

# CUSTOMER CHURN



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# INTRODUCTION

Customer satisfaction is one of the key contributing factors of whether a company will thrive or not.

In the telecommunication industry customer retention is key is ensuring the business has continuity.

**“A satisfied customer is the best business strategy of all.”**

**– Michael LeBoeuf**



# PROBLEM STATEMENT

Dissatisfied customers are most likely to discontinue their call subscriptions. Terrible customer service can also make customers churn.

This leads to loss in the company by trying to attract new customers all the time. Being able to cater to the needs of the old customers and retaining them will aid in improving their services

# MAIN OBJECTIVE

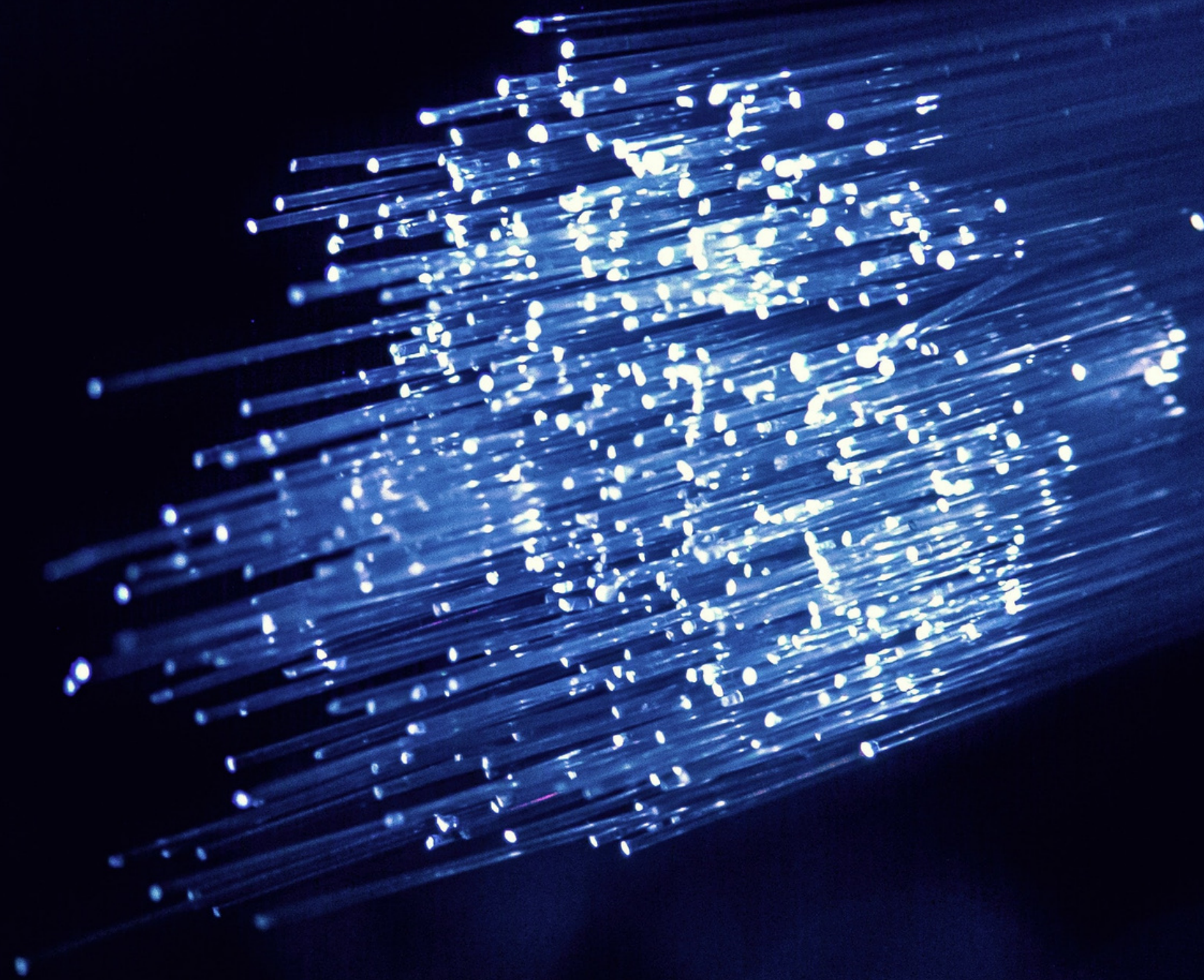
Build a classifier model to predict whether a customer will ("soon") stop doing business with SyriaTel.

## Specific Objectives

- To determine which features determine if a customer will churn
- To increase the recall score to minimize false negatives.

