سيريتل

SYRIATEL

SYRIATEL CUSTOMER CHURN BY PAULINE WAMBUI

Background

▶ Business overview- SyriaTel is facing customer churn.Its trying to identify customers with high risk of leaving and how to retain them.Customer churn can be a major source of revenue loss for a company, as it can be costly to acquire new customers to replace those who leave. Overall, we are looking on how to build a classifier whose main goal is to predict customer churn in order help the syriatel to retain valuable customers and increase profitability.

Business exploration and understanding

- we used syriatel from kaggle to build our classification models in order to make predictions.

- We identified features that were affecting customer behaviour in the company.features such as customer service,international calls and total day charges.Dropped features that were not necessary e. g phone number I used churn as the target column to predict customers leaving and those remaining in the company.We also dropped some features such as state and areacode since they were not useful in our models.

Comparing churn with customer service

Percentage of Customer Churn based on Num. of Customer Service Calls
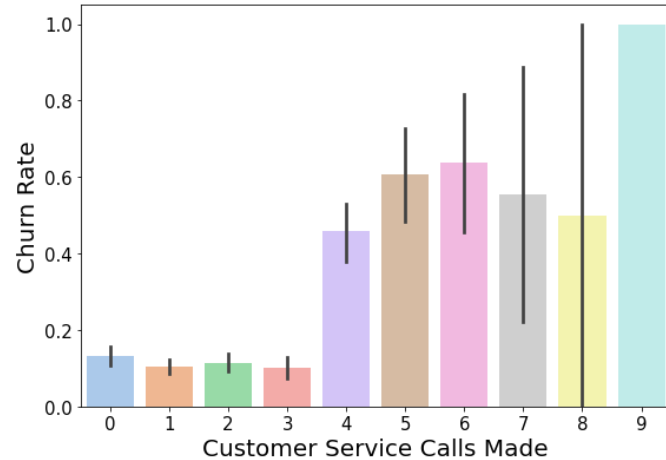
From the bar plot we get to see that customer service has a high effect on churn rate. A customer is likely to churn if they call more than 4 times.If they call 9 times their churnrate is at 100%.Syriatel should therefore make sure that they improve their customer services in order to reduce losses brought about by customers leaving

Comparing churn with international plan

Percentage Churn of International Plan Holders
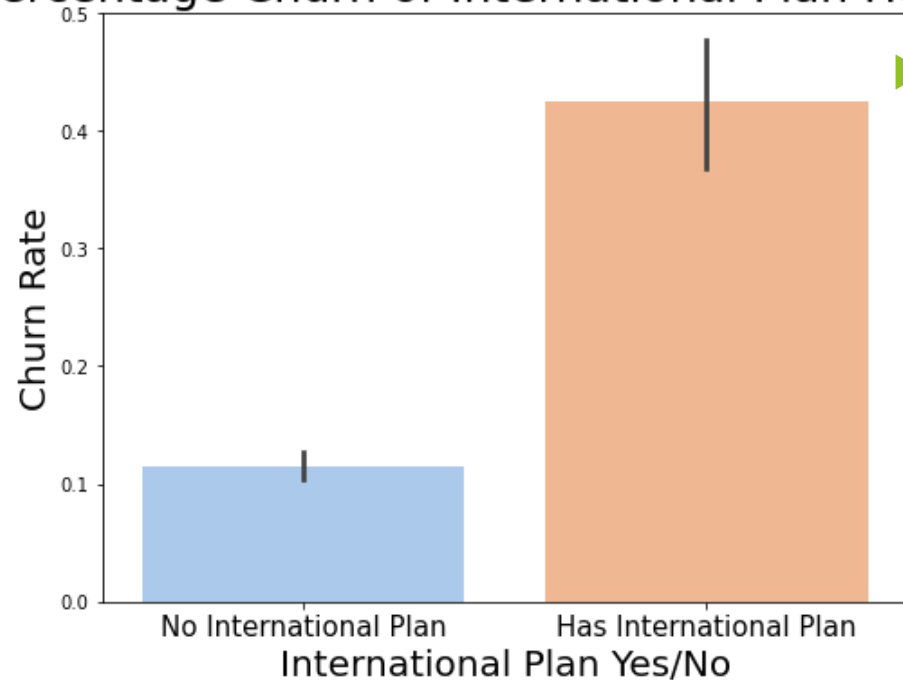
▶ From the graph we see that customers with international plan have a higher likelihood of customer churning. Syriatel should improve their services outside their country inorder for them to attract more customers and reduce number of those that are leaving.

Modelling
1.Random forest

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rf Classification Report:
              precision    recall  f1-score   support

           0       0.94      0.91      0.93       857
           1       0.57      0.68      0.62       143

    accuracy                           0.88      1000
   macro avg       0.76      0.80      0.77      1000
weighted avg       0.89      0.88      0.89      1000


ROC AUC Score:
0.7965704074222161
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▶ The random forest model performed quite well since it had a precision of 57% and a recall of 68% this is likely to predict a moderate number of customer churning but the decision tree was doing quite better

Model 2-Decision trees

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Tree Classification Report:
              precision    recall  f1-score   support

           0       0.95      0.87      0.91       857
           1       0.49      0.75      0.59       143

    accuracy                           0.85      1000
   macro avg       0.72      0.81      0.75      1000
weighted avg       0.89      0.85      0.86      1000
```

► From this we get to see that the model predicted 75% of recall which is true positive rate and 49% of precision making it the best model . Syriatel company should use This model to predict since it has the highest number of customers likely to churn

Evaluation

▶ DecisionTreeClassifier is the best predicting model and would recommend Syriatel to use it since it has the highest positive rate of 75%.This would help in seeing the trends for the future in order to identify features causing customer churning and ways on how to reduce.

▶ Logistic regression:r2 score: 72% Recall:73% Precision:31%

▶ Decisiontreeclassifier:r2 score:91% Recall:75% Precision:49%

▶ KNNNeighborsclassifier:r2 score:72% Recall:73% Precision:35%

▶ Randomforestclassifier:r2 score:87% Recall:68% Precision:58%

Recomendations

▶ From the models we get to see that the Decision tree has the highest recall and therefore can be used to predict the highest rate of customer churning .I would therefore recommend Syriatel to use this model so that they can be able to predict the rate of customer churning and put necessary measures before

▶ From the data we get to see that features such as customer service and international plan highly affect the customer churning rate . Syriatel should make sure that they improve their services so that they can retain customers and avoid revenue loss

▶ Further investigations should be made in order to know what steps to take inorder to reduce by atleast 7% churning e.g offering incentives to customers,look at the targeted market especially if they have international plan or not so that they can retain their customers

Next steps

- Identify ways in which syriatel can increase customer retention. Developing strategies to improve customer satisfaction, address pain points, and incentivize loyal behavior

- Continuous monitoring and iteration: . Continuously monitor churn rates, customer feedback, and model performance. Update your model periodically to incorporate new data and refine your retention strategies.

- Retention campaigns: Design and implement targeted retention campaigns based on customer segments and risk levels. Develop strategies to improve customer satisfaction, address pain points, and incentivize loyal behavior. Monitor the effectiveness of these campaigns and iterate based on results.

THANK YOU