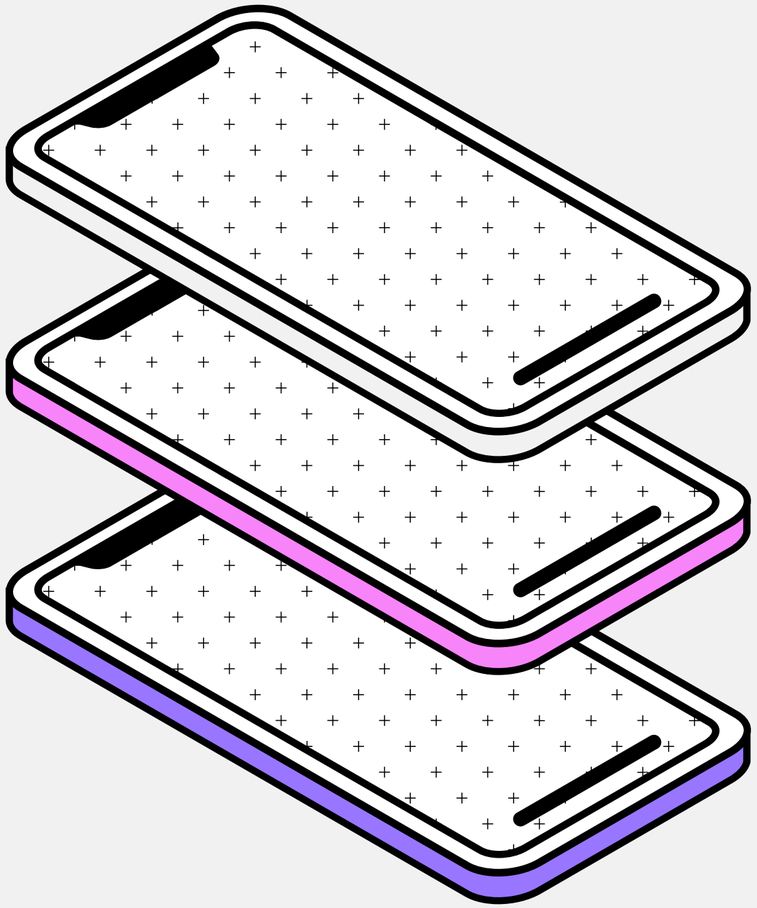
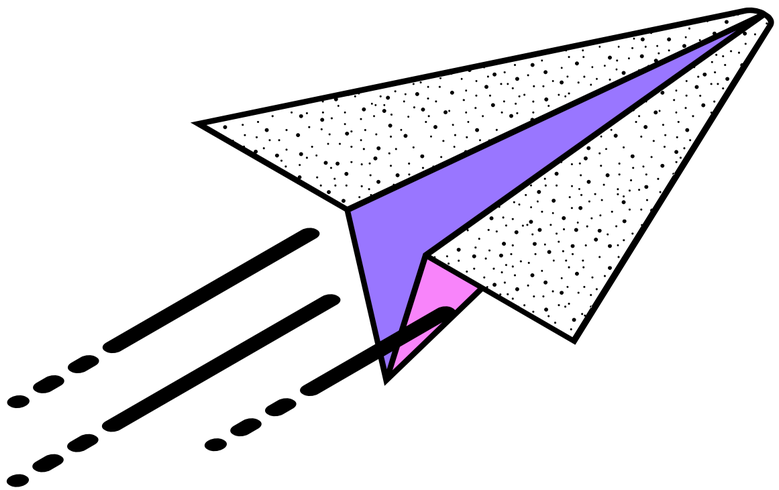
SyriaTel 5G