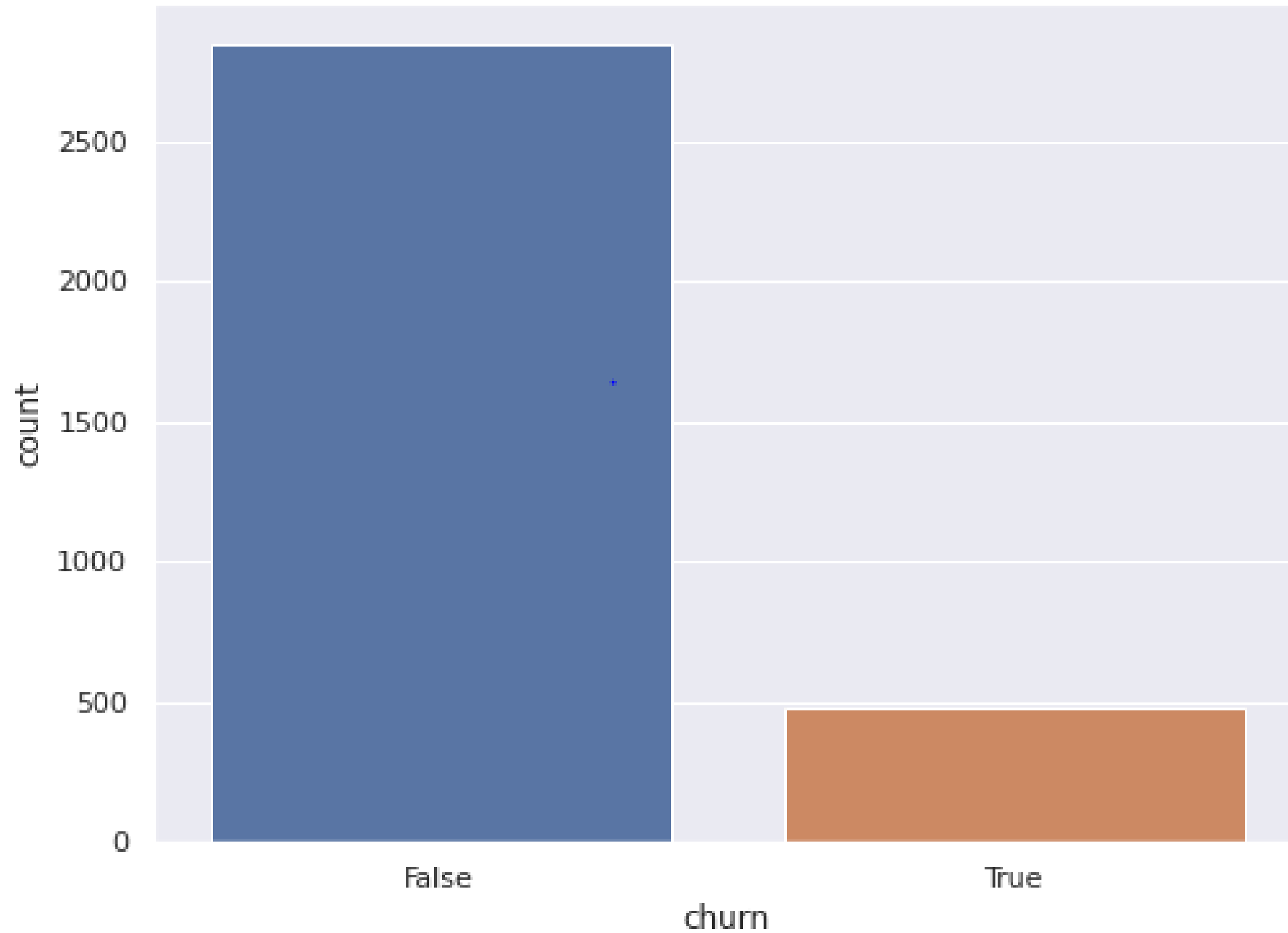


# EXPLORATORY DATA ANALYSIS



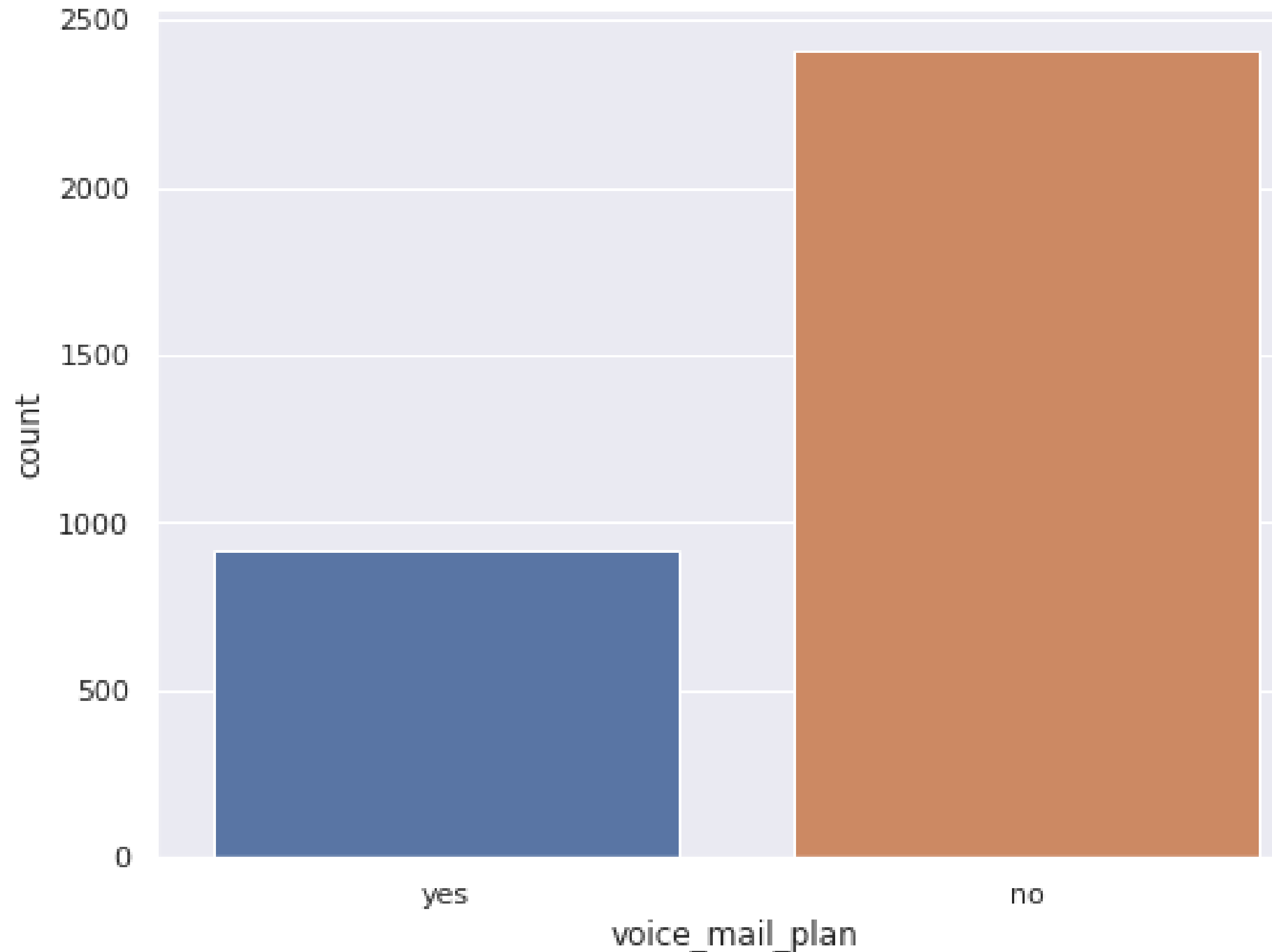


