Submitter study group: -

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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?

Answer:

The top three variables that contribute the most towards the probability of a lead getting converted are below:

1. **Tags_Closed by Horizzon** ➔ coefficient = 8.9448.
   For every unit increase in **Tags_Closed by Horizzon**, the lead converting probability increases by approximately 8.9448, holding all other variables constant.

2. **Tags_Lost to EINS** ➔ coefficient = 8.5327.
   For every unit increase in **Tags_Lost to EINS**, the lead converting probability increases by approximately 8.5327, holding all other variables constant.

3. **Tags_Will revert after reading the email** ➔ coefficient = 3.4580.
   For every unit increase in **Tags_Will revert after reading the email**, the probability of lead conversion increase by approximately 3.4580, holding all other variables constant.

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?

Answer:

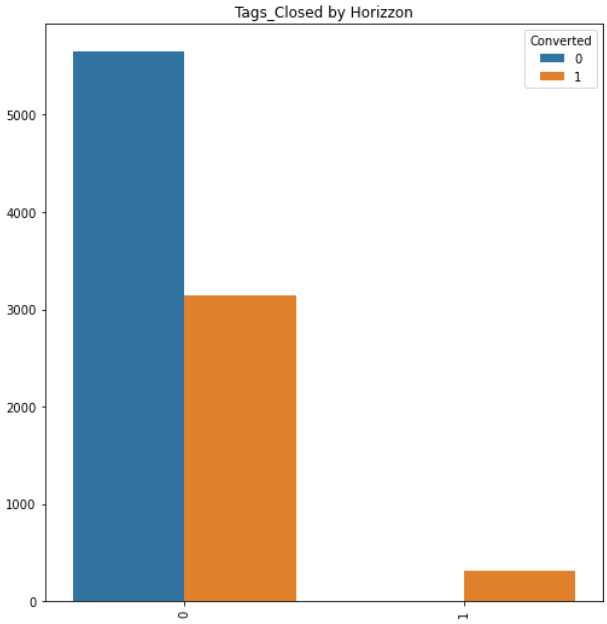
Based on the coefficients from the model, the top three categorical/dummy variables that have the most influence on lead conversion are:

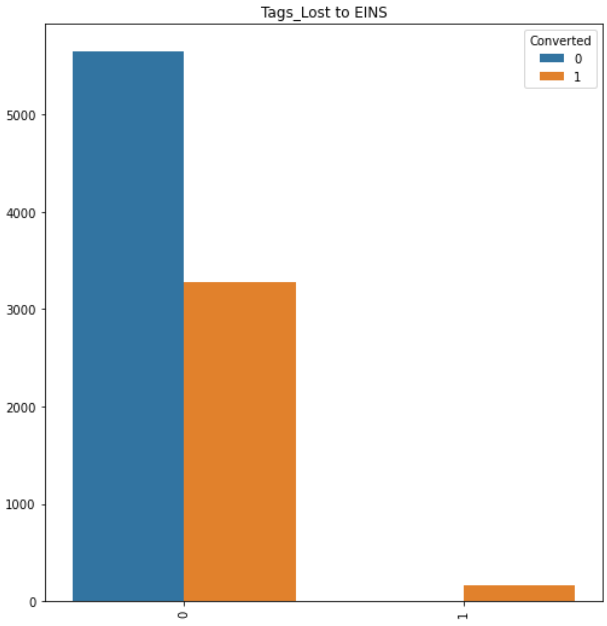
1. **Tags_Closed by Horizzon** with a coefficient of 8.9448: If a lead is tagged as 'Closed by Horizzon', it significantly increases the likelihood of that lead being converted.

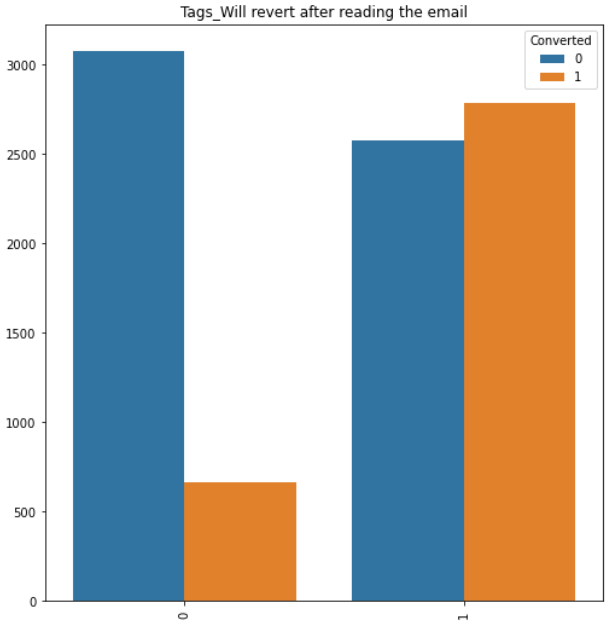
2. **Tags_Lost to EINS** with a coefficient of 8.5327: Similarly, if a lead is tagged as 'Lost to EINS', it also significantly increases the chance of conversion.