By Lydia Masabarakiza

Content



Business Understanding

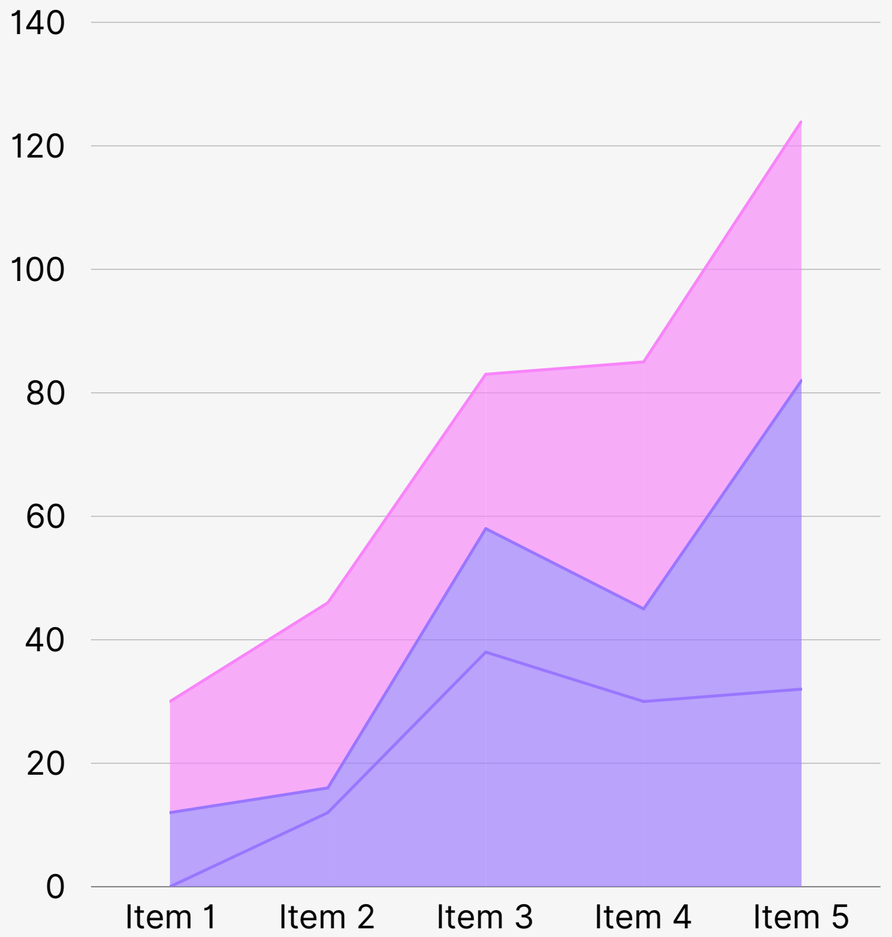
SyriaTel, a prominent telecommunications company, aims to improve customer retention and reduce revenue loss caused by customer churn. Churn occurs when customers stop using the company's services, and it is crucial for SyriaTel to predict which customers are likely to churn soon. By identifying these customers in advance, SyriaTel can implement targeted retention strategies to improve customer satisfaction and loyalty.