# CHURN



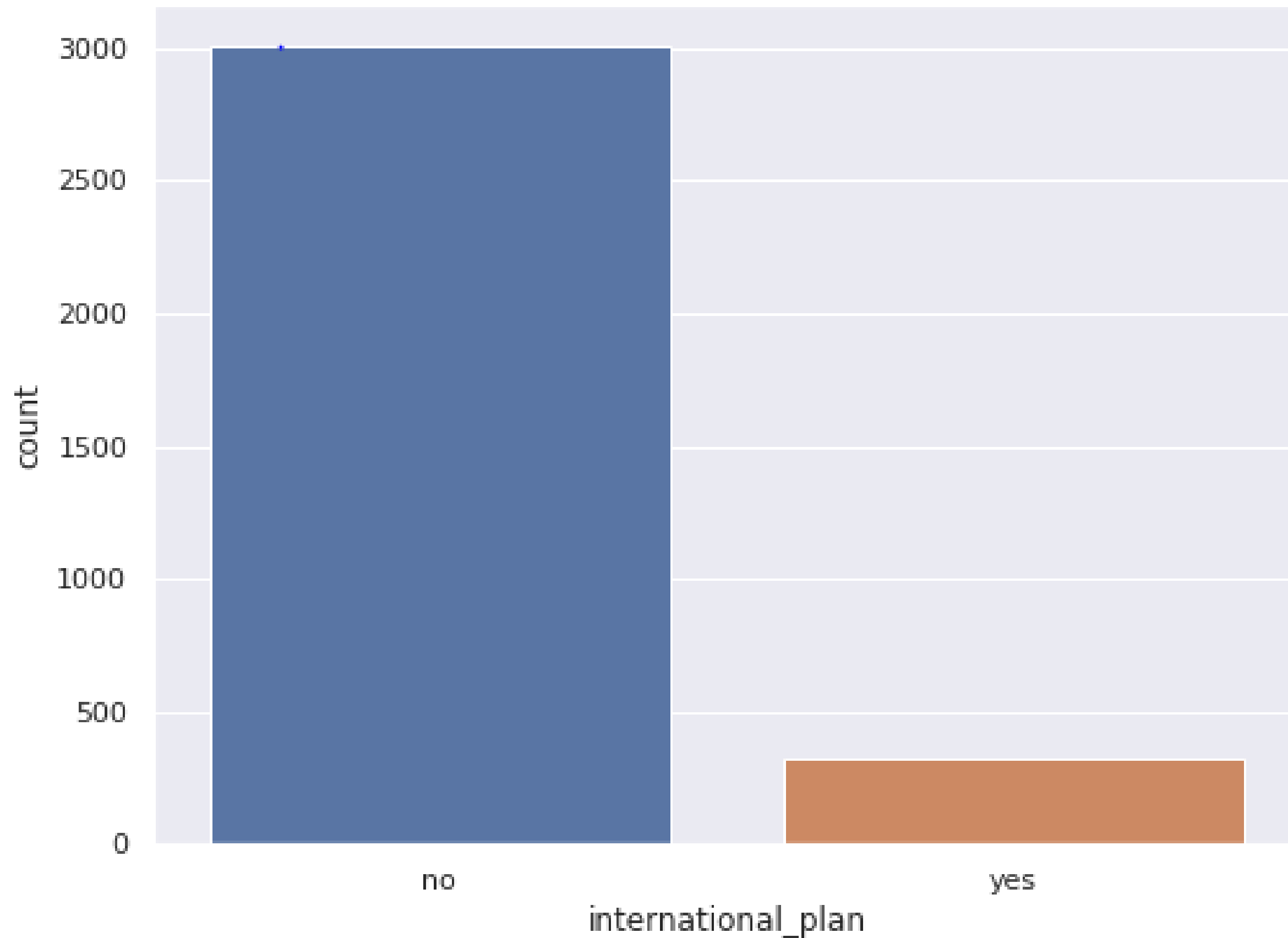
- Most customers did not churn

# VOICE MAIL PLAN



