PREDICTING CUSTOMER CHURN FOR SYRIATEL

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OVERVIEW

The goal in this project is to forecast client attrition for the telecom provider SyriaTel. The decision of a client to discontinue utilizing a business's services is known as customer churn, and it is a major problem for many companies. SyriaTel can lessen the impact of churn and maintain revenue by anticipating which customers are most likely to depart and taking proactive measures to keep them. The project's potential to assist SyriaTel in customizing its client retention tactics, which will ultimately increase customer pleasure and loyalty, is what gives it business value.

BUSINESS AND DATA UNDERSTANDING

Customer attrition is a significant corporate issue, causing businesses to lose money and have to pay more to acquire new ones. To increase profitability, businesses can focus on retaining at-risk customers by anticipating turnover. Historical customer data, including demographics, behavior, and consumption trends, is used in this research. The 'churn' variable, which indicates customer departure, is the target variable. A prediction algorithm is developed to identify which clients are most likely to leave, thereby enhancing overall profitability.

MODEL

The project used classification models to categorize customer data into distinct groups. Three models were implemented: Logistic Regression, Random Forest Classifier, and XGBoost. Logistic Regression is a simple model that estimates the probability of a customer churning. Random Forest Classifier is an advanced ensemble model that uses multiple decision trees for predictions. XGBoost is a highly efficient gradient boosting model that can handle large and complex datasets effectively. Each model was trained on customer data, leveraging various features to predict the likelihood of churn based on customer characteristics and behavior.

EVALUATION

The study evaluated the effectiveness of various models using key metrics such as accuracy, ROC-AUC Score, and confusion matrix. The Logistic Regression model was found to be adequate, while the Random Forest Classifier improved with higher accuracy and precision. However, the XGBoost model outperformed both, achieving the highest accuracy and ROC-AUC score, demonstrating superior ability to identify churners while minimizing false predictions. XGBoost emerged as the best-performing model, delivering reliable and actionable predictions, demonstrating the effectiveness of the models.

RECOMMENDATIONS

The XGBoost model is recommended for SyriaTel to predict customer churn, identifying high-risk customers for targeted retention efforts. This could include personalized discounts or premium support services for frequent service users, and incentivizing high international usage with new international plan options. These strategies can reduce churn, improve customer satisfaction, and drive business growth.

NEXT STEPS

The XGBoost Model is recommended for SyriaTel to integrate into its customer service and retention workflows to generate automatic churn predictions. It is then used to identify high-risk customers and prioritize them for retention campaigns. Regular performance monitoring and retraining are necessary to ensure accurate predictions. Additional data, such as survey feedback or marketing engagement metrics, can be incorporated to enhance model predictions and design more effective retention strategies.

THANKYOU!!

Any Questions?