LEAD SCORING CASE STUDY

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Introduction

An education company named X Education sells online courses to industry professionals. On any given day many professionals who are interested in the courses land on their website and browse for courses. Once these people land on the website, they might browse the courses 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%.

Business Goals

The company wishes to identify the most potential leads, also known as 'Hot Leads'. The company needs a model wherein a lead score is assigned to each of the leads such that the customer with higher lead score have a higher conversion chance and the customer with lower lead score have a lower conversion chance. The CEO, in particular, has given a ballpark number for the lead conversion rate i.e, 80%.

Overall Approach

- Data cleaning and imputing missing values
- Exploratory Data Analysis - Univariate, Bivariate and Multivariate Analysis
- Feature Scaling and Dummy Variable Creation
- Logistic Regression Model Building
- Model Evaluation - Sensitivity, Specificity, Precision, Recall
- Conclusion and Recommendation

Libraries Used

- Numpy
- Pandas
- Matplotlib
- Seaborn
- StatsModel
- Sklearn

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1. Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?

   Solution:

   - Lead Source
   - Occupation
   - Last Activity

2. What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?

   Solution:

   - Lead Source_Welingak Website
   - Lead Source_Reference
   - What is your current occupation_Working Professional

3. X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So during this phase, they wish to make the lead conversion more aggressive. So they want almost all of the potential leads (i.e. the customers who have been predicted as 1 by the model) to be converted and hence, want to make phone calls to as much of such people as possible. Suggest a good strategy they should employ at this stage.

   Solution:

   One strategy that X Education can employ during the 2-month period is to decrease the lead score threshold for making phone calls. By lowering the lead score threshold (Currently 85 for the final Result), the sales team can target a larger pool of potential leads, including those who may have a lower predicted probability of conversion. This can increase the number of phone calls made and potentially increase the number of conversions during this period. However, it is important to monitor the effectiveness of this strategy and adjust the lead score threshold as needed to ensure that the sales team is not wasting time on leads that are unlikely to convert.

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4. Similarly, at times, the company reaches its target for a quarter before the deadline. During this time, the company wants the sales team to focus on some new work as well. So during this time, the company's aim is to not make phone calls unless it's extremely necessary, i.e. they want to minimize the rate of useless phone calls. Suggest a strategy they should employ at this stage.

Solution:

One strategy that the company can employ during this period is to increase the lead score threshold for making phone calls. By increasing the lead score threshold, the sales team can focus on leads that are more likely to convert and avoid wasting time on leads that are unlikely to convert. However, it is important to monitor the lead score threshold and adjust it as needed to ensure that the sales team is not missing out on potential conversions.