- **Most customers do not have a voice mail plan**

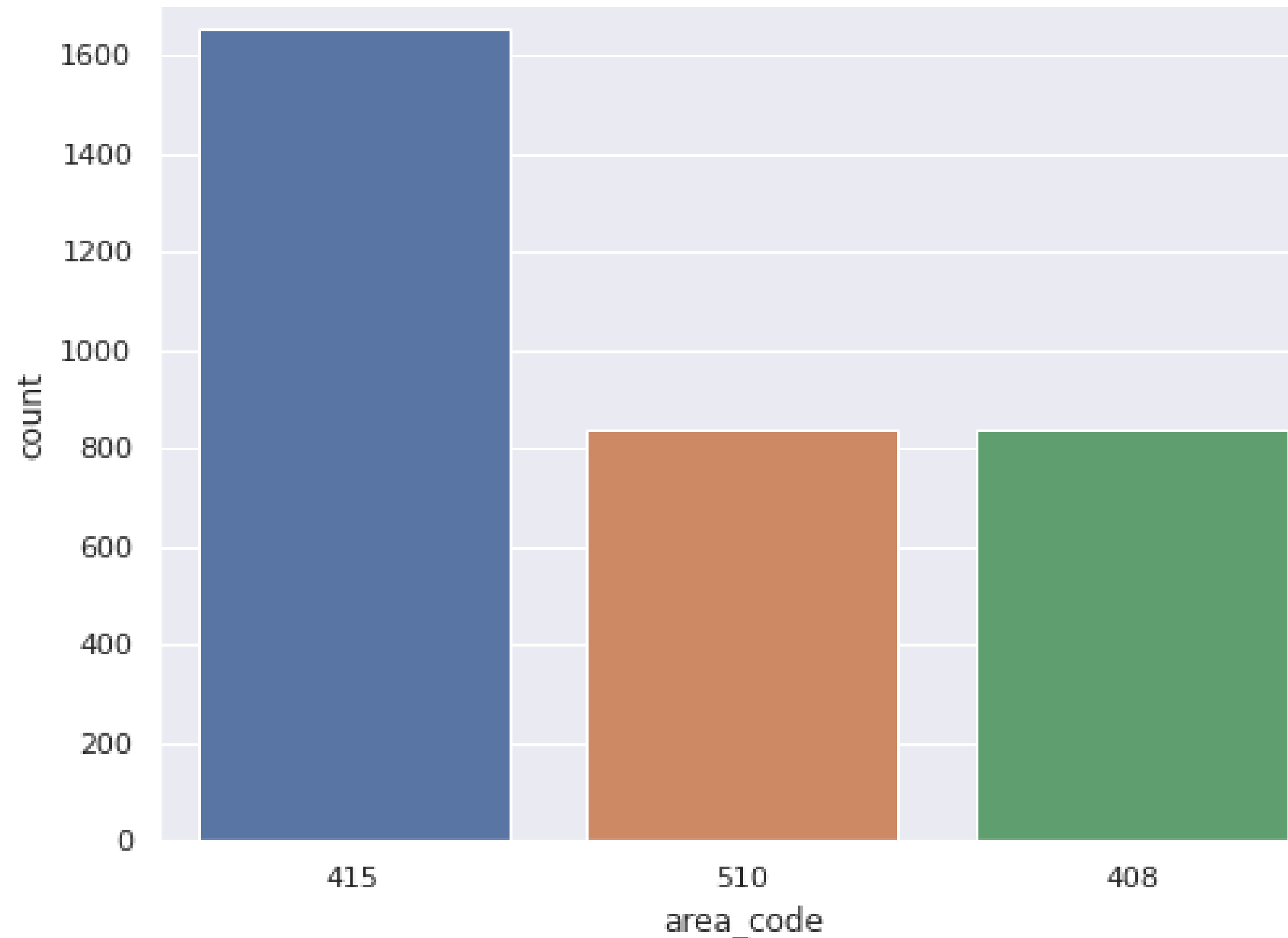
# INTERNATIONAL PLAN



