LEAD SCORE CASE STUDY

Lead Score Case Study for X Education

Business Goal:

X Education sells online courses to industry professionals. The company markets its courses on websites and search engines like google.

Once these people land on the websites, they might browse the course or fill up a form for the course or watch some videos. When these people fill up a form providing their email address or phone number, they are classified to be a lead. Moreover, the company also gets leads through past referrals. Once these leads are acquired, employees from the sales team start making calls, writing emails, etc. Through this process, some of the leads get converted while most do not. The typical lead conversion rate at X education is around 30%.

The CEO, in particular, has given a ballpark of the target lead conversion rate to be around 80%.

Problem Statement:

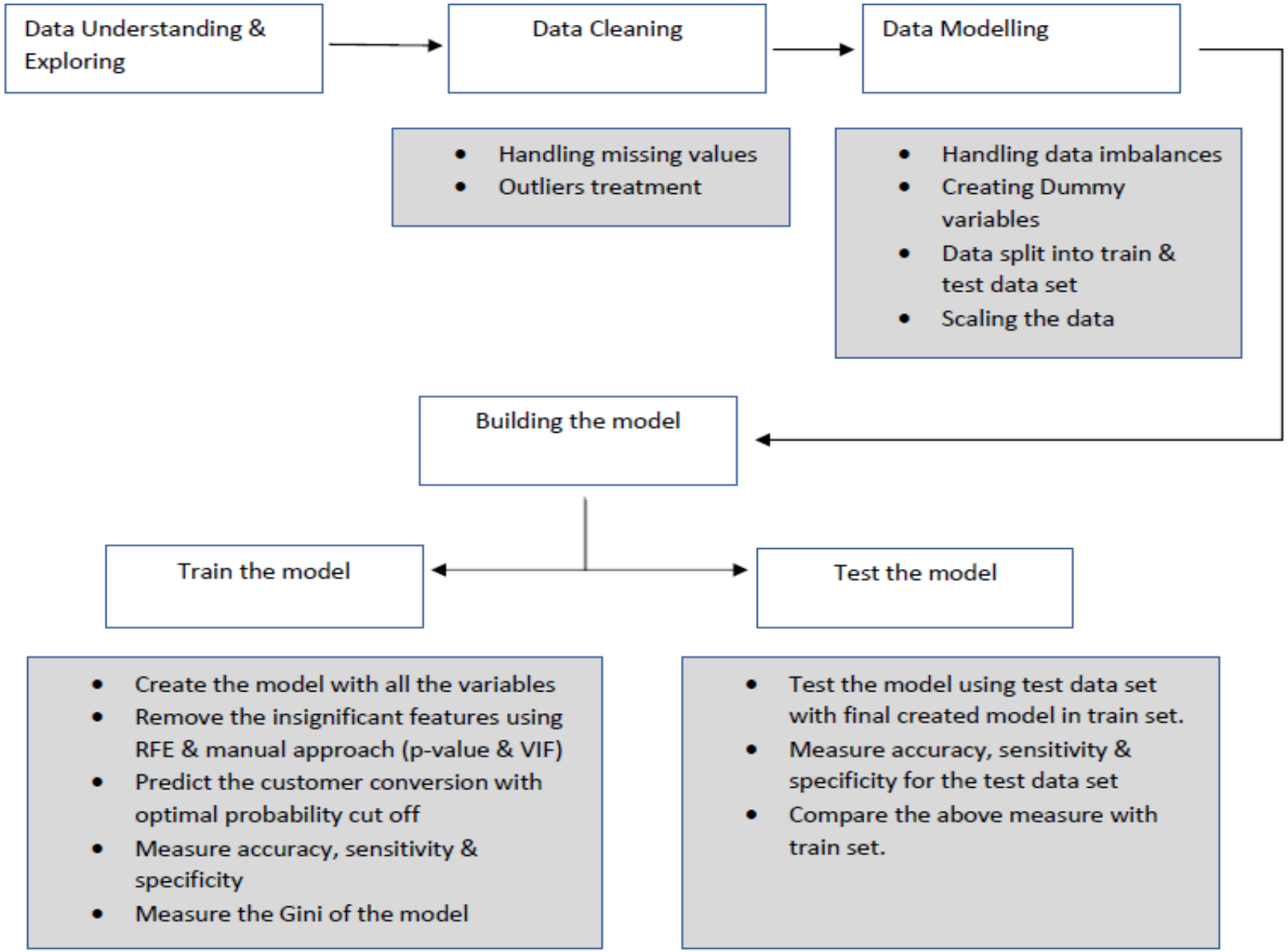
Identify the sets of leads of X Education company so that the lead conversion rate should go up so the sales team of the company could focus more on communicating with the potential leads (Hot leads) rather than approaching each and every customer which in turn would help them in paying more attention to the customers that are more likely to purchase their product/course.

