FPPT.com

SYRIATEL COMPANY CUSTOMER CHURN ANALYSIS

INTRODUCTION

- **OVERVIEW**
- The project's primary objective was to build a classifier model to predict whether a customer will soon stop doing business with SyriaTel.(Churn)
- This prediction is crucial for SyriaTel as it directly impacts customer retention strategies, helping to reduce revenue loss from customer churn.

BUSINESS UNDERSTANDING

- The business problem revolves around customer churn, a critical issue for SyriaTel since retaining existing customers is often more cost-effective than acquiring new ones.

- Predicting churn allows the company to implement proactive retention strategies, improving customer loyalty and profitability.

DATA UNDERSTANDING

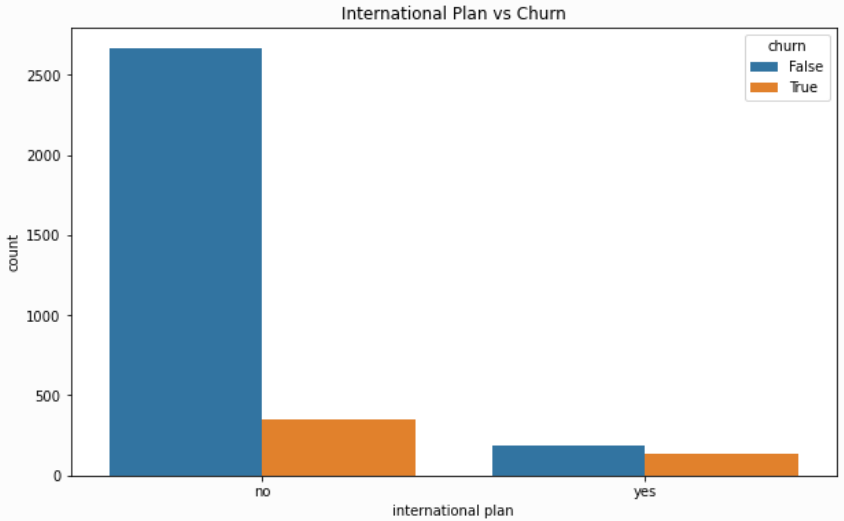
PROS

- The dataset provided for includes various features we can use to Understand features in the context of customer behavior

CONS

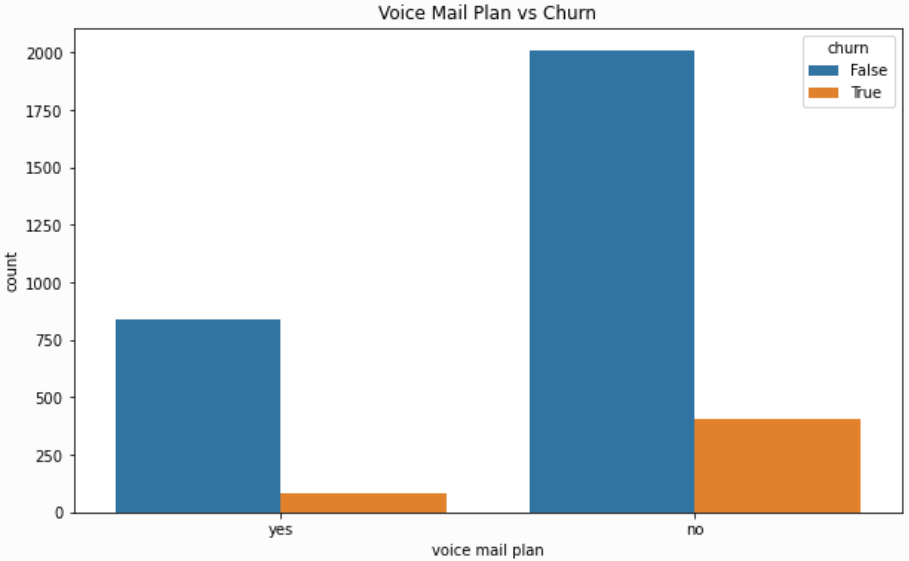
- Data's properties, has class imbalance, which should be carefully handled to ensure accurate model performance and reliable predictions.

DATA INSIGHTS



- **Insights**
- 1.Higher Churn Among International Plan Users
- 2. Low Churn in Non-International Plan Users

DATA INSIGHTS

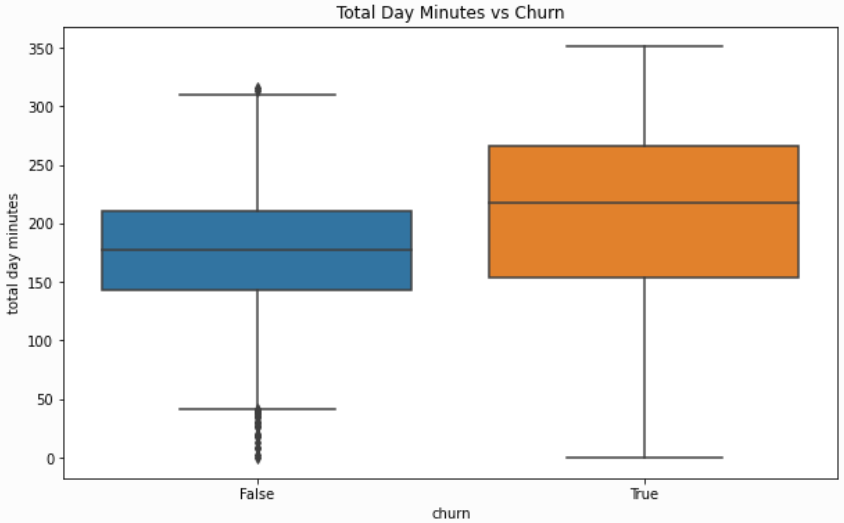


- **Insights**

1.Lower Churn Among Voice Mail Plan users

2. Higher Churn in Non-Voice Mail Plan Users

DATA INSGHTS



- **Insights**

- Higher usage day time customers are more Likely to Churn

MODELLING

- I employed three machine learning models, starting with logistic regression and then moving to decision trees. Logistic regression provided a baseline with interpretable results, while the decision tree model offered more nuanced insights by capturing complex relationships between features.

MODELLING

- Feature engineering and data balancing techniques, like SMOTE, were explored to improve model performance. Hyperparameter tuning was applied to the decision tree model, significantly enhancing its predictive power, particularly in identifying customers who are likely to churn.

MODEL EVALUATION

MODEL EVALUATION

- Model performance was rigorously evaluated using metrics such as accuracy, precision, recall, F1-score, and ROC-AUC.

- The evaluation highlighted the importance of balancing precision and recall, especially in the context of a business problem where false negatives have significant financial implications.

MODEL EVALUATION

WINNER

MODEL PERFORMANCE

- Model performance was rigorously evaluated using various metrics
- The tuned decision tree model demonstrated superior performance, with a ROC-AUC of 0.9059 and an accuracy of 92.80%
- The Model has strong ability to distinguish between customers who will churn and those who will not.

CONCLUSION

- **RECOMMENDATIONS:**
- 1. **Proactive Retention Strategies:**

SyriaTel should focus on customers who frequently contact customer service or exhibit decreasing usage patterns, offering them tailored retention offers.

2. **Data-Driven Decisions:**

Regularly update and retrain the churn prediction model with new data to ensure it adapts to changing customer behaviors.

CONCLUSION

- **Targeted Marketing**

targeted marketing campaigns aimed at high-risk segments such as customers under International plan

NEXT STEPS

MODEL DEPLOYMENT

Integrate the tuned decision tree model into SyriaTel's operational processes


The End