

BUSINESS PROJECT

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OVERVIEW

SyriaTel, a telecom giant, has launched a strategic campaign to address the pressing issue of customer attrition. This initiative's primary aim is to unravel the complex factors leading customers to end their relationship with the company. Equipped with a rich trove of customer data encompassing demographics, subscription details, usage patterns, and interactions, SyriaTel is committed to decoding predictive insights. The ultimate aspiration is to empower SyriaTel to proactively identify customers at risk of leaving and implement customized strategies to retain them. The end goal is to significantly reduce revenue loss and boost overall customer satisfaction.



ABOUT US

At ChurnShield, we are committed to revolutionizing the telecommunications industry with our cutting-edge Customer Churn Prediction System tailored for SyriaTel Telecommunications.

Our mission is to empower businesses to proactively manage customer churn and enhance customer retention strategies through the power of data-driven insights and predictive analytics.



METHODOLGY

The Approach:

"ChurnShield" will encompass the following key steps:

Data Collection: Gathering comprehensive historical customer data, including demographics, usage patterns, and interaction history.

Data Analysis: Utilizing data analysis to unearth critical factors contributing to customer churn.

Model Development: Creating a binary classification model that distinguishes potential churners from loyal customers.

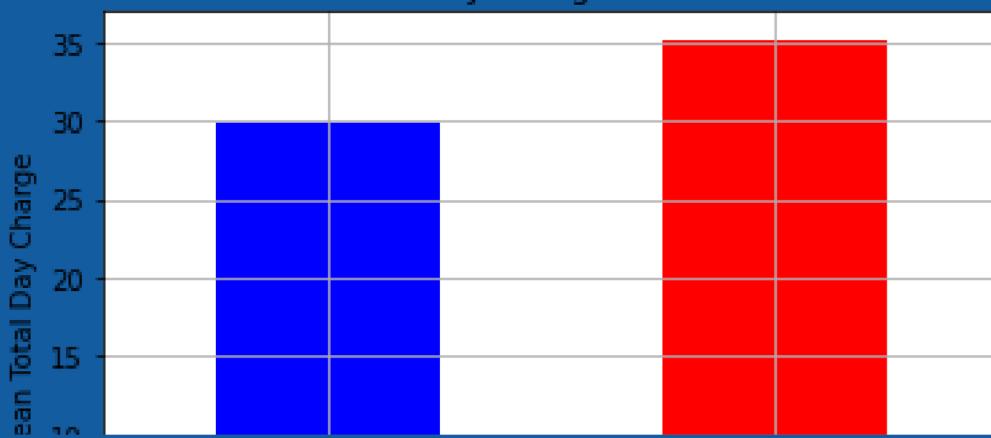
Model Integration: Integrating the predictive model seamlessly into SyriaTel's existing systems to make real-time churn predictions.

Retention Strategies: Designing personalized strategies, including special offers, discounts, or enhanced customer support, to retain identified at-risk customers.

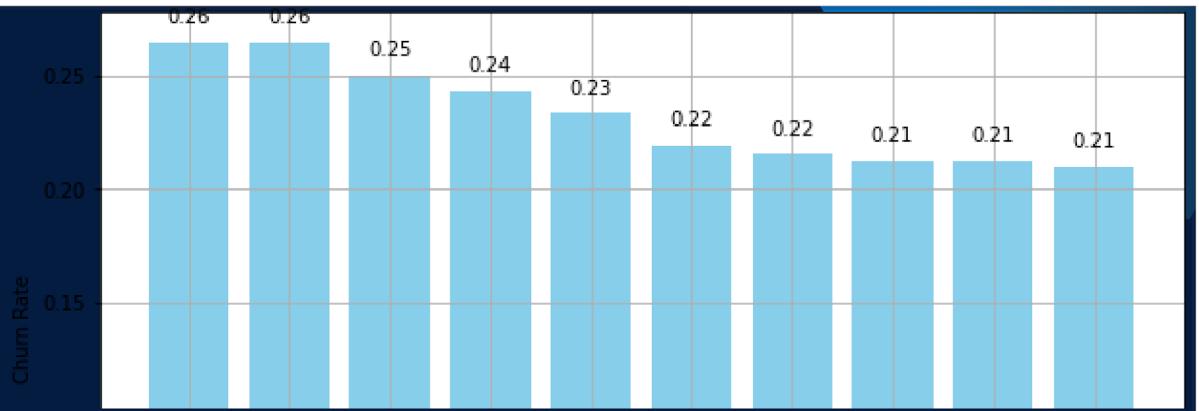
Monitoring and Evaluation: Continuously tracking the model's performance and the effectiveness of retention strategies, making necessary adjustments.



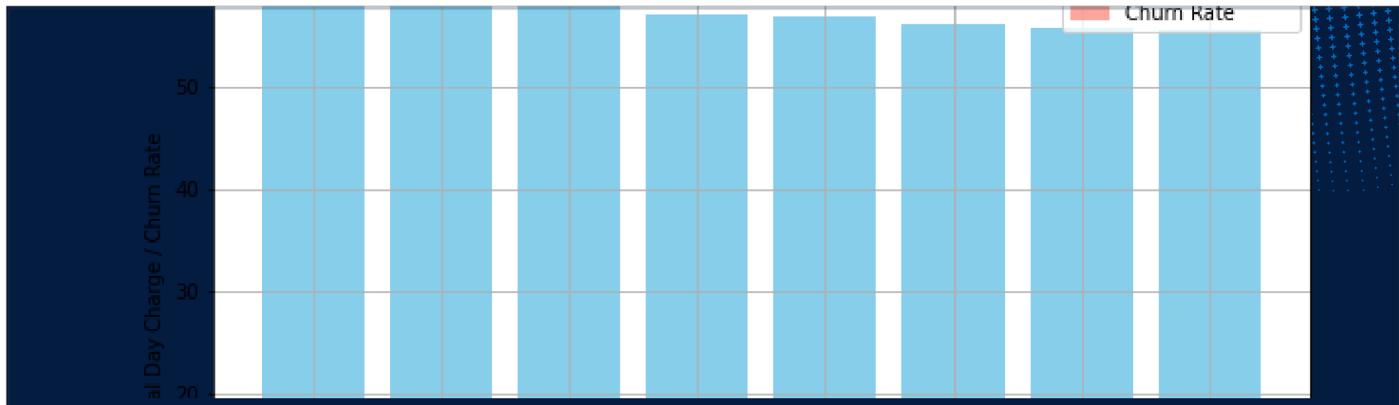
Difference in Mean Total Day Charge for Churned vs. Not Churned



