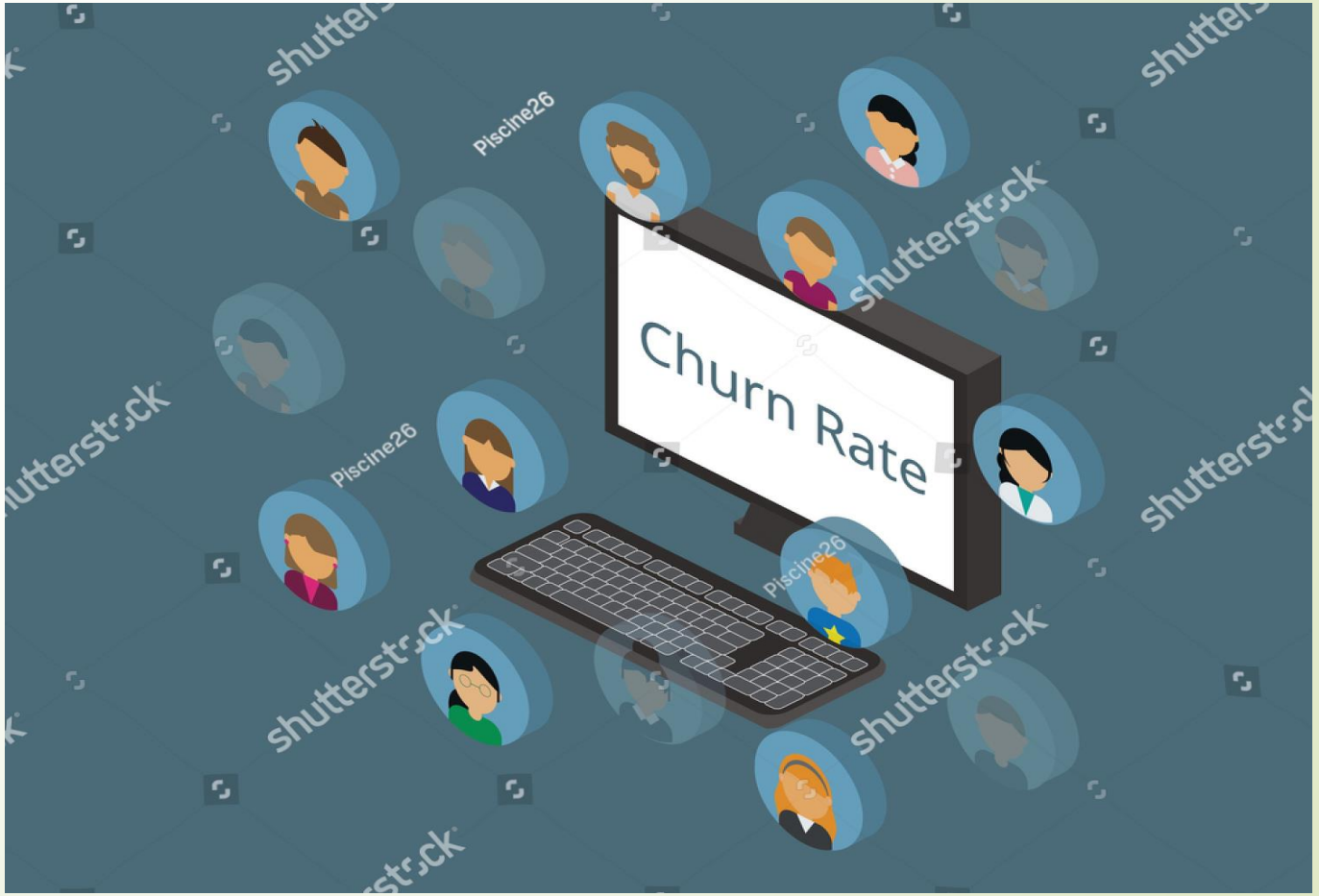
SyriaTel Customer Churn Analysis



Business Understanding

Business Overview

- SyriaTel is a telecommunications company operating in a highly competitive market.
- The company provides various services, including mobile, landline communications and internet to its customers.
- SyriaTel's success relies on customer acquisition and retention.