The company needs a model where in it assigns a lead score to each of the leads such that the customers with high lead score have a higher conversion rate & the customer with lower lead score have a lower conversion rate.

Strategy:

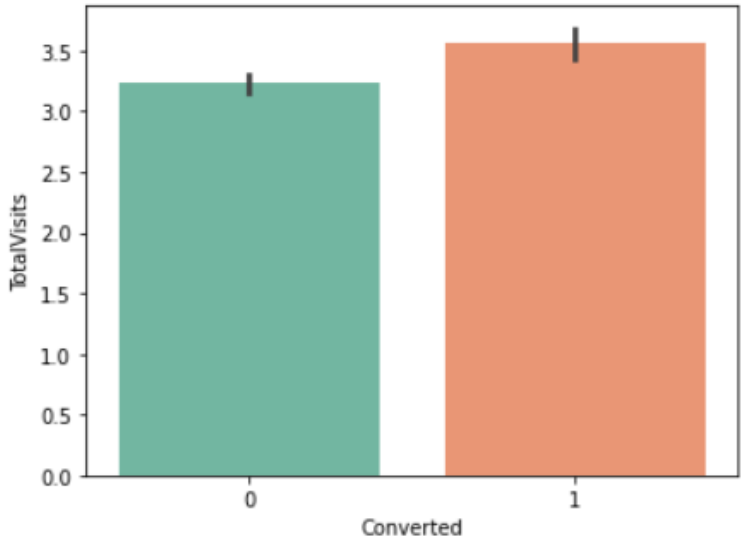
- Source the data for Analysis
- Clean & Prepare the data
- Exploratory Data Analysis
- Splitting the data into Train & Test data set
- Scaling the Numerical parameters
- Building Logistic Regression model & Calculating Lead score
- Evaluating the Model – Accuracy, Specificity & Sensitivity (or) precision & Recall
- Test the model using test data set with final created model in train set and compare different metrics ~ Accuracy, Specificity & Sensitivity.

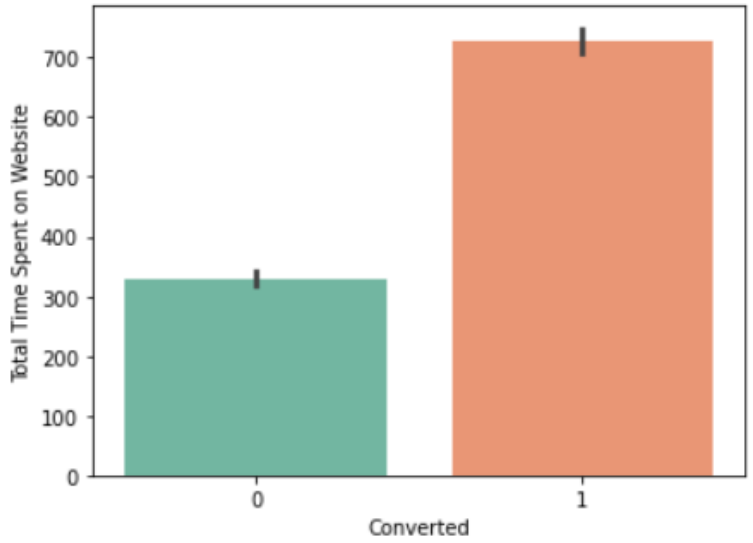
Analysis Approach:

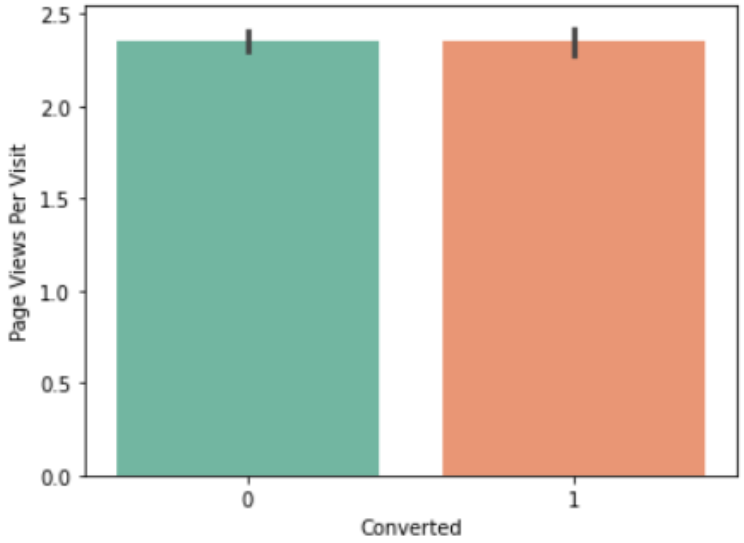


Exploratory Data Analysis:

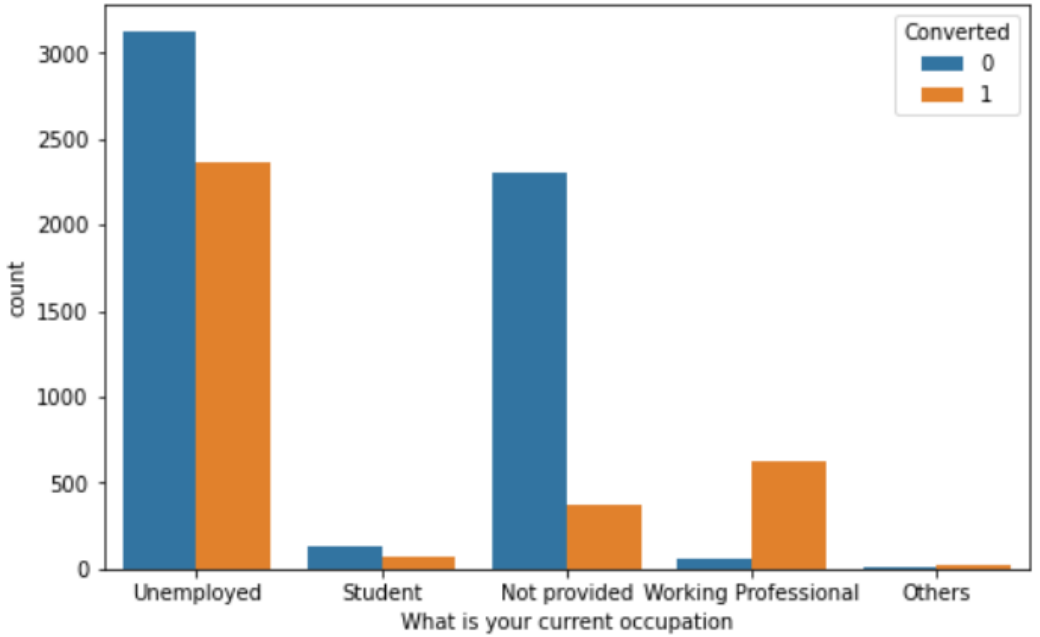
- With increase in Total time spent on website the conversion rate also increases.
- As the customer spends more time on the X Education website more is the chance of him opting for the course.