- Most customers do not have an international plan

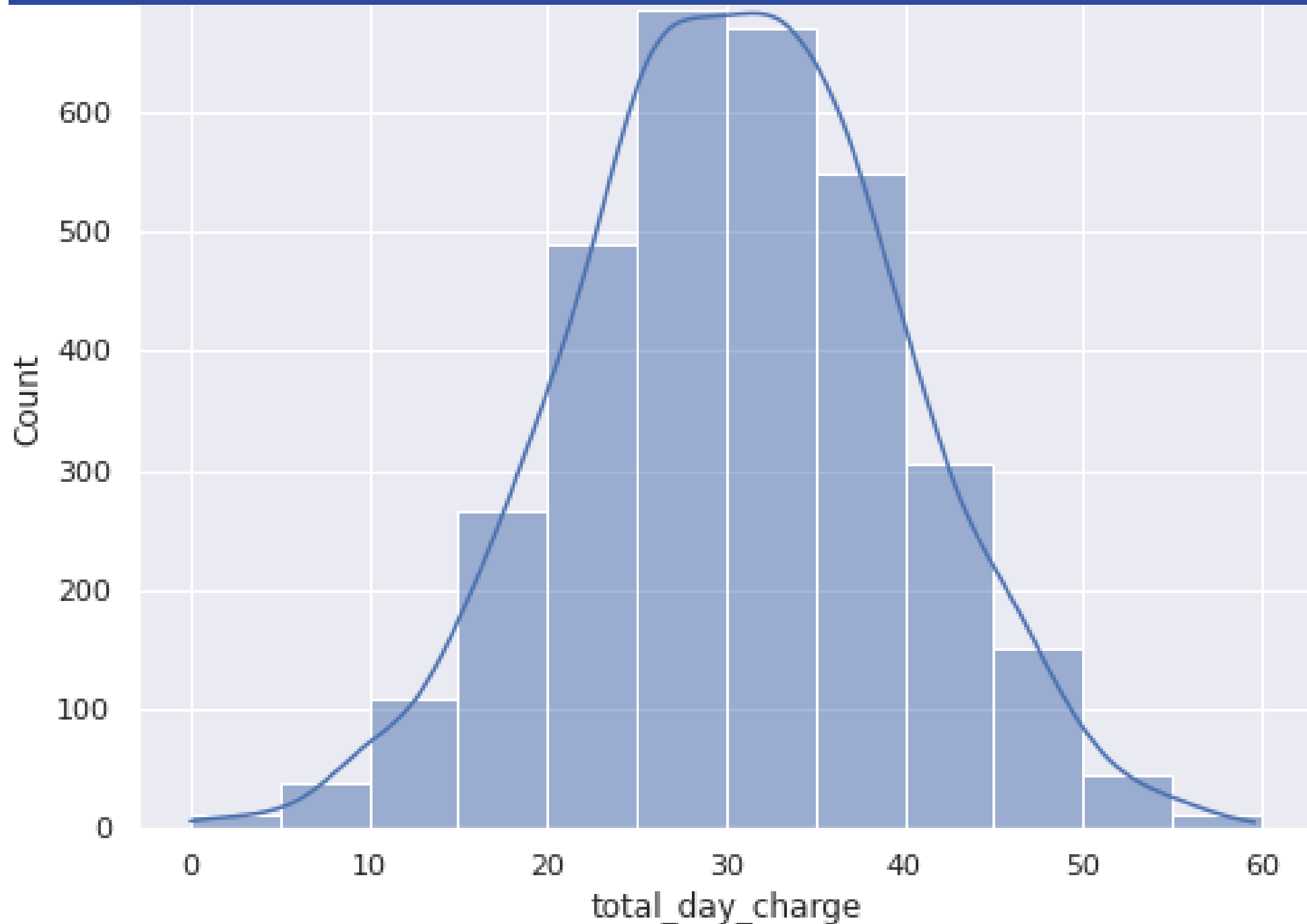


# AREA CODE