Challenges

- SyriaTel is experiencing a high customer churn rate, where customers are discontinuing their services.
- Identifying the factors contributing to customer churn and predicting it accurately is a challenge.
- Lack of actionable insights and targeted retention strategies hinder the company's ability to reduce churn.

Proposed Solutions

- Utilize data analytics and machine learning techniques to analyze customer data.
- Build predictive models to identify customers at risk of churn.
- Develop targeted retention strategies based on customer insights.

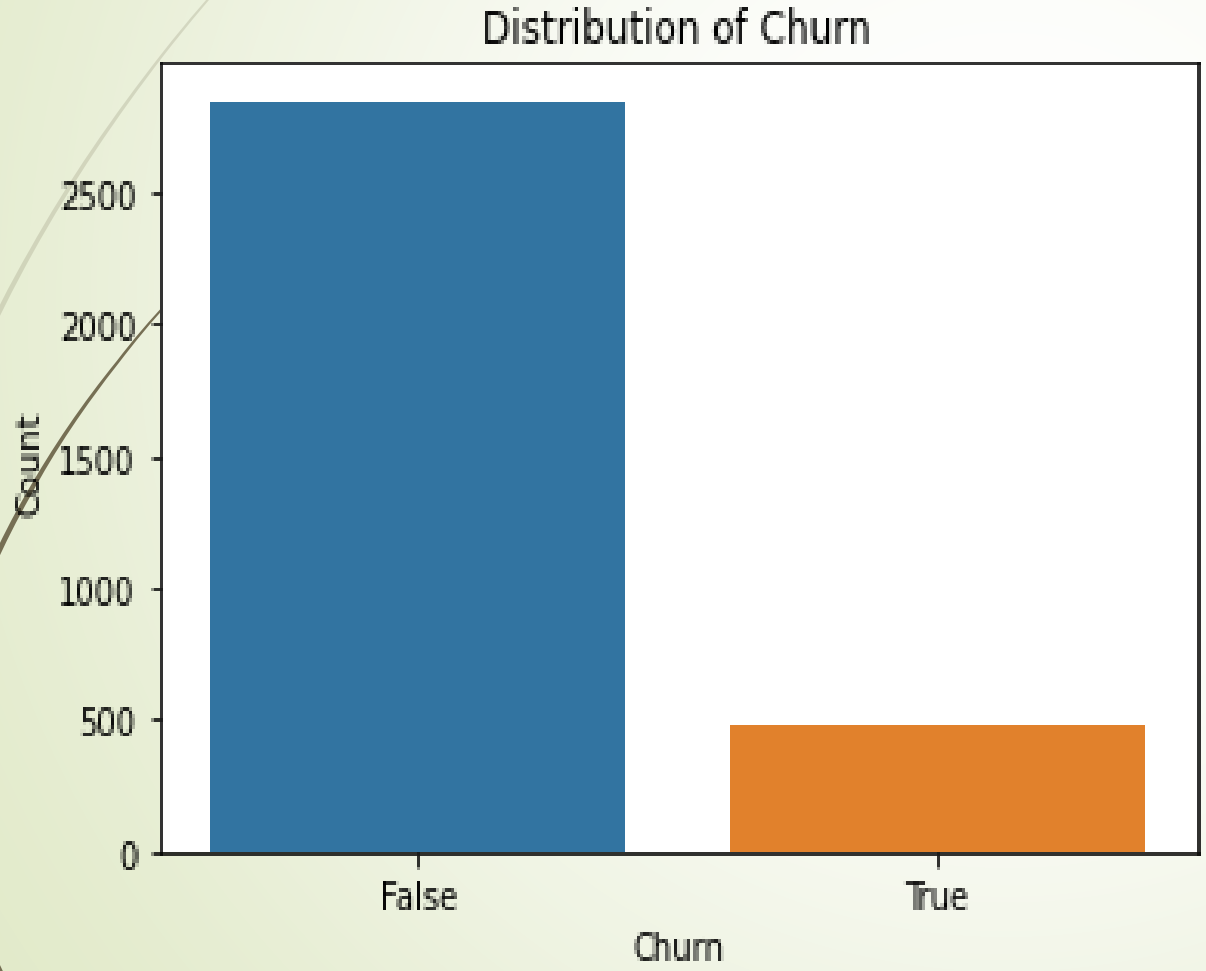
Problem Statement