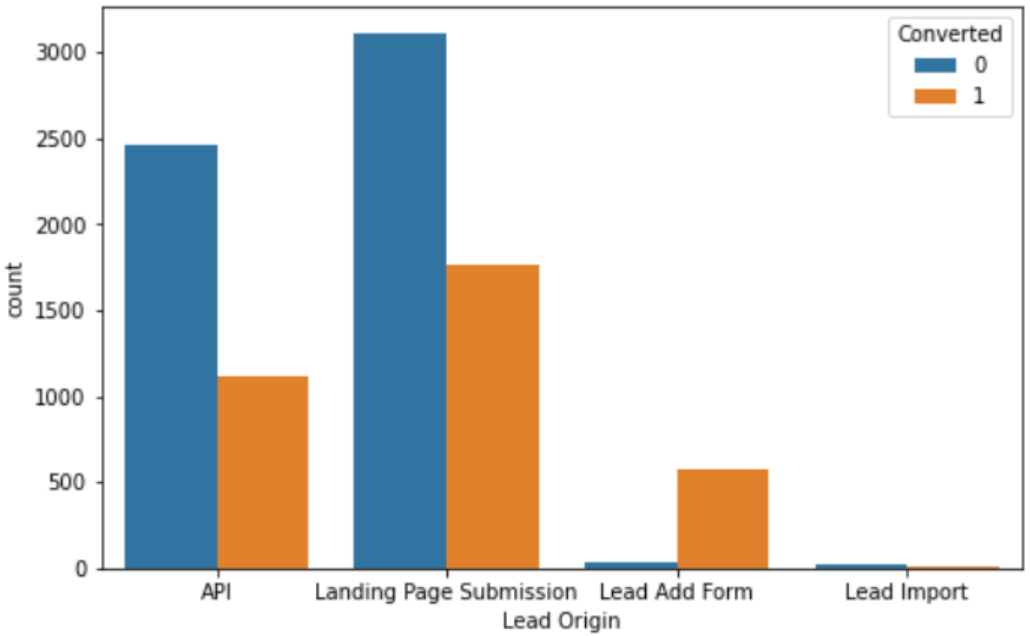




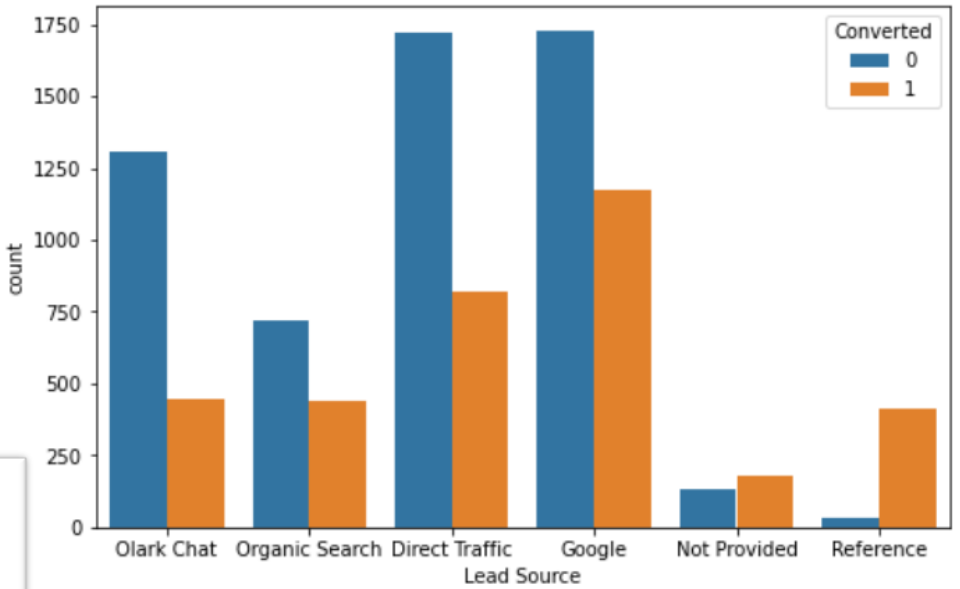
- More conversion has happened among the people who are Unemployed & followed by Working professionals

