EXL EQ 2020
Team Panthers
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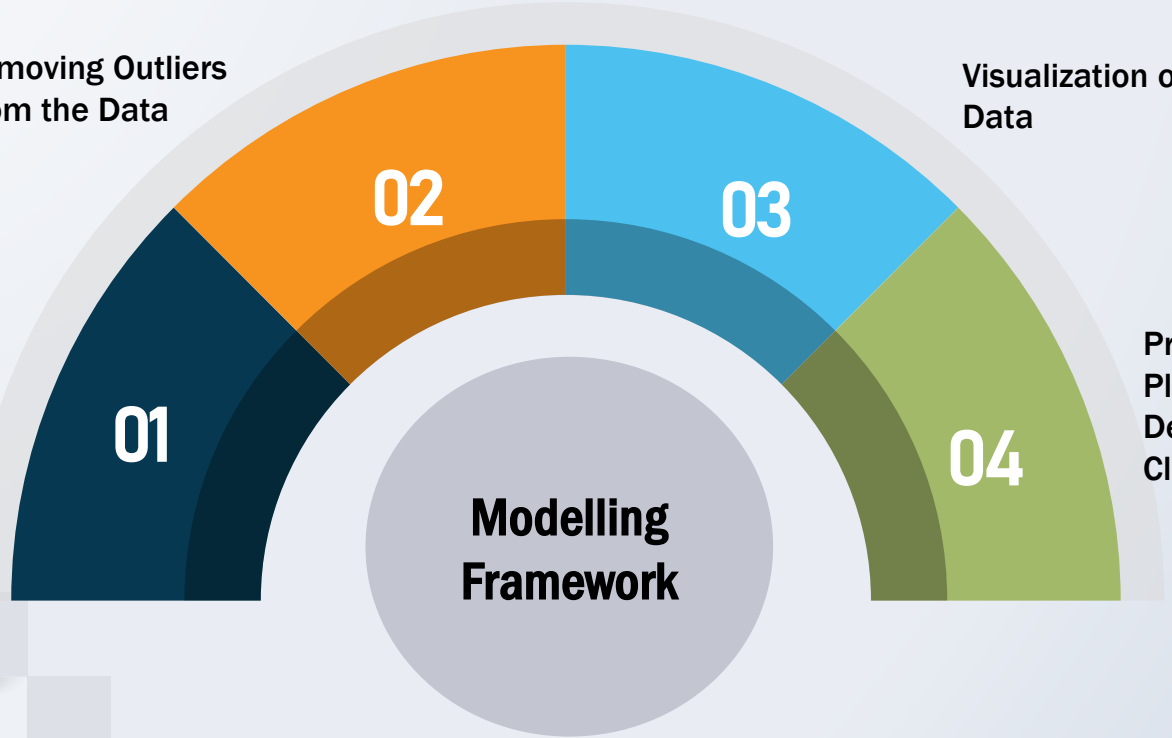
Methodology

- The objective of the problem is to determine the target platform for every customer will prefer who isn't using the self service portal.