- The challenge is to predict customer churn accurately and understand the underlying factors contributing to it.
- The goal is to provide actionable insights that will help reduce churn and improve customer retention.

Objectives

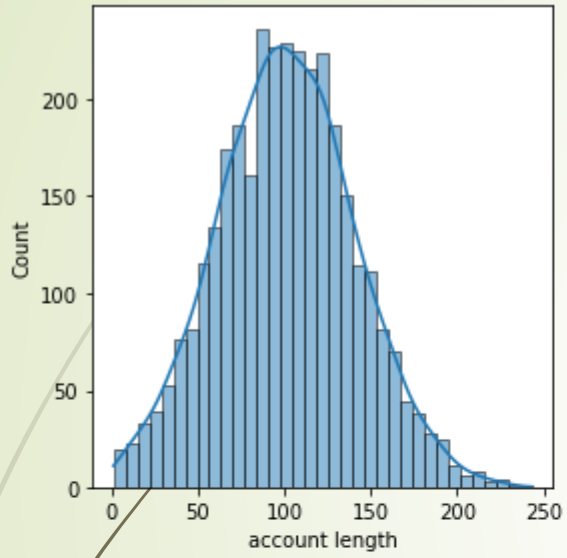
- Build a predictive model to accurately classify customers as churn or non-churn.
- Identify key factors and patterns that contribute to customer churn in SyriaTel.
- Provide actionable recommendations for SyriaTel to implement targeted retention strategies and reduce churn rates.

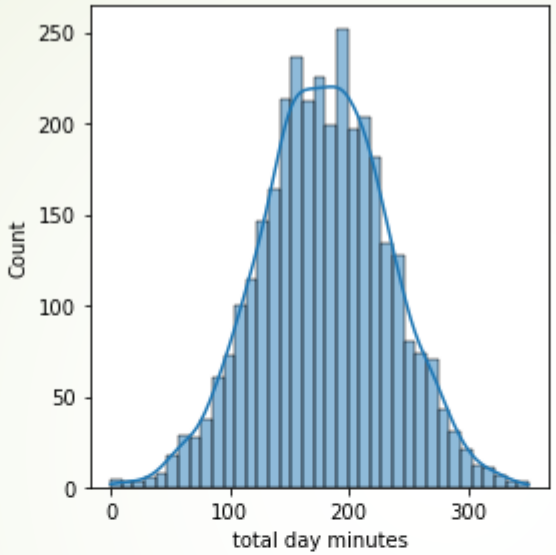
Distribution of the target variable(churn)