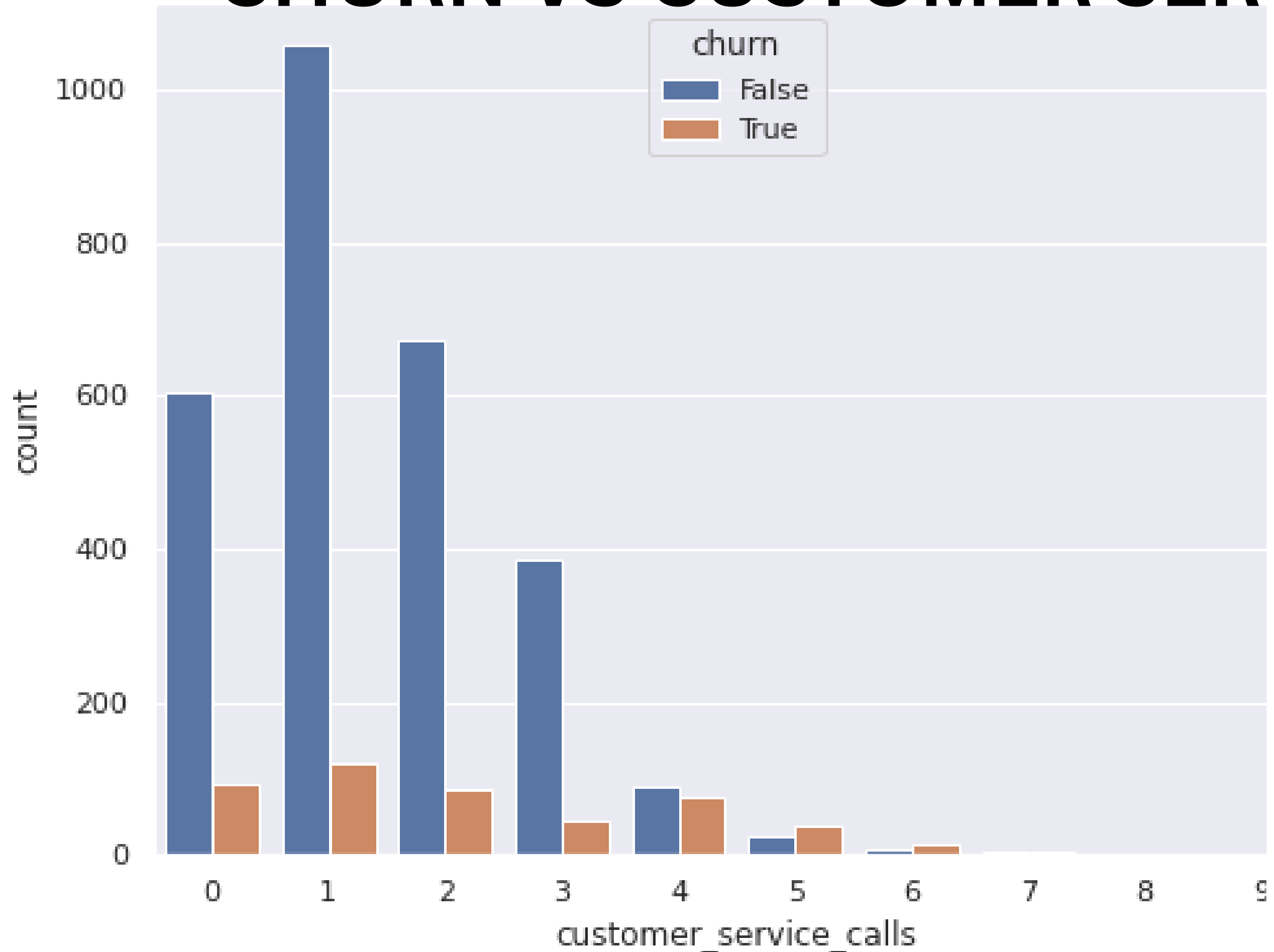
- 415 is the common area code thus most customers are from this area code

