



# A Study on Churn and Retention Rates

M&Y Consulting Services, LLC



# Welcome SyriaTel Executives!

Congratulations on successfully running one of the top telecommunications companies in the world!

## Business Problem:

Given the recent high levels of inflation has led to lower discretionary income for consumers, and many are looking to cut fixed costs. This had led to higher churn rates among many telecommunication businesses.

In light of this growing problem, we hope to provide insights to two key business questions:

How can we best retain customers?

What features impact churn the most?

## Solution

- We are looking to identify possible churn candidates and the features that impact a customers decision.
- Use Machine Learning model to predict the customer churn and provide actionable insights





# Data Review

We analyzed 3,333 data points with 19 features from customers of telecom company SyriaTel.

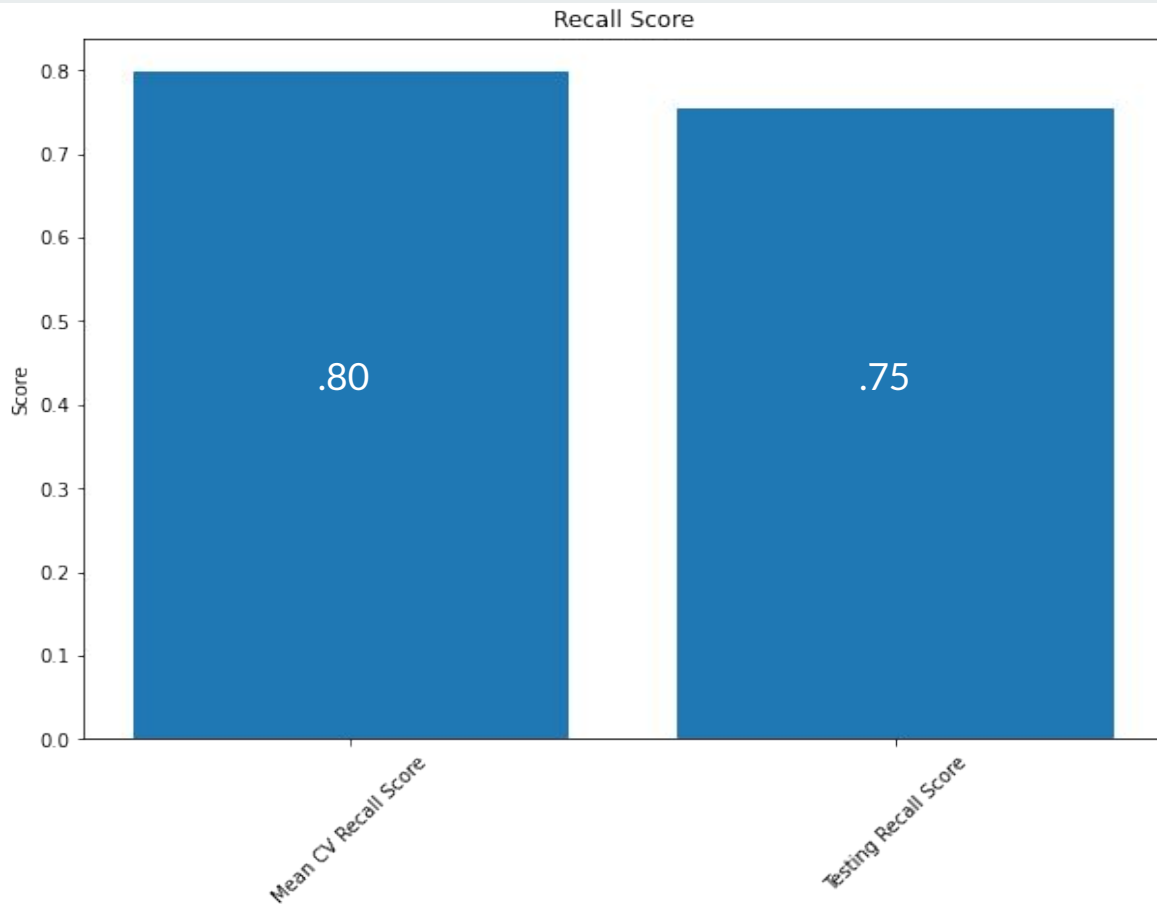
Identified several key variables that have an outsized effect on churn including:

- If the Customer has an International Plan or not
- Number of Customer Service calls
- Total Call Minutes



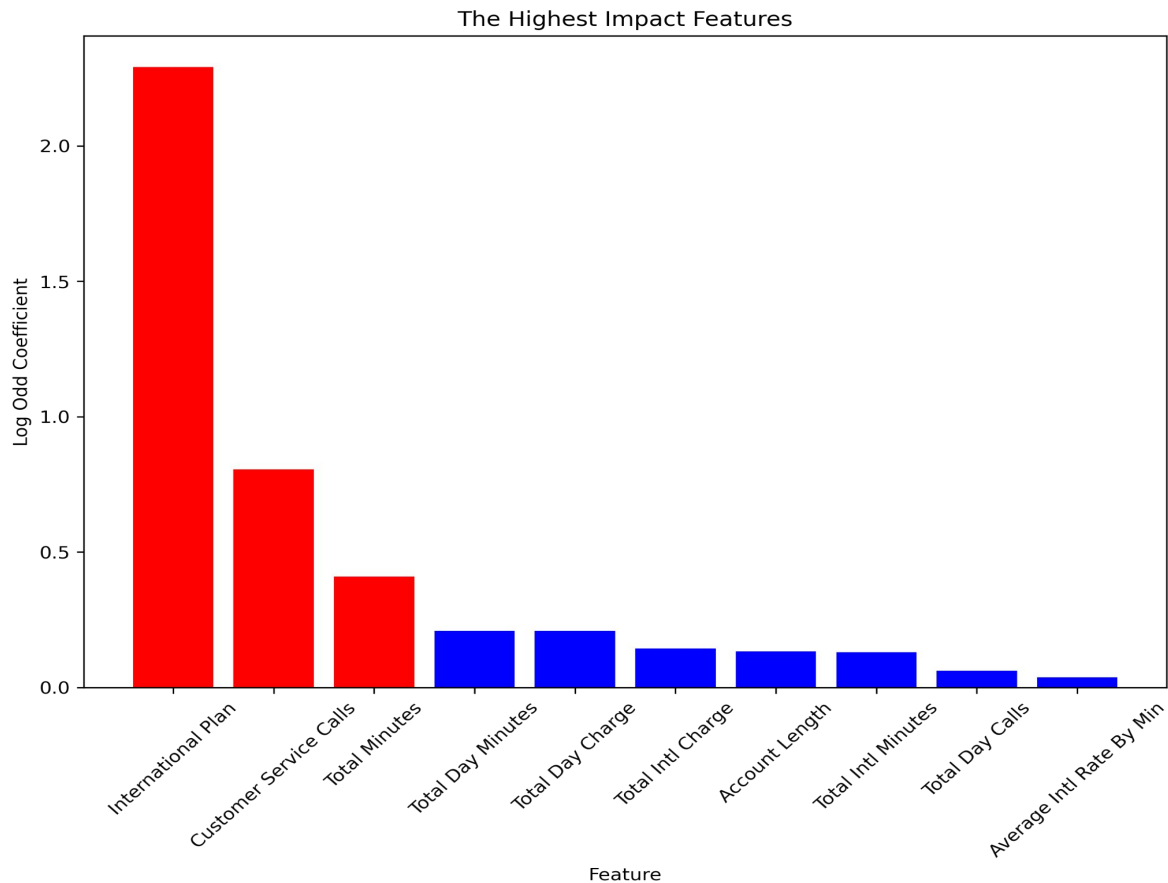
## Recall Scores of Our Best Model

- Focused on recall
- False negatives more costly than false positives



## High Impact Features

- International Plan
- Customer Service Calls
- Total Minutes





## Limitations of Our Model

1. Suffers from overfitting
2. Data Imbalance/Can handle relatively small data set



## Conclusion

- We found the top three features that influence the customer churn most:
  - International Plan Rate
  - Number of Service Calls
  - Total Minutes

## Recommendations

- Lower the international plan rate.
- Focus on the potential churn candidates.
  - Take Survey
  - Promotion





## Next Steps

- Minimize the overfitting by tuning our model.
- Continue to track our existing customer data points and train our model over time
- Identify more key features and incorporate larger datasets to improve our model



# Thank you for listening! Any questions?

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