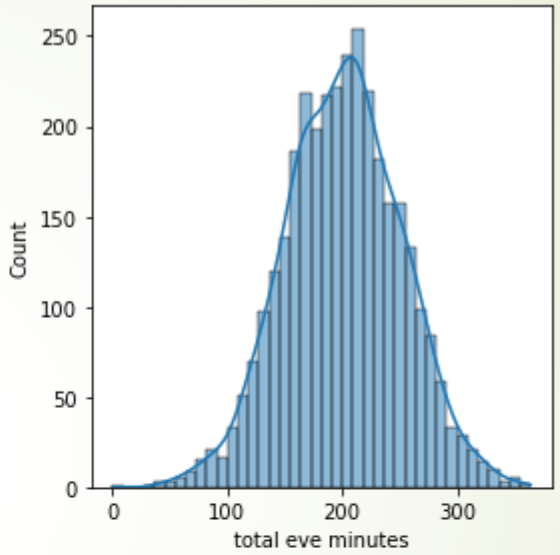


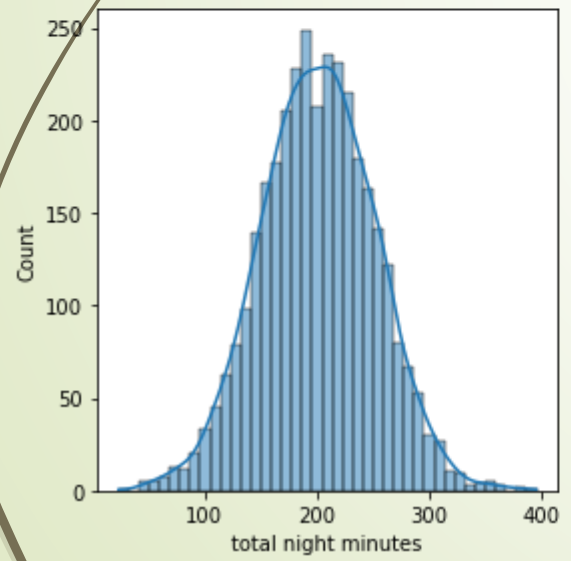
- From the distribution, there is a large number of non-churned customers compared to churned customers.

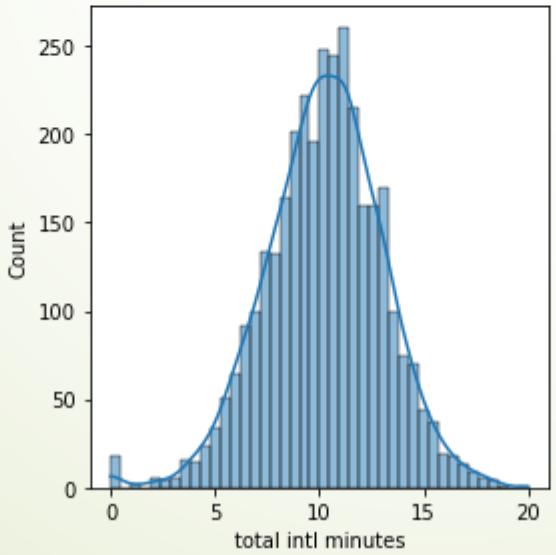
distribution of features impacting churn(numerical features)