Problem Statement

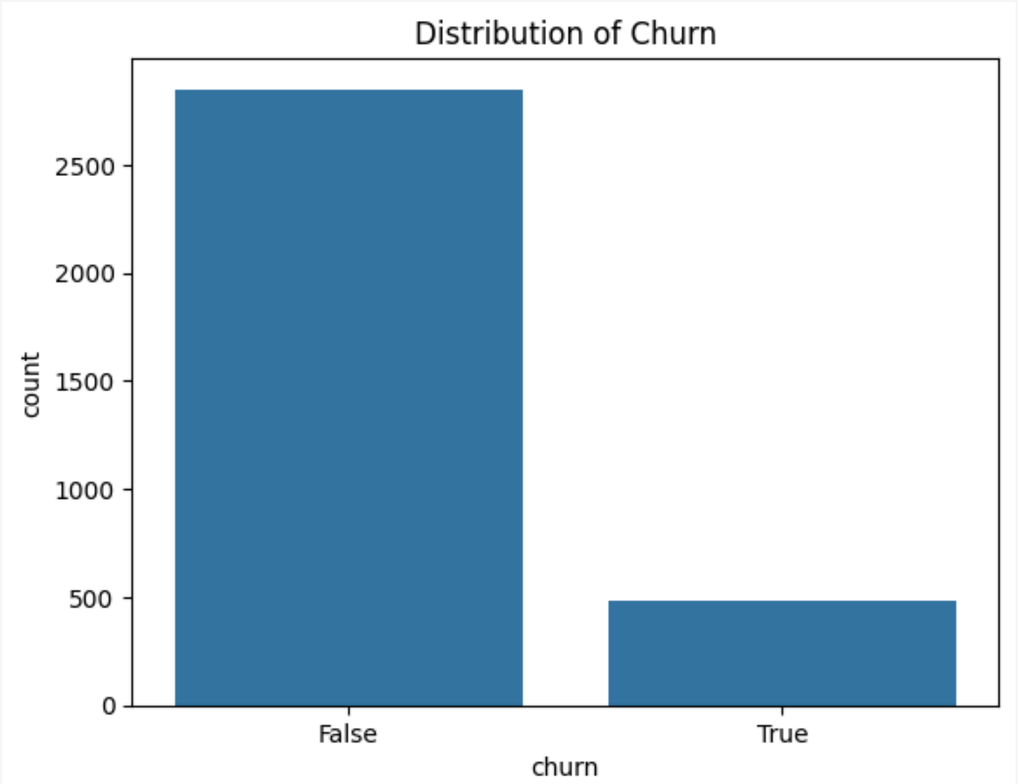
The objective of this project is to develop a predictive model that can accurately classify whether a customer will stop using SyriaTel's services in the near future. This is a binary classification problem where the target variable indicates churn status: '1' for churn and '0' for non-churn. By analyzing customer data and identifying patterns associated with churn, we can provide actionable insights to SyriaTel for preemptive retention efforts.

Exploratory Data Analysis

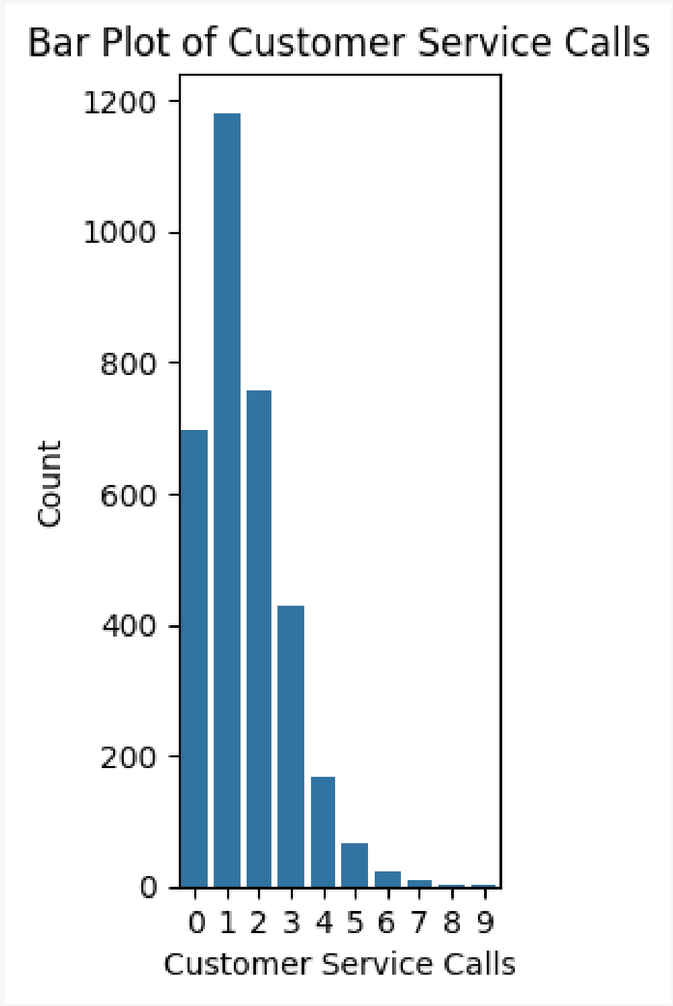
The aim of the EDA was to understand the data