Classification Model

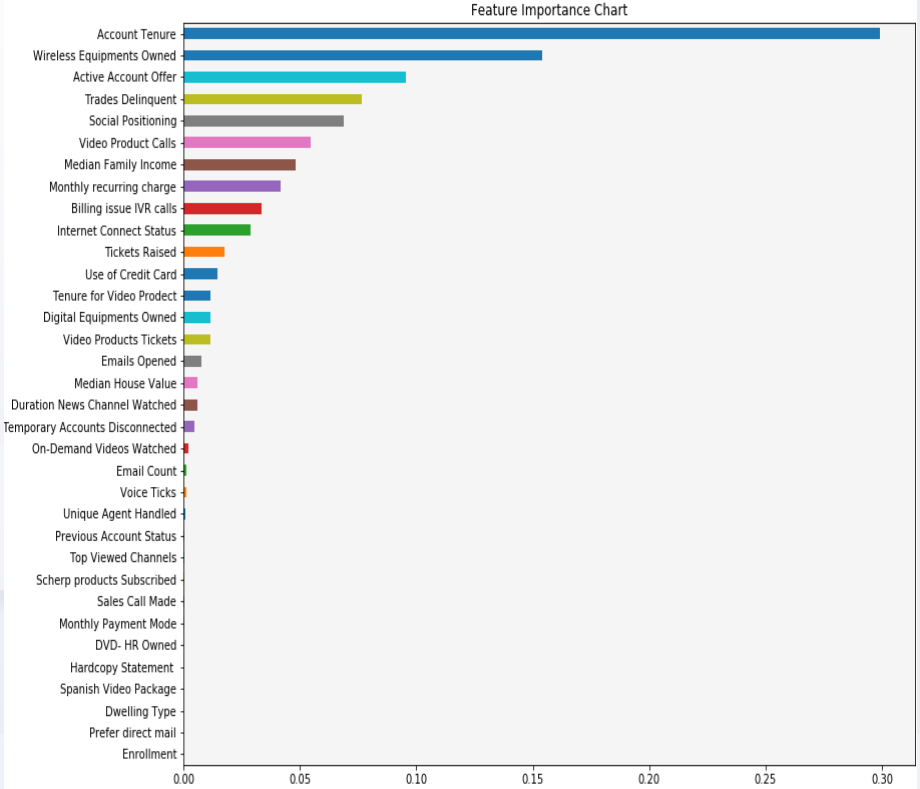
- Feature selection and Hyper parameter tuning are the key aspects to build a robust Machine Learning Model. Firstly we get the feature importance of each feature of the dataset by using the feature importance property of the model. Feature importance gives a score for each feature of the data, the higher the score more important or relevant is the feature towards the output variable.

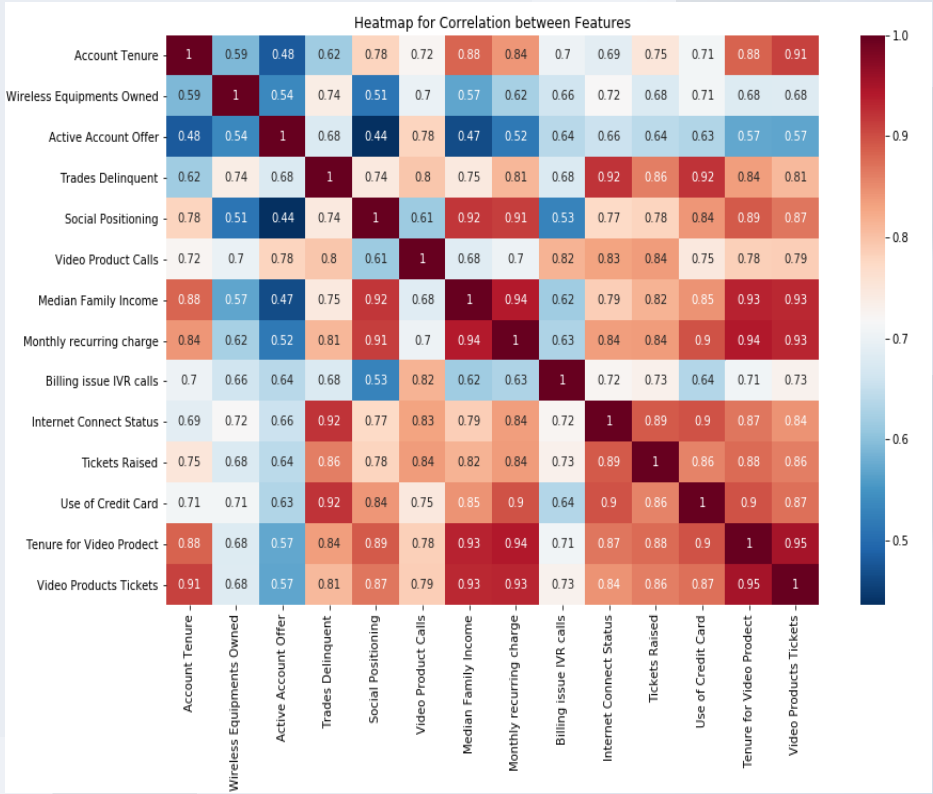
- Correlation states how the features are related to each other or the target variable. Correlation between remaining features is visualised through Heatmap. Among the two features having high correlation, we eliminated one of it and kept the other.