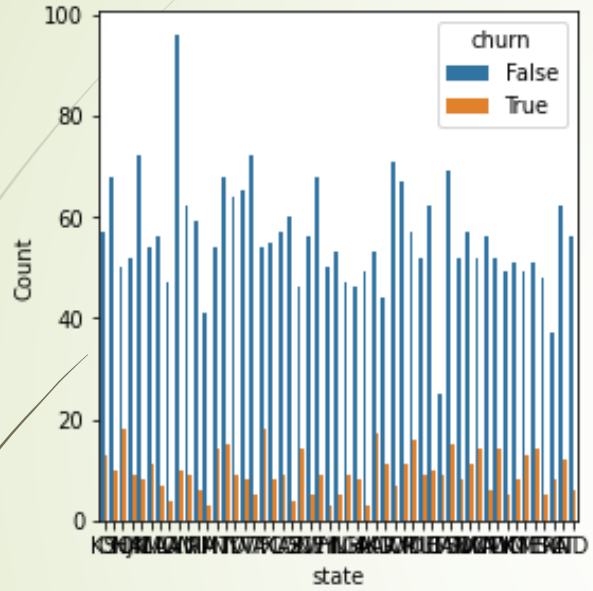


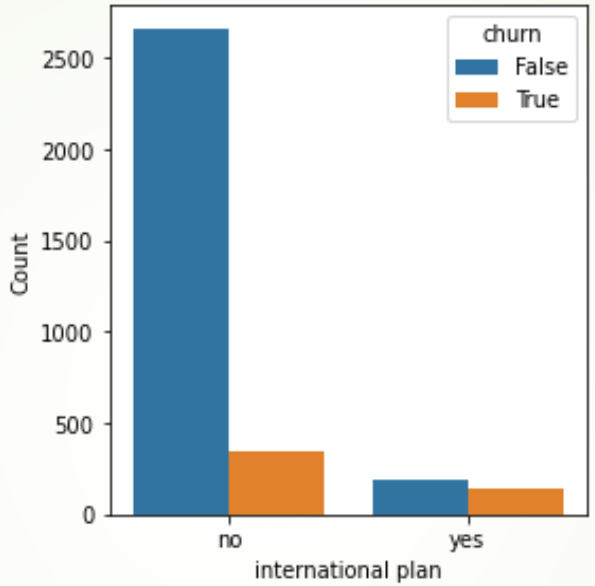


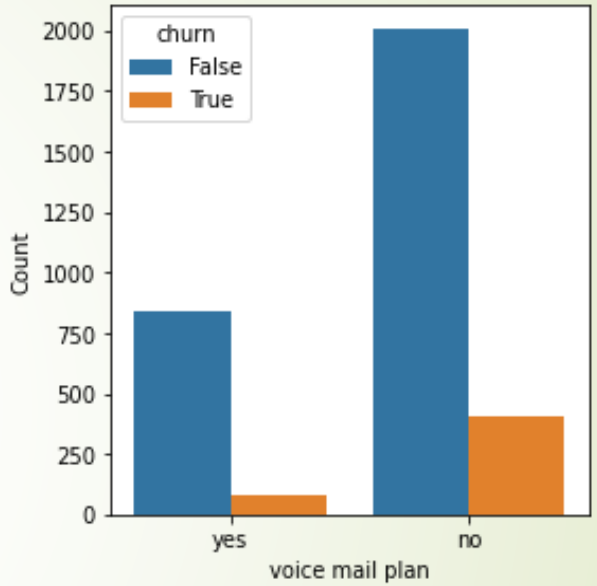


- the concentration of values is evenly distributed on both sides of the distribution, resulting in a symmetric shape. .