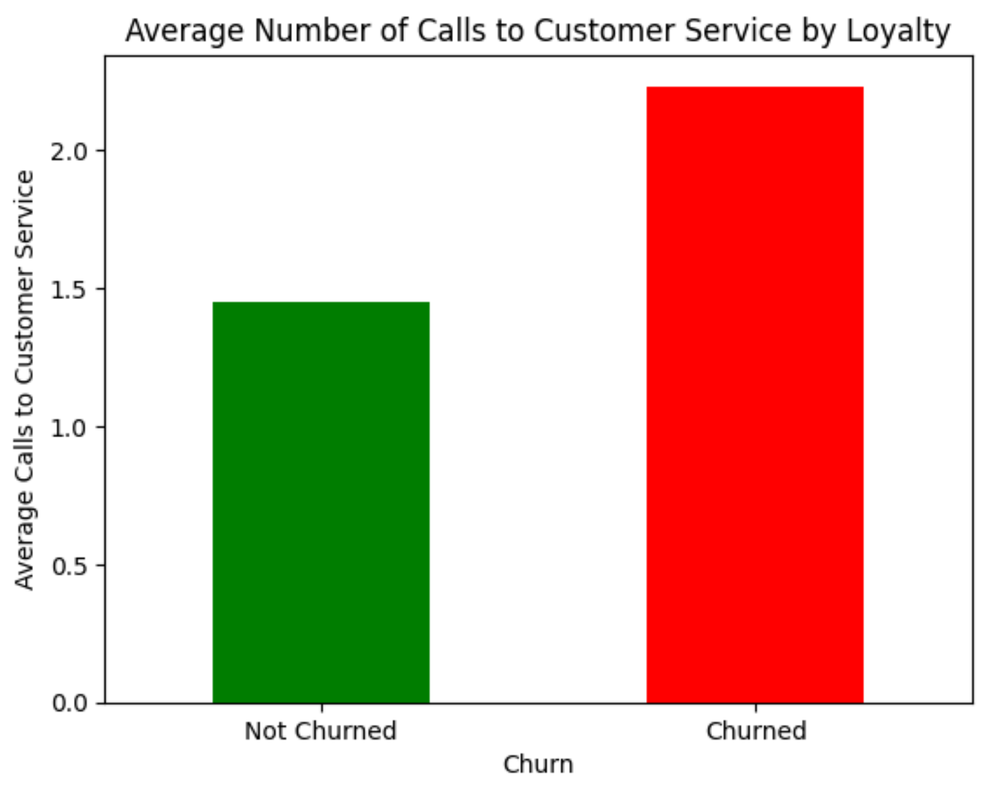
There are more users that have stayed with the company than those that have left.