# TOTAL DAY CHARGES



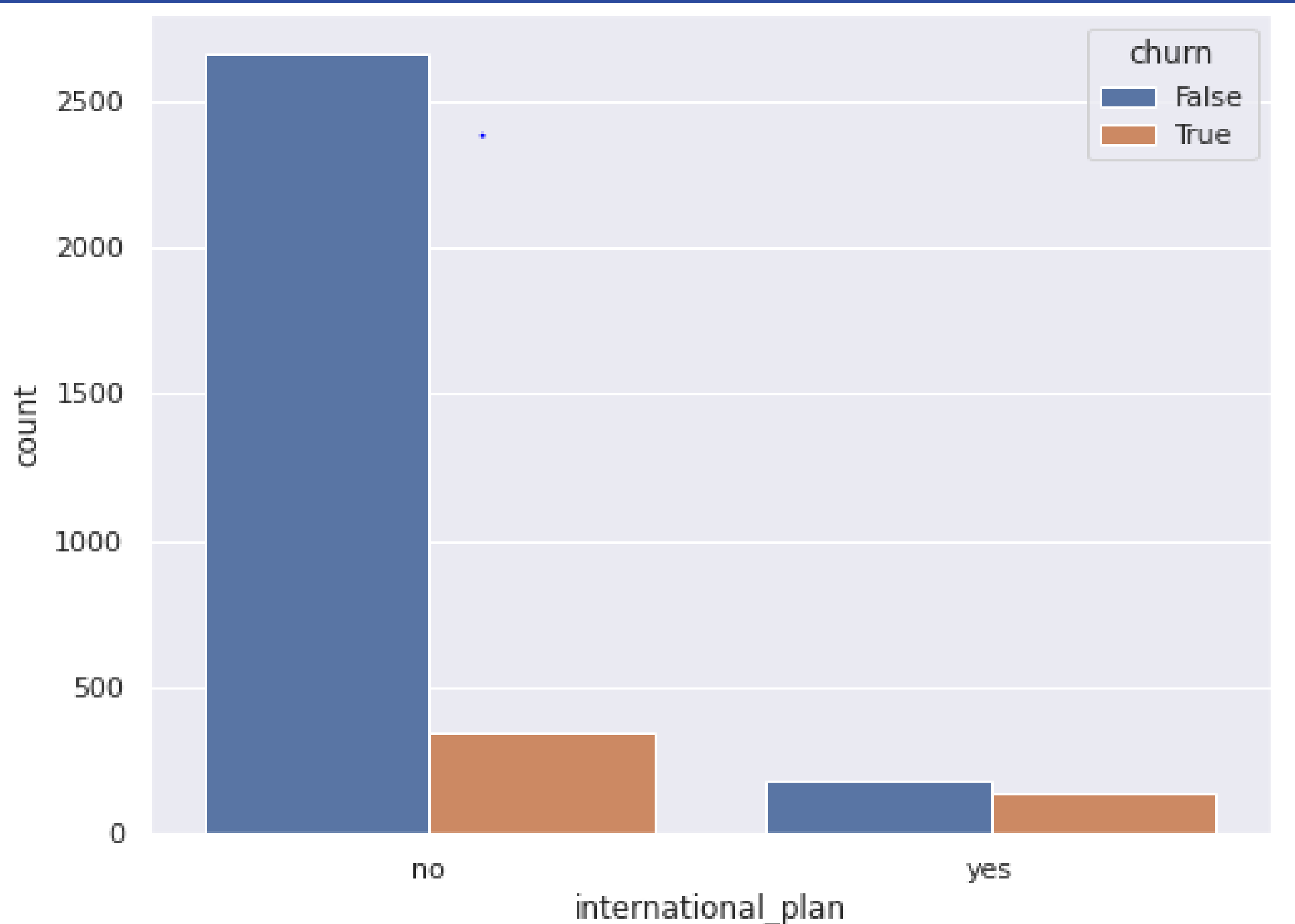
- **Most customers were charged 25 to 30 dollars for calls during the day.**

# CHURN VS CUSTOMER SERVICE CALLS



The higher  
the number of  
calls to  
customer service  
the higher the  
churn rate