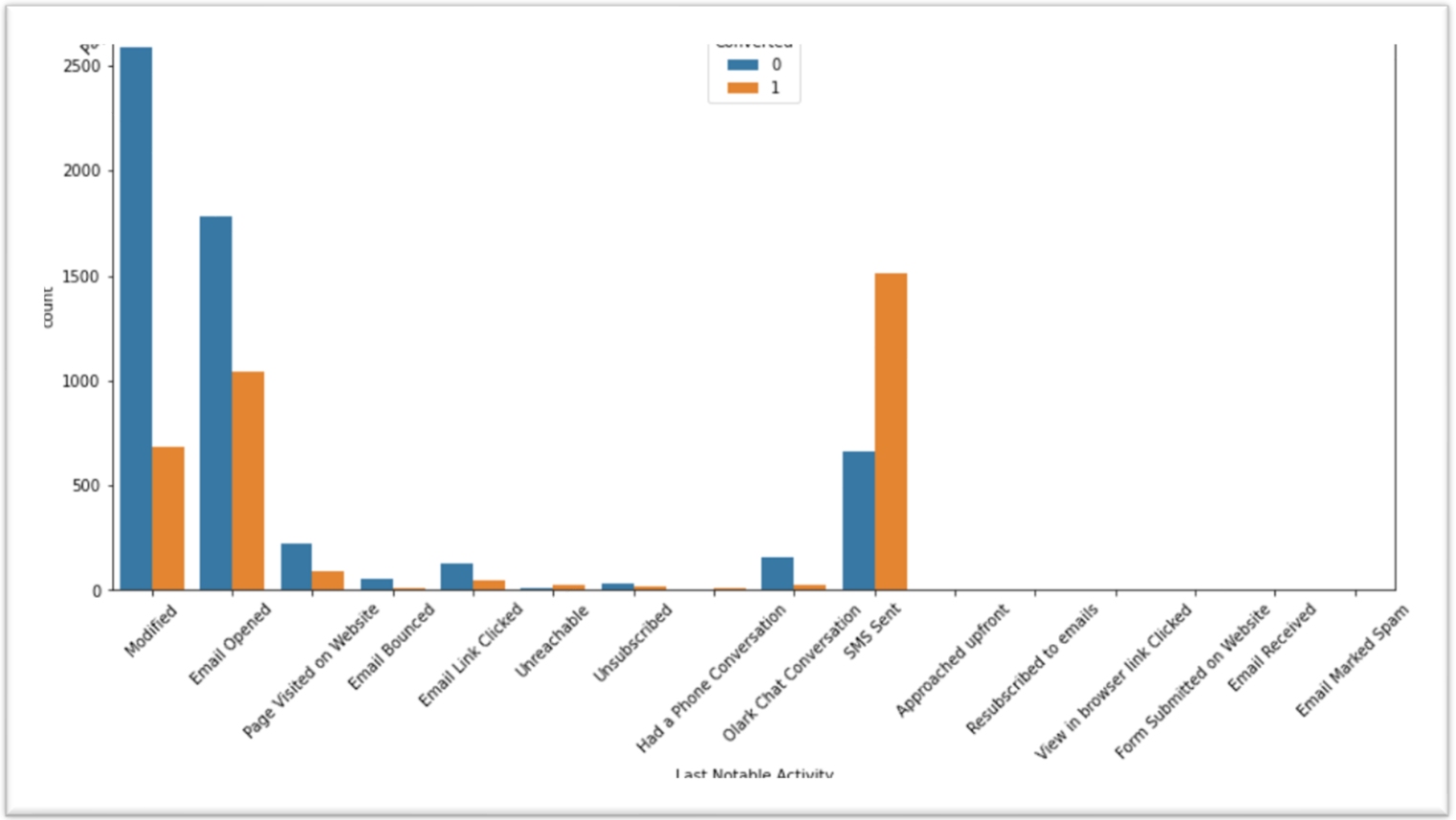


- In Lead source maximum conversion happened from Landing Page Submission, followed by API & Lead Add Form



- Major conversion in lead source is from Google, followed by Direct Search, Olark chat





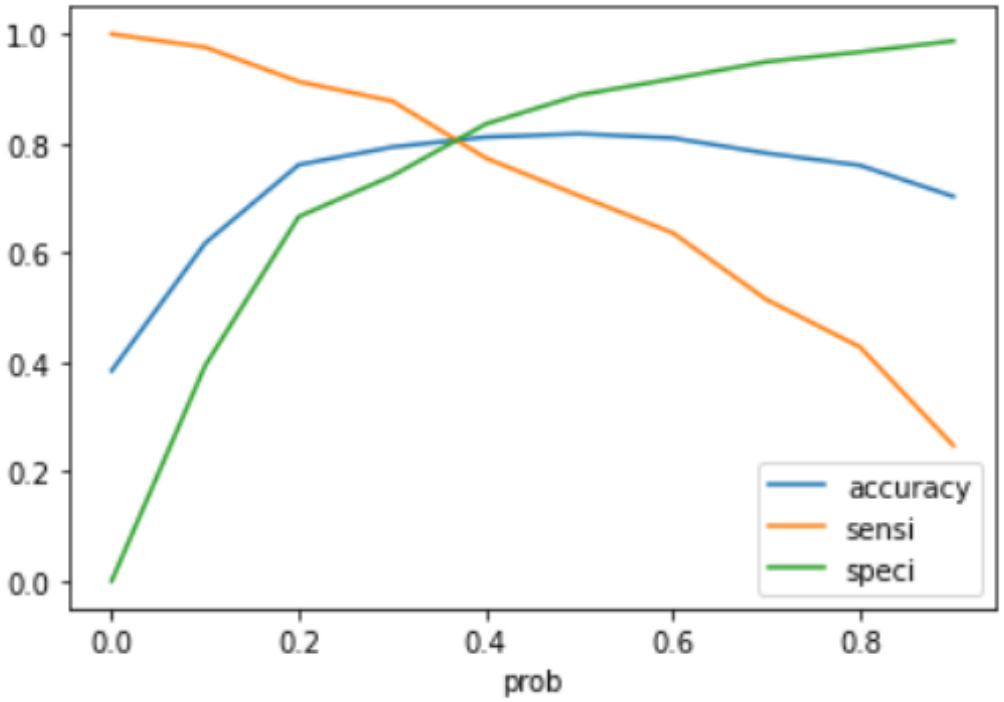
- Major conversion has occurred when the Last Notable Activity is ‘SMS Sent’.