relationship between churn and categorical features

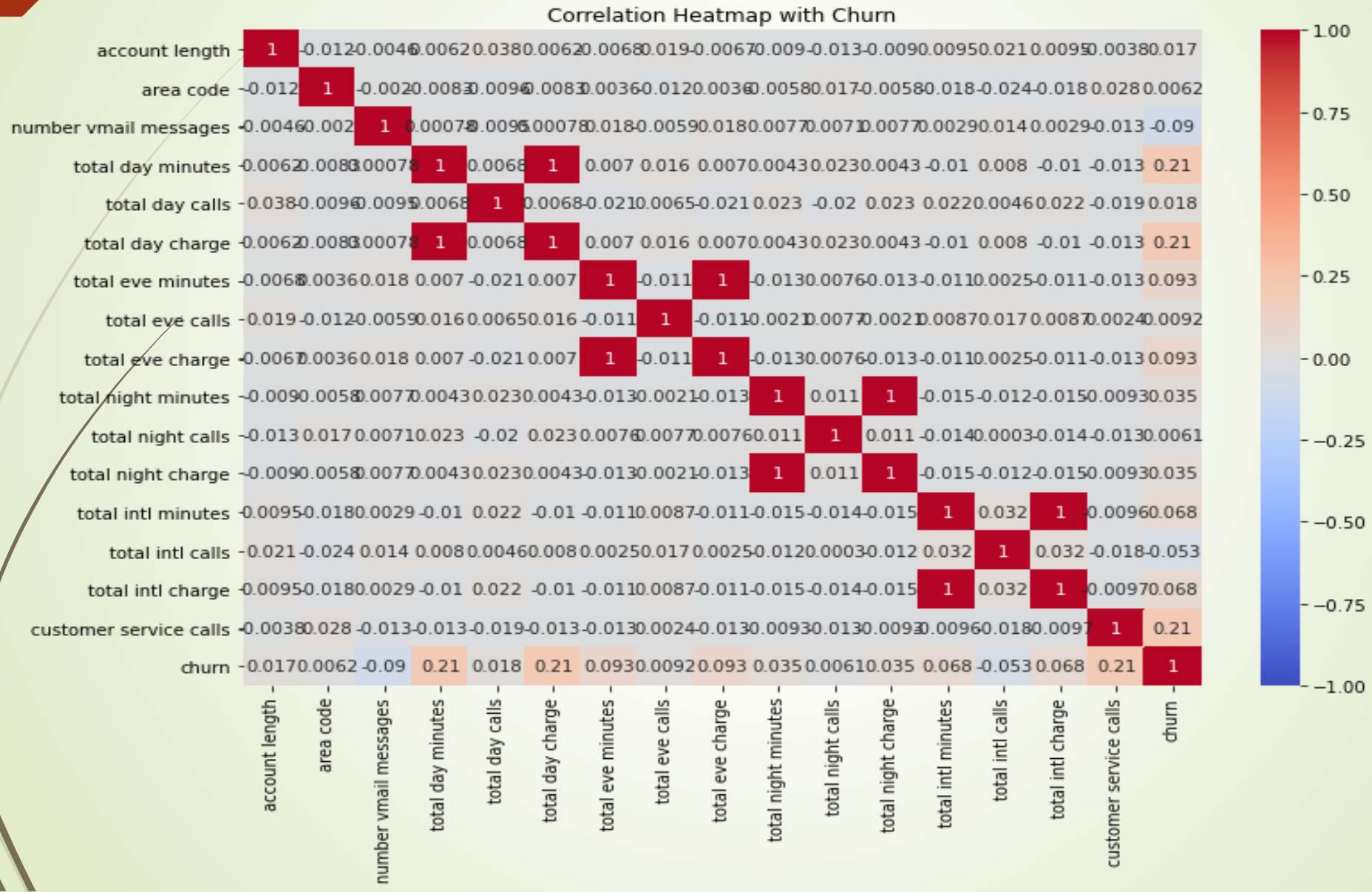






- customers with an international plan have a higher churn rate compared to customers without an international plan.
- customers without a voice mail plan have a slightly higher churn rate compared to customers with a voice mail plan. The presence of a voice mail plan seems to be associated with a slightly lower likelihood of churn

Relationship of features with churn



- 'number vmail messages' has a weak negative correlation (-0.089728) with 'churn', indicating that customers with a higher number of voicemail messages are slightly less likely to churn.
- 'total day minutes', 'total day charge', 'total eve minutes', and 'total eve charge' have a positive correlation with 'churn', suggesting that as these values increase, the likelihood of churn also tends to increase.
- 'customer service calls' has a positive correlation (0.208750) with 'churn', indicating that as the number of customer service calls increases, the likelihood of churn also tends to increase.

Conclusion

- Customer service calls and international plans are significant factors in predicting churn.
- Usage patterns, such as total day minutes and total evening minutes, also play a role in churn prediction.
- Churn prediction models also identify high-risk customers who are more likely to churn.

Recommendations

- Improve customer service to enhance satisfaction and loyalty.
- Offer personalized incentives and benefits for international plans to attract and retain customers.
- Analyze usage patterns to identify opportunities for tailored offerings and increased customer engagement.
- Proactively monitor and engage high-risk customers to mitigate churn risks.

Next steps

- Implement the recommended retention strategies, including personalized incentives, improved customer service, and proactive outreach to high-risk customers.
- Track and measure the impact of the implemented strategies by monitoring churn rates, customer satisfaction levels, and key performance indicators related to customer retention.
- Conduct further analysis to gain deeper insights into customer behavior, preferences and churn drivers. This may involve conducting customer surveys or interviews.