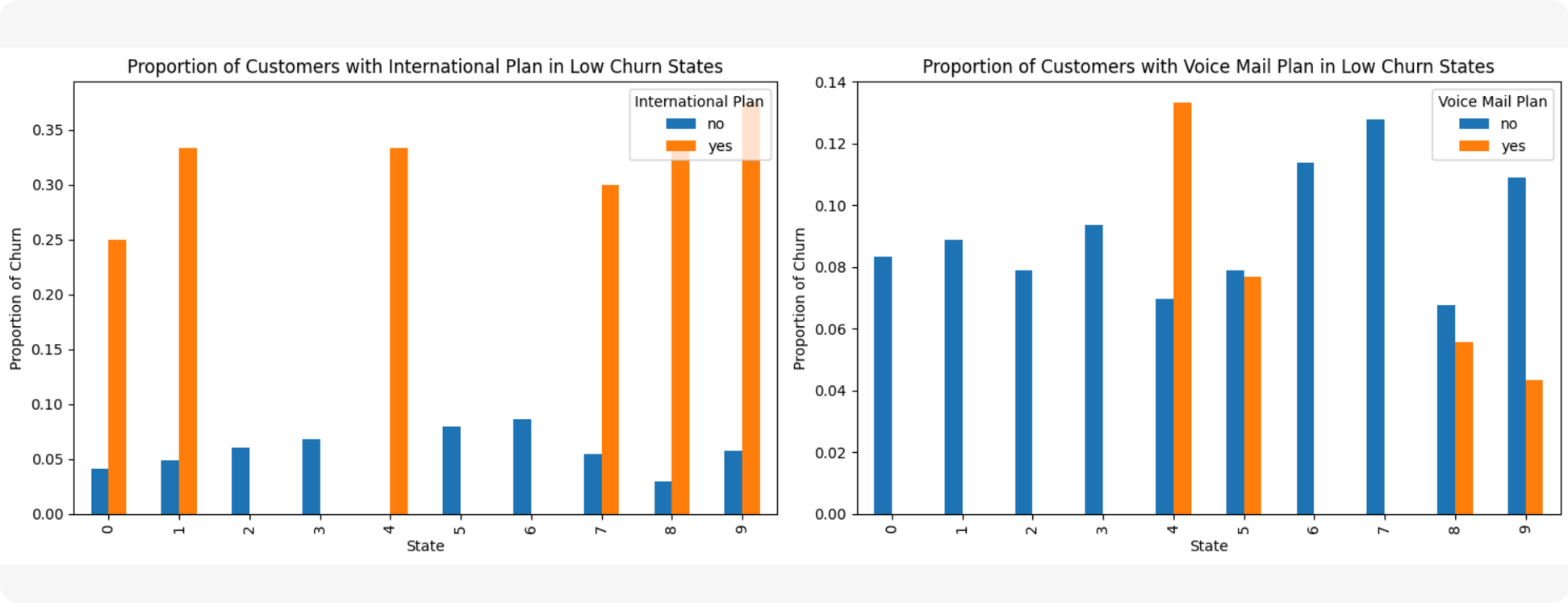


The average user made 1 call to customer service.



The customers that left made more phone calls to customer service than those that stayed.

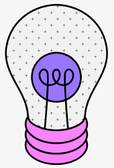




Majority of the users that stayed with the company had an international plan

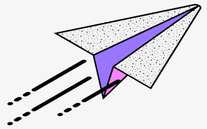
Model Summary

Three models were used: Logistic regression, KNN and Decision Tress



KNN

High accuracy and precision but indicates potential overfitting and imbalance handling issues.



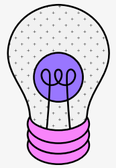
Logistic Regression

Simpler model with decent performance but struggles with class imbalance.

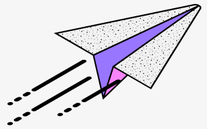
Decision Tress

Better balance between precision and recall, good interpretability but might overfit.

Recommendations



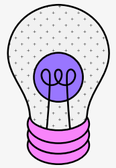
Equip customer service representatives with better skills to handle queries and complaints efficiently.



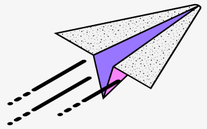
Combine multiple models (e.g., using stacking or voting classifiers) to leverage their individual strengths.

Use clustering techniques to segment customers and apply targeted retention strategies for different segments.

Recommendations



Develop a loyalty program that offers benefits like discounts, priority service, or exclusive offers for long-term customers.



Use CRM (Customer Relationship Management) tools to track customer history and preferences.

Reduce the number of calls to customer service by providing customers with self-service tools.

Next Steps

Deployment: Develop a deployment pipeline to integrate the best model into SyriaTel’s system for real-time churn prediction.

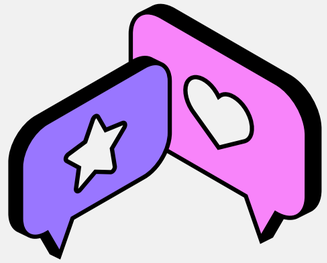
Monitoring and Maintenance: Continuously monitor model performance and update it with new data to maintain its accuracy over time.

Next Steps

A/B Testing: Implement A/B tests to measure the effectiveness of retention strategies suggested by the model.

Customer Feedback: Collect feedback from customers to refine the model and retention strategies further.

Regular Updates: Schedule regular updates and model retraining sessions to ensure the model adapts to any changes in customer behavior.



In summary, our predictive model helps identify at-risk customers, enabling SyriaTel to implement effective retention strategies and reduce churn.

Thank You