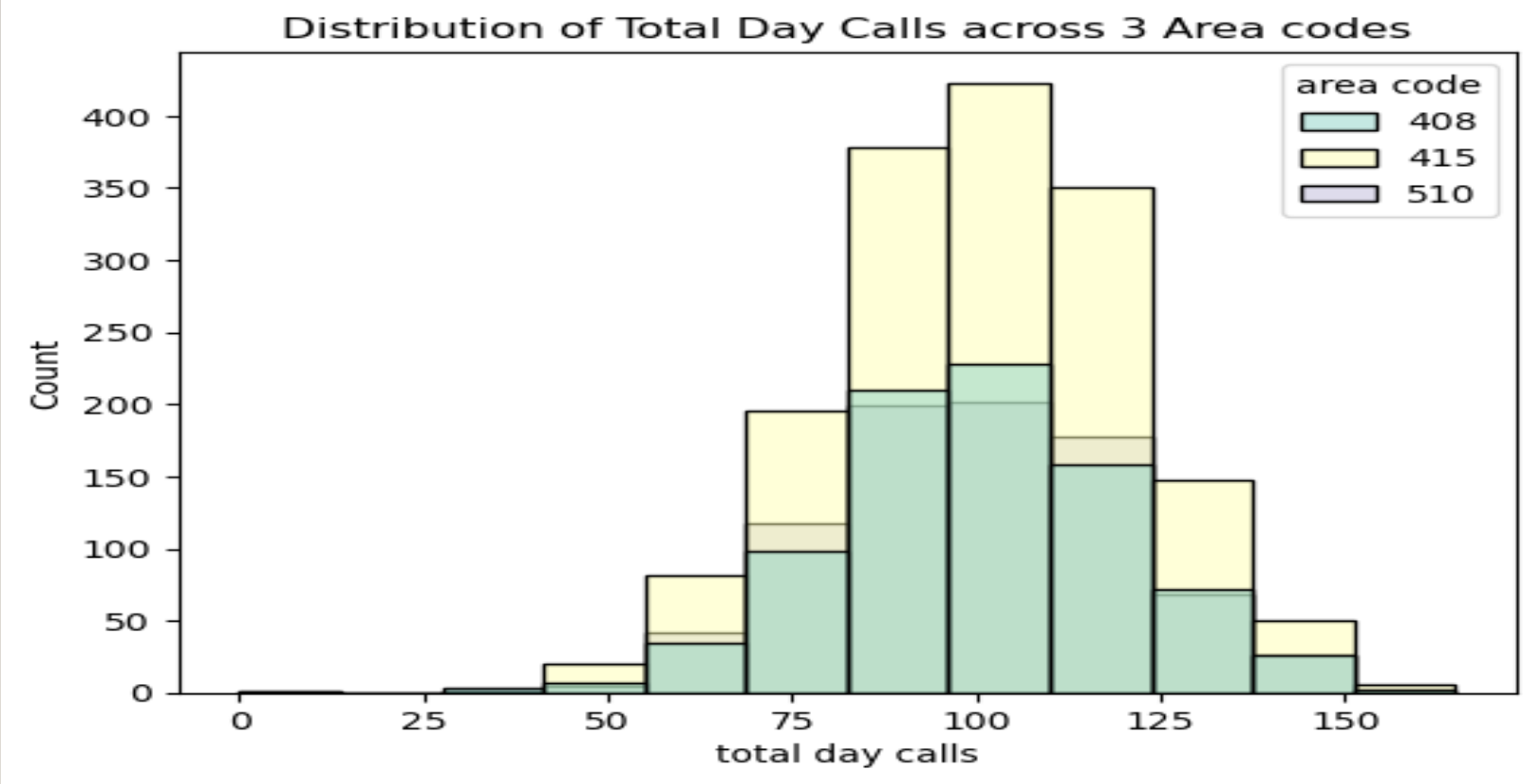
CONT.


Customer Churn Rate
85.51%
14.49%
2500
2000
1500
1000
500
0
count
False
True
churn