# CHURN VS INTERNATIONAL PLAN



- People who do not have an international plan have a
- high churn rate



# MODELLING





# MODELLING

- Gradient Boost
- Random Forest
- Decision Trees

# RANDOM FOREST

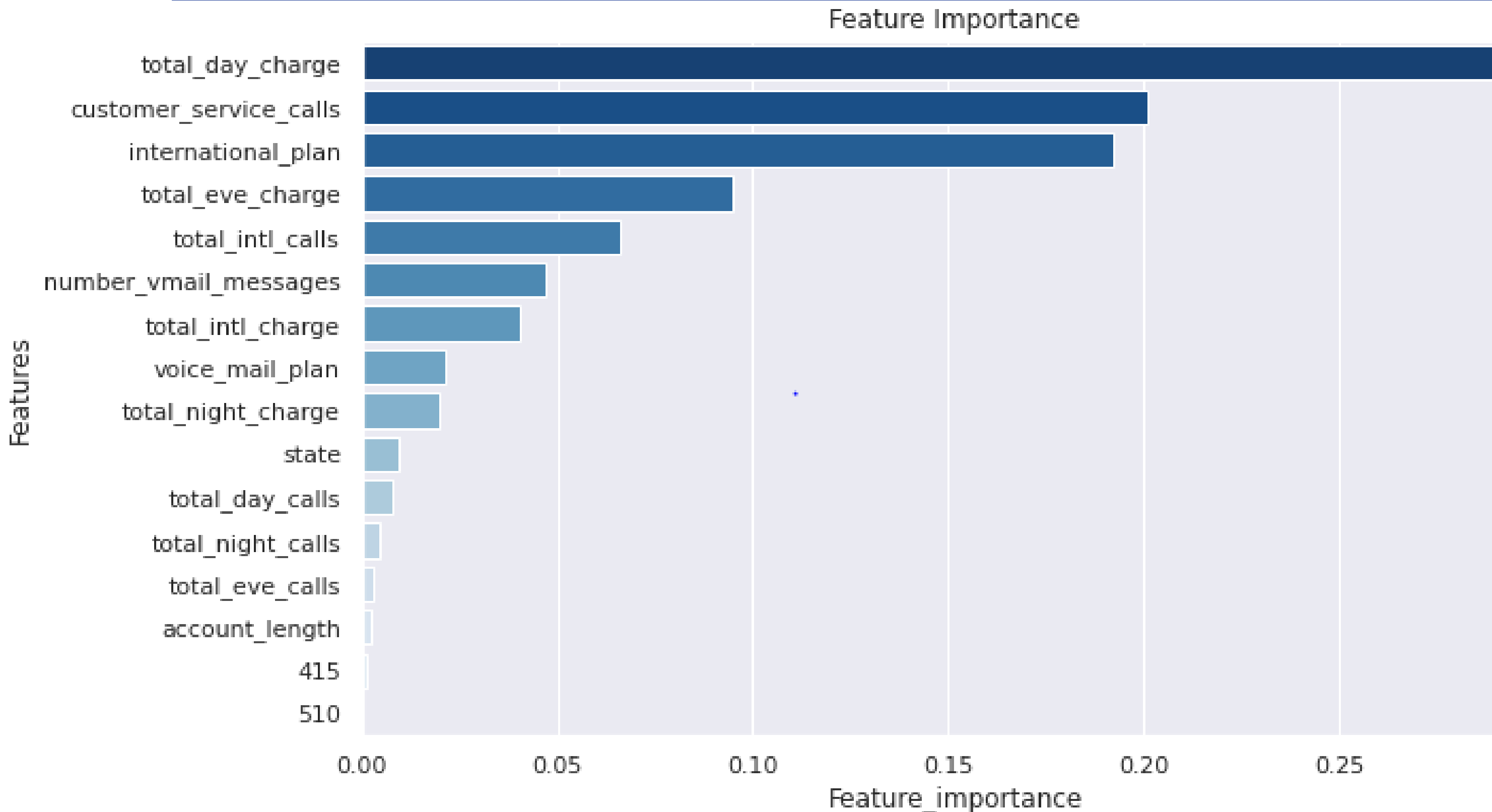
1. The model had an accuracy score of 96% and recall score of 74%
2. The tuned model - entropy, max\_depth of 20, min\_sample\_leaf of 2, n\_estimators of 50 were used. Accuracy reduced to 95% while recall increased to 75%

# GRADIENT BOOST

1. The model had an accuracy score of 95% and recall score of 78%



# FEATURE IMPORTANCE



- Features ranking

# CONCLUSION

- **The initial goal of achieving 80% accuracy is achieved by all the models that were fitted.**
- **Gradient Boost Classifier model provides the highest recall score of all the models.**
- **Customer service calls, international plan, total day charges are the features with the greatest importance.**

# RECOMMENDATIONS

- 1. The number of calls the customer makes to customer service should be reduced to two. If the customer calls once, the customer service agent should do a follow up to ensure the customer's issue has been fully resolved to avoid making the customer call back again.**
- 2. The customer service agents should be trained on how to treat, escalate and solve issues as soon as possible.**

# RECOMMENDATIONS

**3. The phone charges are high hence a high churn rate, the business should consider having payment plans for different customers so that one is charged according to the service they consume.**

**4. The business should consider lowering or giving discounts for customers who have an international plan and also charge them per the service they use.**



# THANKYOU

## ANY QUESTIONS?