Lead Score Case study Report

This analysis is done for X Education to find ways to get more industry professionals to join courses.

The following steps we used:

1. **Cleaning Data**:
   The data was partially clean except for a few null values. The option select had to be replaced with a Nan Value since it did not give us much information. Few of the Values changed, since there were many from India and few from outside, The element were changed to India. In city column Mumbai has more majority of leads have come ,so we changed to Mumbai.

2. **EDA**:
   A EDA was done to check the condition of our data. It was found that a lot of elements in the categorical variables were inapplicable.

3. **Data Preparation:**
   Split the data into Train and Test ,where split was done at 70% and 30% for train and Test data respectively.

4. **Model Building:**
   We done with RFE with top 15 applicable elements. After this removed elements depends on the VIF values and p-values. (The elements with VIF<5 and p-value<0.05 were kept).

5. **Model Evaluation:**
   A confusion matrix was made. Later on find optimum cut off value, After plot the graph between accuracy, specificity and sensitivity for various probabilities, got the optimal cut-off of 0.2

6. **Prediction:**
   On the test dataset applied Prediction with optimum cut off as 0.2 with accuracy, sensitivity and specificity.

7. **Precision-Recall:**
   We checked the precision and recall with accuracy, sensitivity and specificity for our final model and the trade offs.

8. **Conclusion:**

   Learning gathered are below:

   I. Test set is having accuracy, recall/sensitivity in an acceptable range.
   II. In business terms, our model is having stability an accuracy with adaptive environment skills. Means it will adjust with the company's requirement changes made in coming future.
   III. Top features for good conversion rate:
      1. Last Notable Activity Had a Phone Conversation
      2. Lead Origin Lead Add Form.
      3. What is your current occupation Working Professional.