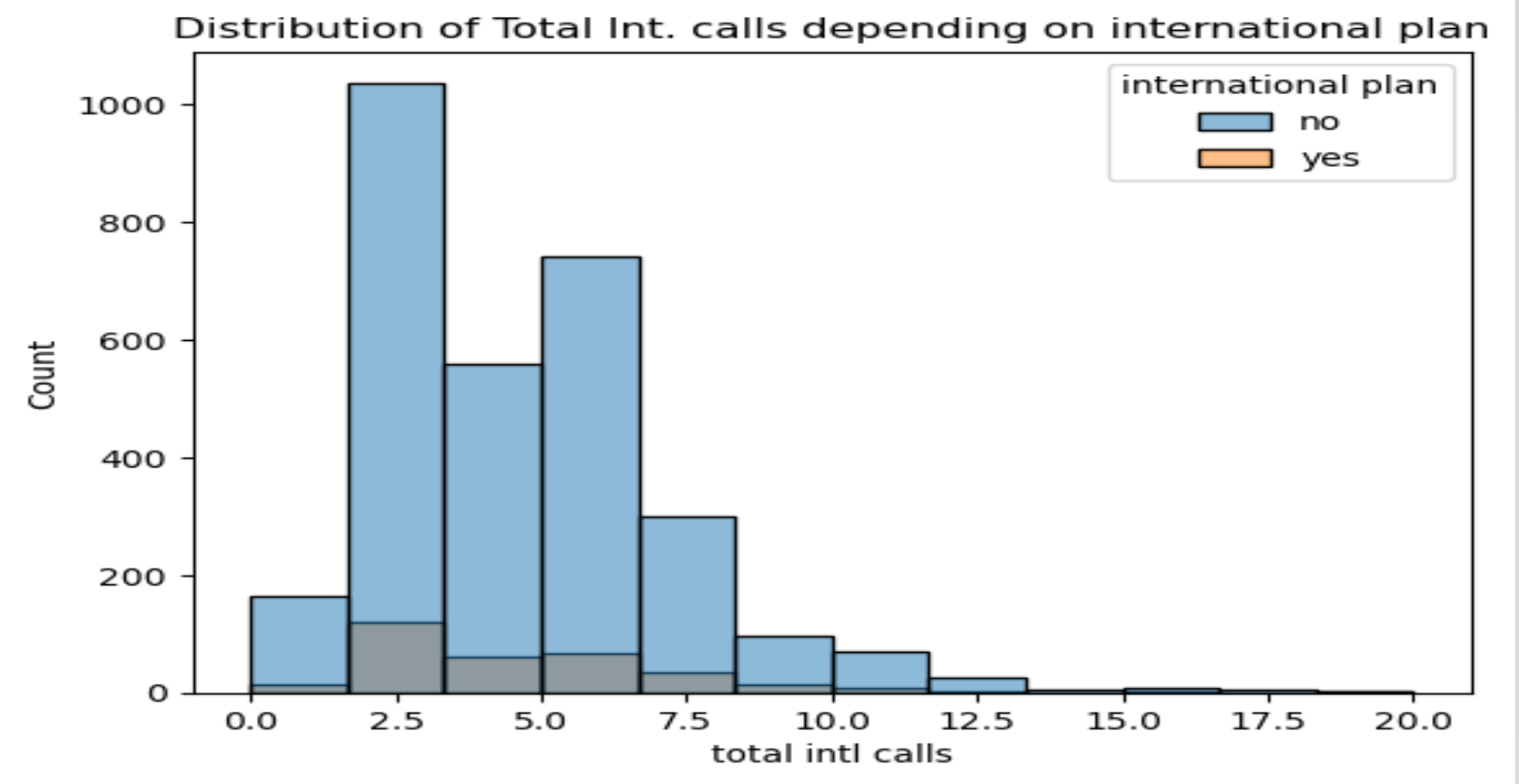
CONT.


Distribution of Number of Voice mails depending on Voice mail plan
voice mail plan
yes
no
Count
2500
2000
1500
1000
500
0
0
10
20
30
40
50
number vmail messages

CONT.


Distribution of Total Day Calls across 3 Area codes
area code
408
415
510
Count
400
350
300
250
200
150
100
50
0
0
25
50
75
100
125
150
total day calls

CONT.


Distribution of Total Int. calls depending on international plan
international plan
no
yes
Count
1000
800
600
400
200
0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
total intl calls

MODELLING

- The first model, Logistic regression, which was the baseline model gave an accuracy of 85%.
- The second model, Logistic Regression but with additional hyperparameters, gave an accuracy of 86% .

CONT.

XGBoost

- Training accuracy : 95.34%
- Test accuracy : 95.35%

Gradient Boosting

- Training accuracy : 95.42%
- Test accuracy : 95.05%

MODEL EVALUATION

- Based on the metrics, Gradient Boosting and XGBoost not only performed well on training data but also generalized effectively to unseen test data.
- Deploying Gradient Boosting and XGBoost models for their churn prediction system would be the most effective strategy.

RECOMMENDATIONS

- By leveraging the high-performing models, SyriaTel can gain valuable insights into customer behavior and implement targeted retention strategies to reduce churn.
- Continuous monitoring, model updates and integration with CRM systems will enhance the effectiveness of these efforts, contributing to increased customer retention and growth.

NEXT STEPS

SyriaTel can implement the following customer retention strategies:

1. Proactive Customer Support
2. Personalized Offers and Discounts to enhance their satisfaction and loyalty.
3. Improved Service Plans.

THANK YOU!