The bar graph shows that the mean "Total Day Charge" for churned customers is notably higher compared to non-churned customers. This indicates that customers who eventually churn tend to have significantly higher daytime usage charges. High daytime charges could be indicative of customers making a large number of calls or using telecom services extensively during the day. This might be due to business-related or personal usage patterns. Such behavior can lead to dissatisfaction, especially if customers perceive the charges as too high.



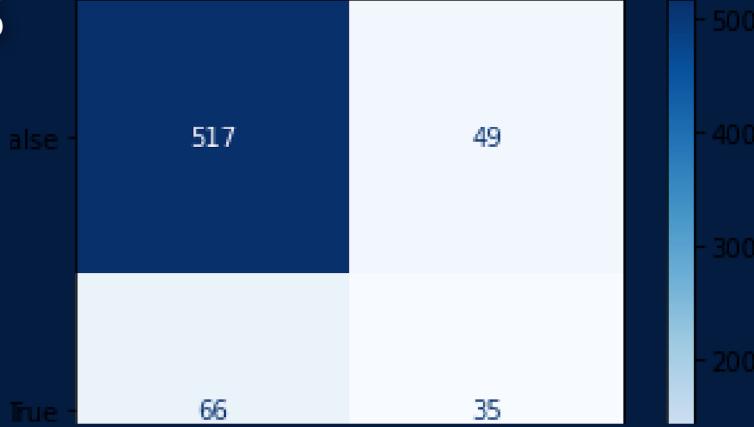
from this summary we can see that state codes affect the churn rate of different customers thus increasing the rate of churn



In the graph comparing customer service calls and churn rate, you can observe that the bars representing the number of customer service calls are relatively high in certain states. This indicates that some states have a higher incidence of customers reaching out to customer service for assistance.

At the same time, you'll notice the bars representing churn rates. Some states with high customer service call volumes also have relatively high churn rates. This suggests a correlation between a high number of customer service calls and a high churn rate.

STATISTICS



True Positives (TP): The number of customers correctly predicted as at risk of churning. True Negatives (TN): The number of customers correctly predicted as not at risk of churning. False

Positives (FP): The number of customers incorrectly predicted as at risk of churning. False Negatives (FN): The number of customers incorrectly predicted as not at risk of churning. The confusion matrix

can be useful for understanding the trade-offs between sensitivity (recall) and specificity.

RECOMENDATIONS

To begin, enhancing the quality of customer service should be the top priority. Our analysis highlights a clear association between an increased number of customer service calls and higher churn rates. By addressing service-related issues and ensuring top-tier customer satisfaction, Syria Tel can notably reduce churn.

Additionally, pricing strategy optimization is of utmost importance. Our data demonstrates a direct correlation between higher total charges and an elevated likelihood of customer churn. Syria Tel should strive to strike a pricing balance that retains customers while maintaining profitability.

The matter of network quality, especially during peak daytime hours, cannot be underestimated. A strong positive link between churn and "total day minutes" indicates network connectivity concerns. Resolving these issues, such as call dropouts and improved call quality, will lead to better service and decreased churn.

Incorporating the XGBoost model into the decision-making process is a wise move. This machine learning tool can effectively identify customers at risk of churning and empower Syria Tel to implement tailored retention strategies. Continuous monitoring and refining of the model will play a pivotal role in achieving the overarching goals of reducing churn and improving customer retention.

In summary, the combined efforts to address customer service quality, fine-tune pricing, enhance network performance, and leverage advanced analytics through the XGBoost model can position Syria Tel for substantial reductions in churn rates and the cultivation of stronger customer relationships. By implementing these recommendations, Syria Tel is well-equipped to excel in the competitive telecommunications industry.

Market Analysis

our comprehensive examination of Syria Tel's customer dataset has provided us with valuable findings regarding customer churn and its underlying determinants.

To achieve the primary business goals of minimizing churn and improving customer loyalty, we have presented crucial recommendations and actionable strategies.

LIMITATIONS

Data Limitations: The findings and recommendations are based on the available dataset. If the dataset is not comprehensive or representative of the entire customer base, the conclusions may not be universally applicable.

Assumptions: The analysis relies on certain assumptions, such as the causality between variables. These assumptions may not always hold true in real-world scenarios.

Data Quality: The quality of the data is crucial. Inaccurate or incomplete data can lead to misleading conclusions and recommendations.

External Factors: The analysis does not account for external factors that may influence customer churn, such as economic conditions, competitors' actions, or regulatory changes.

Modeling Limitations: The machine learning model used has its limitations. It assumes that historical patterns will continue, which may not always be the case.

Ethical Considerations: The analysis focuses on reducing churn, but ethical considerations about how data is used and potential biases in decision-making should be addressed.



OUR TEAM

OMARE BRYTONE GOODBYE