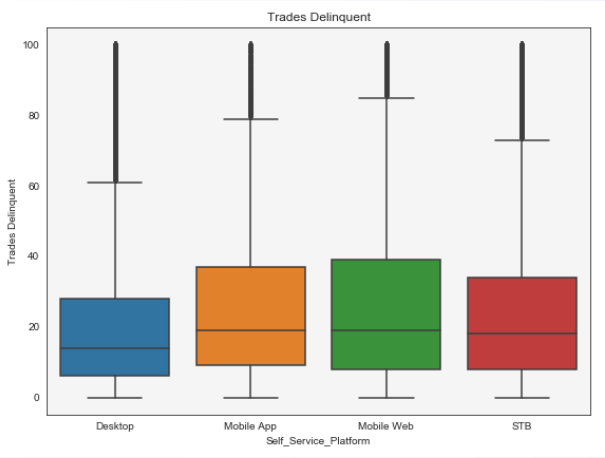
- Outliers are visualised using Box Plot and then removed as they were generating high skewness in the data.

- Algorithm Used: Decision Tree Classifier and GridSearchCV for hyper Parameter tuning.

Feature Selection Criteria

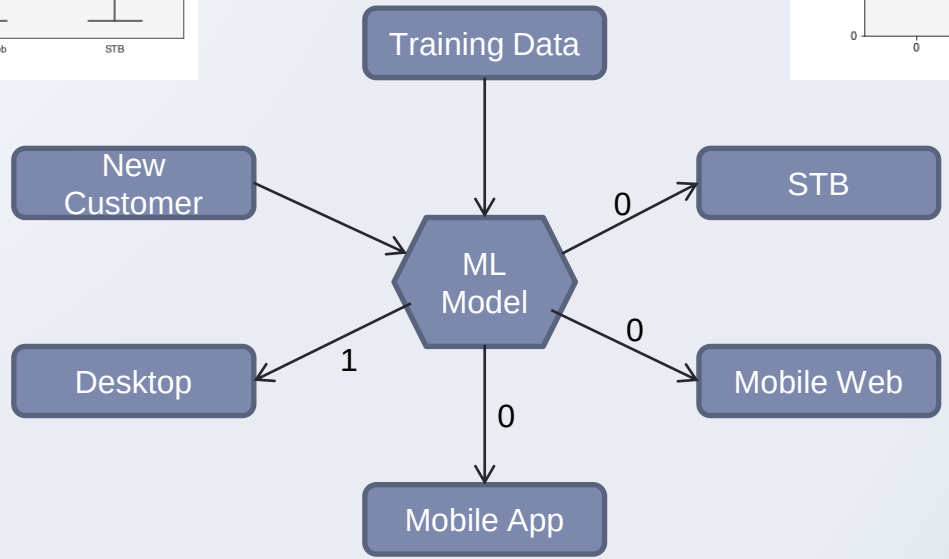


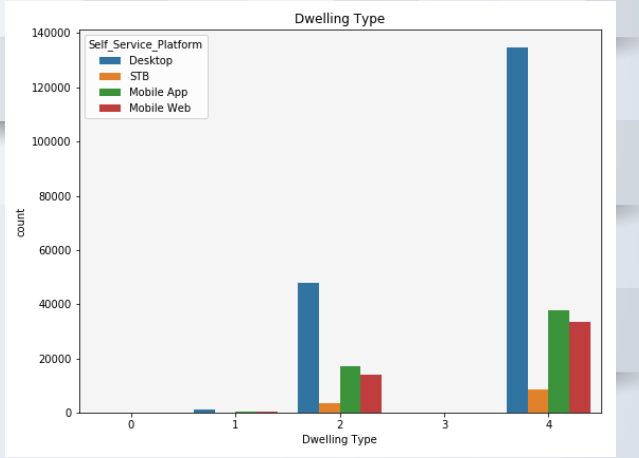




Example of Significant Feature

Any one of the four will be predicted according to the data of the New Customer and will be assigned 1 and all other 0 as per the flow chart





Example of Non-Significant Feature

Flow–Chart of Classification Model

Strategy

- After visualizing various plots on Training Data, we concluded that more than 60% of customers use/prefer Desktop and less than 5% of them use/prefer STB.
  Hence, company should invest more on other platforms rather than STB as it is least used by the customers.

