

CUSTOMER CHURN ANALYSIS

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OVERVIEW

The telecommunication market is a very competitive market with customers having plenty of options to choose from.

Predicting customer churn is very critical because it is much less expensive to retain existing customers than it is to acquire new customers.

This study explores SyriaTel's historical data and model results.

It discusses insights and gives recommendations on actions to be taken by this telecommunication company





BUSINESS UNDERSTANDING

SyriaTel is currently experiencing frequent customer churn, which leads to lost revenue, which in turn affects other business processes within the company.

PROBLEM STATEMENT

SyriaTel is experiencing customer churn which leads to loss of revenue. The company lacks a deep understanding of the factors that influence customer decisions to remain with the company or discontinue service use. The company requires to find an informed way to find out the customers at risk of churning so that some retention strategies can be developed or implemented to minimize customer loss and increase revenue.



OBJECTIVES

- To analyze the SyriaTel's customer data dataset to identify statistically significant features that impact customer churn.
- To yeild visualizations that give insights that can inform actionable strategies
- To build multiple classification models that predict the binary target variable ,churn, whose coefficients ar easily interpretable
- To evaluate the model's performance using metrics such as Recall, Precision and F1score

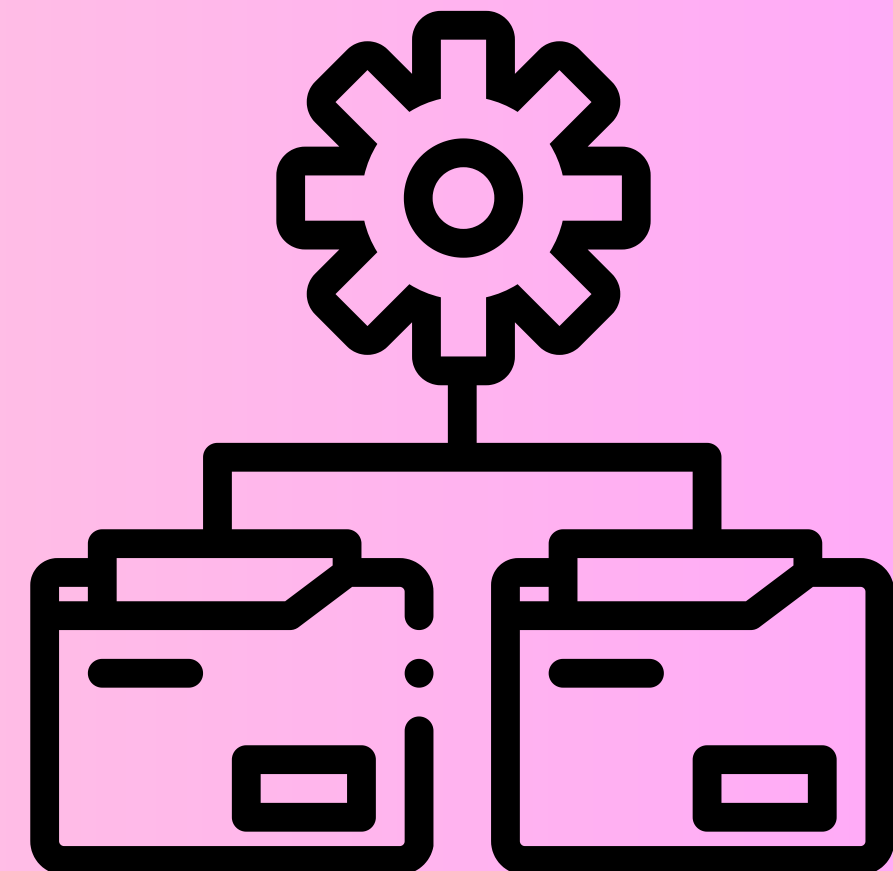


DATA UNDERSTANDING AND PREPARATION

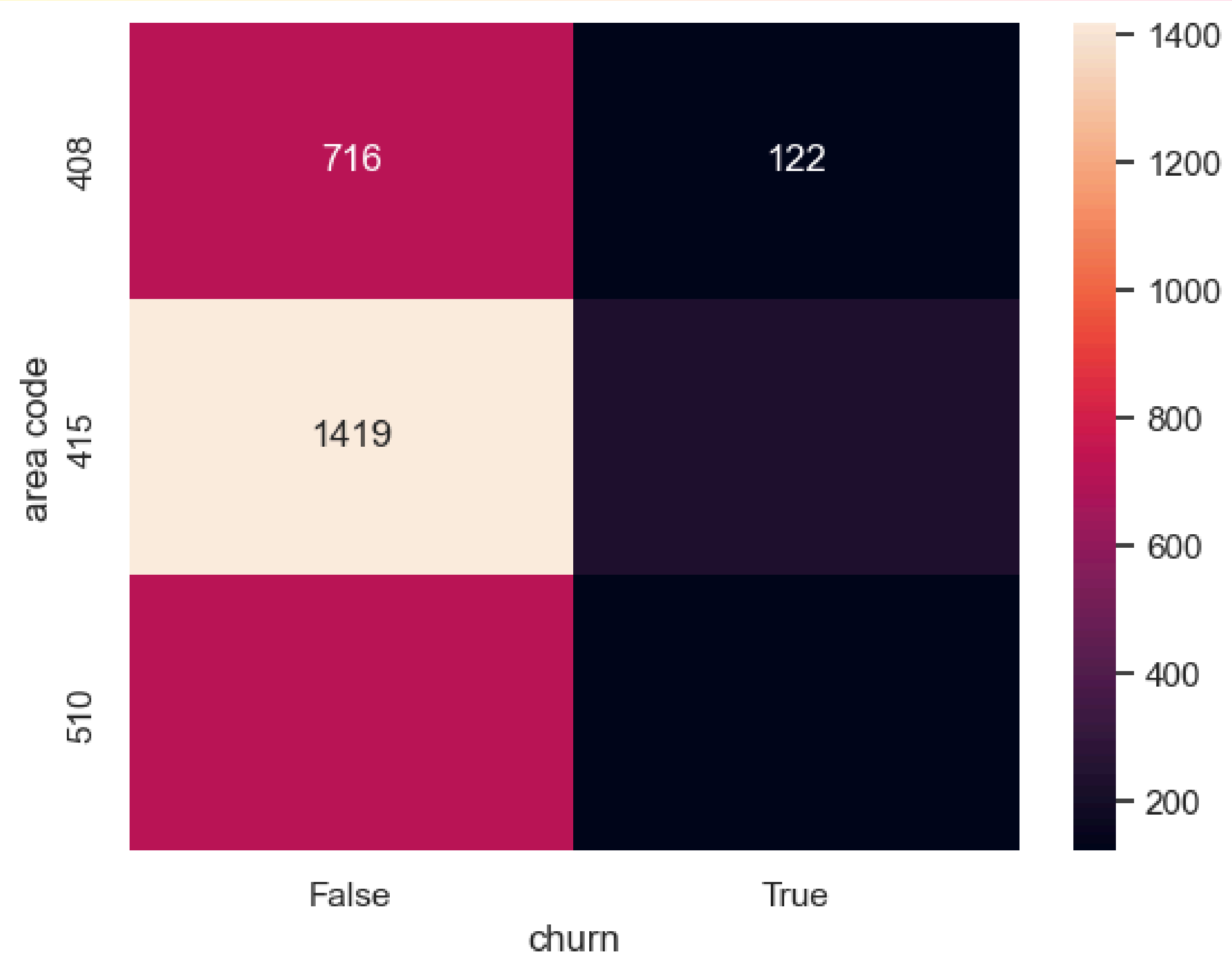
- This study makes use of the SyriaTel Customer Churn dataset
- There are a total of 3333 rows and 21 columns

▲ STEPS

- Data cleaning
- Exploratory Data Analysis
- Handling categorical features



CHURNERS PER AREA CODE



- Targeted campaigns could be carried out in area codes with high number of churners.
- Investigations could also be done in these area codes to find out why there are high number of churners there

MODELING AND EVALUATION

A total of 6 models were yielded from this study.