3. **Tags_Will revert after reading the email** with a coefficient of 3.4580: A lead who is tagged as 'Will revert after reading the email' is more likely to be converted than other leads.

So, focusing on these three tags in the leads might help increase the probability of lead conversion.







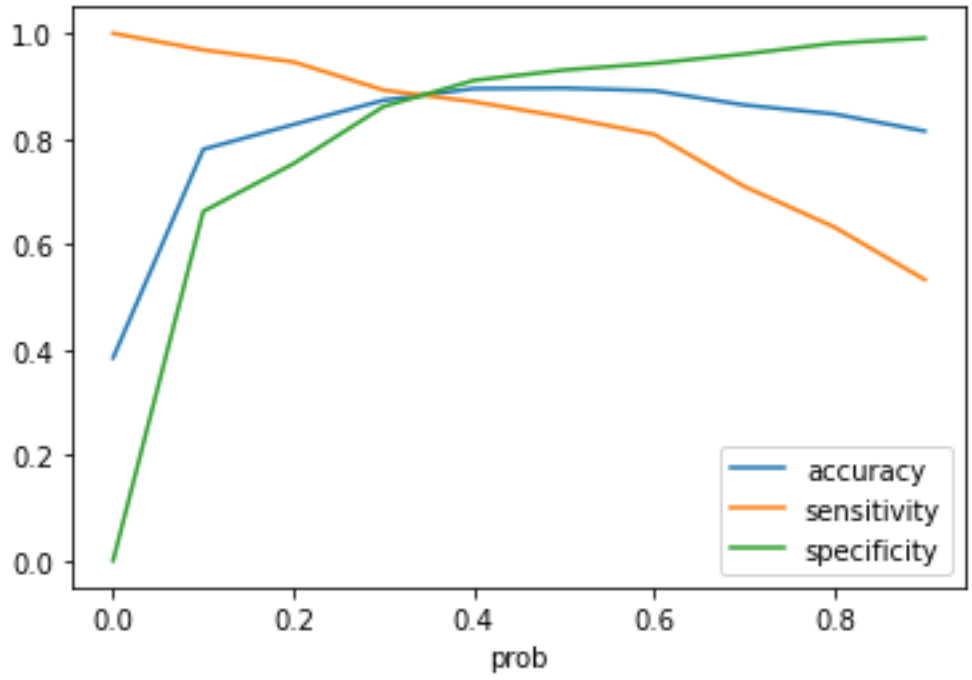
3. X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So during this phase, they wish to make the lead conversion more aggressive. So they want almost all of the potential leads (i.e. the customers 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.

Answer : -

To maximize lead conversions, X Education can choose to adapt their cutoff to elevate Sensitivity.

Sensitivity, also known as True Positive Rate, signifies how accurately the actual conversions are being predicted out of the total real conversions. Conversely, Specificity or True Negative Rate, indicates how well actual non-conversions are identified among the total number of actual non-conversions.

In a model, a rise in Sensitivity leads to a fall in Specificity, and vice versa. This is largely dictated by the conversion probability cutoff threshold. The graph below showcases the varying Accuracy, Sensitivity, and Specificity values based on different cutoff points:



According to the plot above, the best cutoff probability is 0.35

Elevating Sensitivity implies our model can pinpoint nearly all leads that are likely to convert. However, this might be accompanied by a slight increase in false positives - potential leads that may not convert are also predicted as conversions.

Given X Education's intention to intensify lead conversions for these 2 months due to the additional workforce, lowering the threshold value for Conversion Probability can be an effective strategy. This would lead to a high Sensitivity score, ensuring almost all potential leads are correctly identified. The sales agents can then reach out to a wider base of potential leads. Even if this approach could possibly lead to over-estimation of conversions (and thus some wasted effort), the total number of conversions should still increase, likely leading to a boost in revenue. This approach is in line with a high-volume, low-margin strategy.

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.

Answer : -

When the company achieves its quarterly targets ahead of schedule and wishes to focus the sales team on new tasks, reducing unnecessary phone calls becomes crucial. One way to do this is to adjust our model to favour Specificity.

A high Specificity means our model does a good job identifying leads who probably won't convert. This accuracy comes with the trade-off of potentially overlooking some leads who might have converted, meaning some conversion opportunities could be lost.

So, when X Education has met its quarterly goal and wants to cut down on needless phone calls, we could opt for a higher threshold value for Conversion Probability. This results in a higher Specificity score, ensuring we pick leads who are right on the fence of possibly converting. As a consequence, the sales team avoids unneeded calls and can shift their focus to new work.