

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

Based on the final model the top three variables which contribute most towards the probability of a lead getting converted include:

- Closed by Horizzon (from Tags) (coefficient 6.7275)
- Total Visits (coefficient 6.2833)
- Lost to ENIS (from Tags) (coefficient 5.6726)

	coef
const	-1.4387
TotalVisits	6.2833
Total Time Spent on Website	4.3093
LeadOrigin_Landing Page Submission	-0.7983
LeadOrigin_Lead Add Form	1.1354
LeadSource_Olark Chat	0.7618
LeadSource_Welingak Website	4.0108
DoNotEmail_Yes	-0.6762
LastActivity_Page Visited on Website	-0.6028
LastActivity_SMS Sent	1.9544
Whatisyourcurrentoccupation_Working Professional	0.8386
Tags1_Closed by Horizzon	6.7275
Tags1_Interested in other courses	-2.4854
Tags1_Lost to EINS	5.6726
Tags1_Not Specified	-0.6070
Tags1_Other_Tags	-2.8846
Tags1_Ringing	-3.9524
Tags1_Will revert after reading the email	3.8703
LastNotableActivity_Email Link Clicked	-1.3266
LastNotableActivity_Modified	-1.6697
LastNotableActivity_Olark Chat Conversation	-1.7145

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?

Based on the final model the top three categorical/dummy variables which contribute most towards the probability of a lead getting converted include:

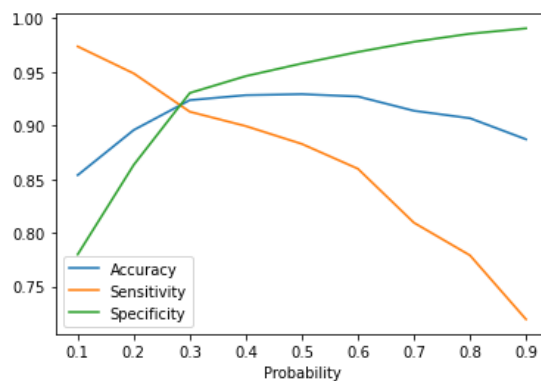
- Closed by Horizzon (from Tags) (coefficient 6.7275)
- Lost to ENIS (from Tags) (coefficient 5.6726)
- Welingak Website (from Lead Source) (coefficient 4.0108)

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.

The optimal cutoff of Probability for lead being converted when considering Accuracy, Specificity and Sensitivity has been found to be 0.3.

Sensitivity is the ratio of the number of leads predicted as converted to the number of leads actually converted. Specificity is the ratio of the number of leads predicted as not converted to the number of leads not converted

The Accuracy at the optimal cutoff of probability is 92.36%, Sensitivity is 91.28% and Specificity is 93.03%. The sensitivity is maximized at probability levels below 0.3, hence the company should target customers who have the 'probability of being converted to a lead' lower than 0.3.



	Probability	Accuracy	Sensitivity	Specificity
0.1	0.1	0.853741	0.973642	0.779860
0.2	0.2	0.895795	0.948500	0.863318
0.3	0.3	0.923624	0.912814	0.930285
0.4	0.4	0.928262	0.899432	0.946027
0.5	0.5	0.929190	0.882806	0.957771
0.6	0.6	0.927025	0.859692	0.968516
0.7	0.7	0.913729	0.809408	0.978011
0.8	0.8	0.906772	0.778994	0.985507
0.9	0.9	0.887137	0.719384	0.990505

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.

Sensitivity is the ratio of the number of leads predicted as converted to the number of leads converted. Specificity is the ratio of the number of leads predicted as not converted to the number of leads not converted. For the company to minimize rates of useless phone calls it is important to maximize specificity which would happen when probability cutoffs greater than 0.3 are chosen.

	Probability	Accuracy	Sensitivity	Specificity
0.1	0.1	0.853741	0.973642	0.779860
0.2	0.2	0.895795	0.948500	0.863318
0.3	0.3	0.923624	0.912814	0.930285
0.4	0.4	0.928262	0.899432	0.946027
0.5	0.5	0.929190	0.882806	0.957771
0.6	0.6	0.927025	0.859692	0.968516
0.7	0.7	0.913729	0.809408	0.978011
0.8	0.8	0.906772	0.778994	0.985507
0.9	0.9	0.887137	0.719384	0.990505