- Company should try to expand their customer base which are not using self service platforms and those who are not linked with the company as well towards the self service platforms.
  - Probable Reasons for the customers not using self service platforms can be:
  - They are not aware about the company's self service platforms.
  - They find difficult to use self service platforms.
  - They don't find the User Interface of any of the platform that much attractive.

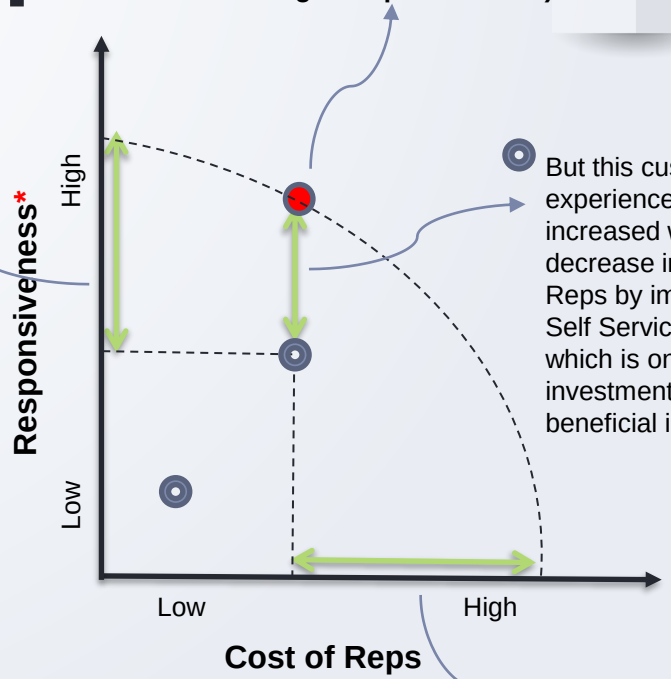
Recommendation

- Company should try to scrap STB platform as its not much profitable (as per our assumption) by the following means:
  - Try to lure customers towards other platforms by making them aware about the features dominating over the STB and providing the additional perks in the beginning.
  - Invest to enhance the Mobile App and Mobile Web Self Servicing Platforms.

- Company should advertise more about their self service platforms. This can be done through:
  - Voice notes on the company caller tune explaining about the benefits of using the self service platforms.
  - Tutorials explaining how to use the self service platforms should be provided on the company's website and app.
  - Enhance the user interface to make it more attractive and easy to use.

Refer link to see more Plots : https://drive.google.com/file/d/101UQRR2CUWPb_NlJjgvKH3wGU1Dui7yk/view

Cost Impact



Decreasing number of Reps corresponds to decrease in responsiveness to the customer resulting in lower customer experience

But this customer experience can be increased with decrease in cost of Reps by implementing Self Service Portal which is one time investment and will be beneficial in long term

*Responsiveness: It is how quickly Customer Representative serves the customers

Opening Self Service platform reduces cost invested on reps as less number of reps will be required

Cost of Implementation of Self Service Platforms = CSSP

Cost for Each Customer Representative = CR

Revenue Generated from Each Customer = CC

As per long term vision of the company, getting more customers onto the self service platforms will generate more revenue to the company

Revenue Generated = m*CC + n*CR –CSSP

Here,
m = No .of customers using Self Service Platforms
n = Decrease in No. of Customer Representatives required

As more and more customers start using Self Service Platforms m will increase, there will be less requirement of Reps and n will also increase, thereby increasing the Overall Revenue.