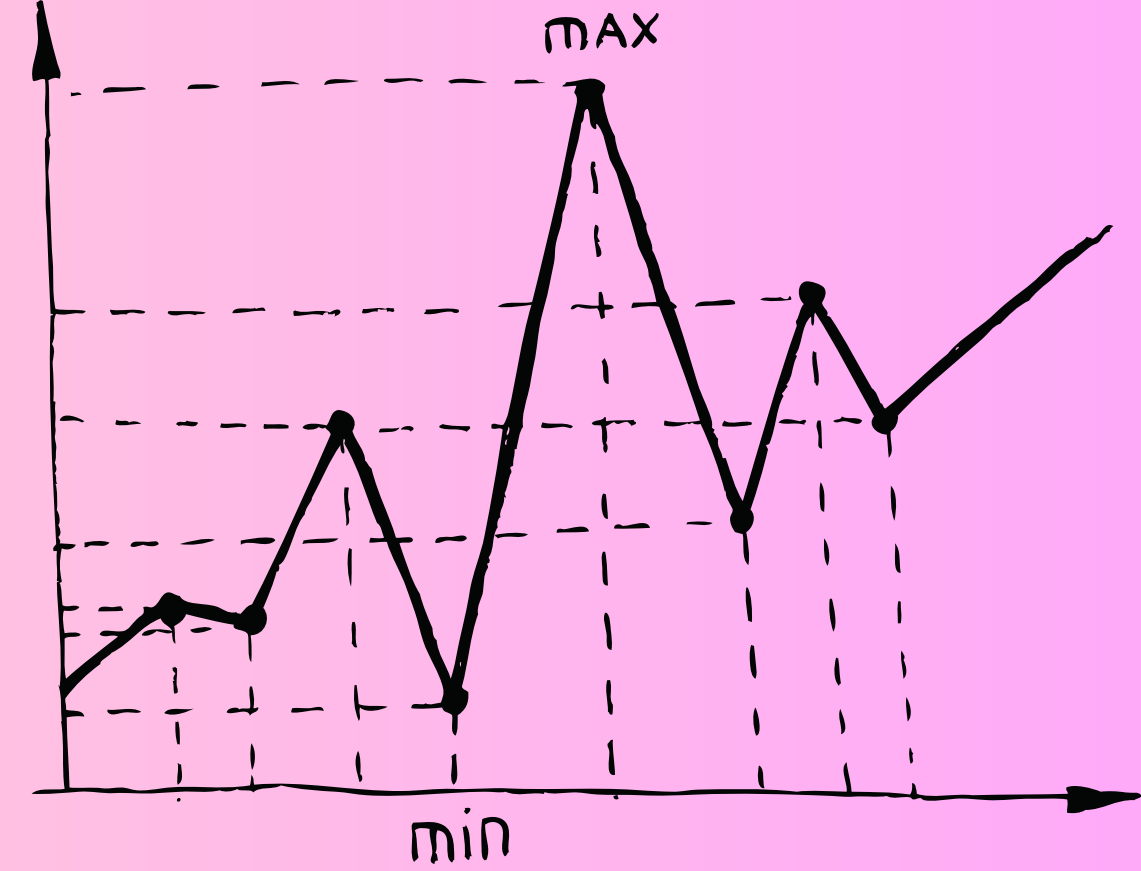
These models are meant to identify customers who are likely to discontinue using the service.

The performance of the recommended model is as follows:



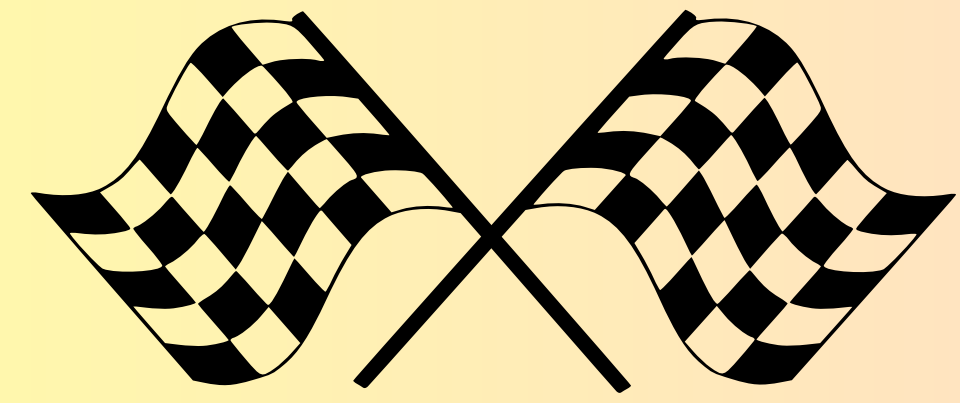
MODEL 4

Out of all models, the model with the best performance was a tuned Random Forest Model



- Out of 100 customers who are predicted to churn, a very high proportion 88 customers actual churn.
- Out of every 100 actual churned customers, the model only identifies 61.6.





CONCLUSION

SyriaTel should leverage using this model to identify customers who are at risk of discontinuing service use and perform targeted campaigns.

The company could also use the model to segment customers to curate targeted offers and services to increase customer retention