Variables impacting the conversion rate achieved from model

- Total Time Spent on Website
- Current Occupation – Unemployed
- Current Occupation – Working professional
- Current Occupation – Student
- Last Notable Activity – Had a Phone Conversation
- Last Notable Activity – Unreachable
- Last Notable Activity – SMS Sent
- Total Visits
- Lead Origin – Lead Add Form
- Lead Source – Olark Chat
- Last Activity – Converted to lead
- Last Activity – Olark Chat Conversation
- Last Activity – Email Bounced

Model Evaluation (Accuracy, sensitivity & Specificity) – Train Data set

The graph depicts an optimal cutoff of 0.35 based on Accuracy, sensitivity & Specificity



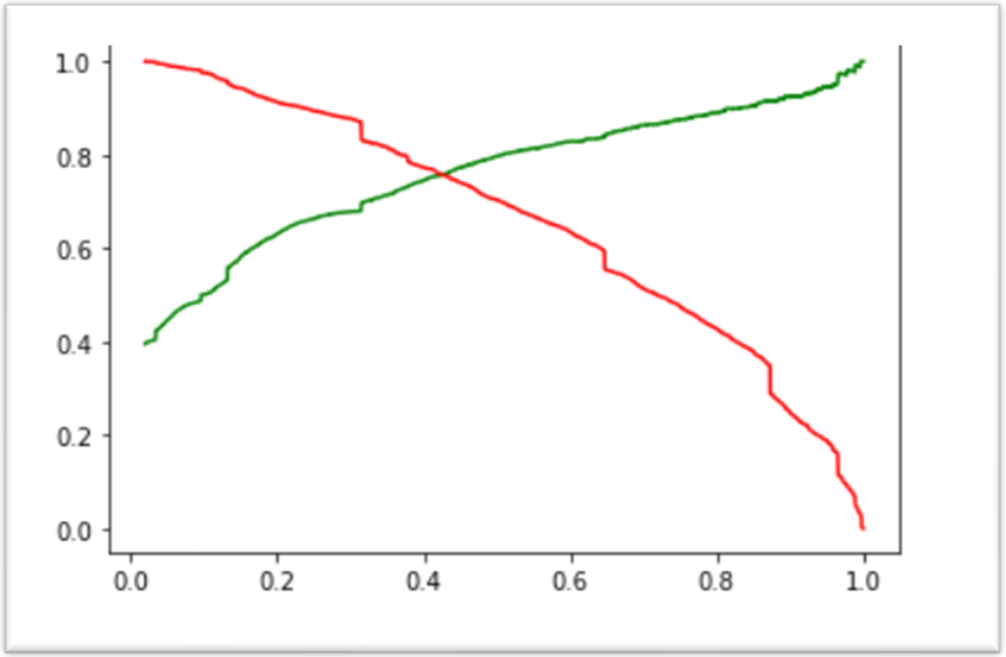
Confusion Matrix

3117	801
449	1998

- Accuracy – 80%
- Sensitivity – 82%
- Specificity – 80%

Model Evaluation (Precision & Recall) - Train Data set

The graph depicts an optimal cut off of 0.41 based on precision & cutoff



Confusion matrix

3296	622
563	1884

- Precision – 75%
- Recall – 77%

Model Evaluation – Test Data set

- Accuracy, Sensitivity & Specificity

Confusion matrix

1374	341
195	818

- Accuracy – 80%
- Sensitivity – 81%
- Specificity – 80%

- Precision & Recall

Confusion matrix

1438	277
245	768

- Precision – 74%
- Recall – 76%

- Accuracy, Sensitivity & Specificity values for Test data set are approximately closer to that of the Train data set.
- Precision & Recall values for Test data set are approximately closer to that of the Train data set.

Conclusion

- The top 4 variables that contribute for lead getting converted are:
  - Total Time Spent on Website
  - Lead Origin – Lead Add Form
  - Current Profession – Working Professional
  - Last Notable Activity – Had a Phone Conversation

Business recommendation for higher conversion rate:

Highly likely to be converted leads:

1. Lead score more than 71
2. Current occupation – Working professional, Student & Others
3. Lead source Olark Chat
4. Last notable Activity – SMS sent, Had a phone conversation

Less likely to be converted leads:

1. Lead score less than 13
2. Last Activity – Email bounced
3. Last Activity – Converted to lead, Olark chat conversation