

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

Solution:

Based on the coefficient values from below screenshot, the following are the top three variables that contribute most towards the probability of a lead getting converted :

1. Wellingak Website and Reference (from Lead Source)
2. Other activity (from Last Activity)
3. Working Professional(from What is your current occupation)

|  | coef    |
|--|---------|
| const  | -1.1828 |
| Do Not Email   | -1.3881 |
| TotalVisits  | 0.3532  |
| Total Time Spent on Website                          | 1.0942  |
| Page Views Per Visit                                 | -0.3419 |
| Lead Origin_Landing Page Submission                  | -1.0306 |
| Lead Source_Olark Chat                               | 1.0819  |
| Lead Source_Reference                                | 3.4253  |
| Lead Source_Wellingak Website                        | 5.8155  |
| Last Activity_Email Link Clicked                     | 0.5367  |
| Last Activity_Email Opened                           | 0.9033  |
| Last Activity_Olark Chat Conversation                | -0.6543 |
| Last Activity_Other_Activity                         | 3.0216  |
| Last Activity_SMS Sent                               | 2.1123  |
| Last Activity_Unreachable                            | 1.0002  |
| Last Activity_Unsubscribed                           | 1.6989  |
| Specialization_Hospitality Management                | -0.6151 |
| Specialization_Others                                | -1.1787 |
| What is your current occupation_Student              | 0.5508  |
| What is your current occupation_Working Professional | 2.7017  |

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:

Based on the coefficient values from the screen shot in the question above, the following are the top three categorical/dummy variables that should be focused the most in order to increase the probability of lead conversion :

1. Wellingak Website (from Lead Source)
2. Reference (from Lead Source)
3. Other activity (from Last Activity)

|  | coef    |
|--|---------|
| const  | -1.1828 |
| Do Not Email   | -1.3881 |
| TotalVisits  | 0.3532  |
| Total Time Spent on Website                          | 1.0942  |
| Page Views Per Visit                                 | -0.3419 |
| Lead Origin_Landing Page Submission                  | -1.0306 |
| Lead Source_Olark Chat                               | 1.0819  |
| Lead Source_Reference                                | 3.4253  |
| Lead Source_Welingak Website                         | 5.8155  |
| Last Activity_Email Link Clicked                     | 0.5367  |
| Last Activity_Email Opened                           | 0.9033  |
| Last Activity_Olark Chat Conversation                | -0.6543 |
| Last Activity_Other_Activity                         | 3.0216  |
| Last Activity_SMS Sent                               | 2.1123  |
| Last Activity_Unreachable                            | 1.0002  |
| Last Activity_Unsubscribed                           | 1.6989  |
| Specialization_Hospitality Management                | -0.6151 |
| Specialization_Others                                | -1.1787 |
| What is your current occupation_Student              | 0.5508  |
| What is your current occupation_Working Professional | 2.7017  |

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:

The final prediction is calculated based on an optimal cut-off value of 0.345.

In order to make sales aggressive, the company may collect all the leads which have a conversion probability (value =1) under a cut off .3 (highlighted in the image below).

|    | Converted | Converted_prob | predicted | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | final_predicted | Lead_Score |
|----|-----------|----------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|------------|
| 0  | 1         | 0.885492       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 1               | 89         |
| 1  | 0         | 0.033464       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 3          |
| 2  | 1         | 0.211770       | 0         | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 21         |
| 3  | 0         | 0.171256       | 0         | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 17         |
| 4  | 1         | 0.545298       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 1               | 55         |
| 5  | 0         | 0.584672       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 1               | 58         |
| 6  | 0         | 0.378097       | 0         | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 1               | 38         |
| 7  | 0         | 0.108908       | 0         | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 11         |
| 8  | 0         | 0.027781       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 3          |
| 9  | 0         | 0.416954       | 0         | 1   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 1               | 42         |
| 10 | 0         | 0.047597       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 5          |
| 11 | 1         | 0.903612       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1               | 90         |
| 12 | 0         | 0.042811       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 4          |
| 13 | 0         | 0.053559       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 5          |
| 14 | 1         | 0.221836       | 0         | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 22         |
| 15 | 1         | 0.819214       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 1               | 82         |
| 16 | 0         | 0.189574       | 0         | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 19         |
| 17 | 0         | 0.053559       | 0         | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 5          |
| 18 | 1         | 0.851674       | 1         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 1               | 85         |
| 19 | 0         | 0.211770       | 0         | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0               | 21         |

