I

DCODE
Onsite Travel

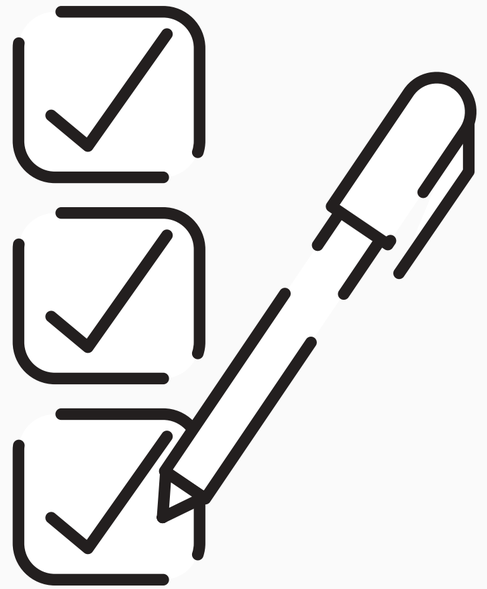
November 16, 2021

Case Summary

Our company selects business analysts for the onsite opportunity. Since dcode is very conscious of preserving its brand image, we need to carefully choose business analysts to be deputed at the client location. So to help the delivery head of our company to choose the best candidates we need to find conditions and characteristics for selecting the best business analysts for onsite travel.

Decision Scenario

Our HR department has collected information from various databases with the employee id as the primary key and built a dataset. This includes the demographic information and performance details of the business analysts. We have to identify what it takes business analysts eligible to be selected for onsite travel.



Dataset

We have collected the data of 96 business analysts. We have considered following factors.

- Gender
- Performance Rating
- Business Knowledge
- Analytical Ability
- Communication
- Presentation
- Documentation
- Demeanour
- Skill Level
- TravelledBefore
- Onsite

ANALYSIS

IV

BINOMIAL REGRESSION MODEL

ONSITE = -12.858 + 1.039 (Business Knowledge) + 1.855(Demeanour) + 0.801 (Communication)

Model Coefficients - Onsite

Predictor	Estimate	SE	Z	p
Intercept	-12.858	2.889	-4.45	< .001
Business Knowledge	1.039	0.371	2.80	0.005
Demeanour	1.855	0.531	3.50	< .001
Communication	0.801	0.374	2.14	0.032

Note. Estimates represent the log odds of "Onsite = Yes" vs. "Onsite = No"

FACTORS

We can use a model with 3 variables that affect onsite the most. They are:-

- Business Knowledge
- Demeanour
- Communication

V

MC

Model Comparision

Model Fit Measures

Model	Deviance	AIC	R^2_{McF}	R^2_{CS}	R^2_N
1	54.2	62.2	0.585	0.548	0.738
2	46.5	70.5	0.643	0.583	0.784

Model Comparisons

Comparison					
Model		Model	χ^2	df	p
1	-	2	7.65	8	0.469

- MODEL 1: Working Model
  MODEL 2: Generic Model

From model comparisons we can see that p-value is large, hence there is not much difference in both models.
So we can use model 1 with only 3 variables

Working Model

VI

Collinearity Statistics

	VIF	Tolerance
Business Knowledge	1.01	0.988
Demeanour	1.01	0.992
Communication	1.00	0.995

Classification Table – Onsite

	Predicted		
Observed	**No**	**Yes**	**% Correct**
No	32	8	80.0
Yes	0	56	100

Note. The cut-off value is set to 0.5

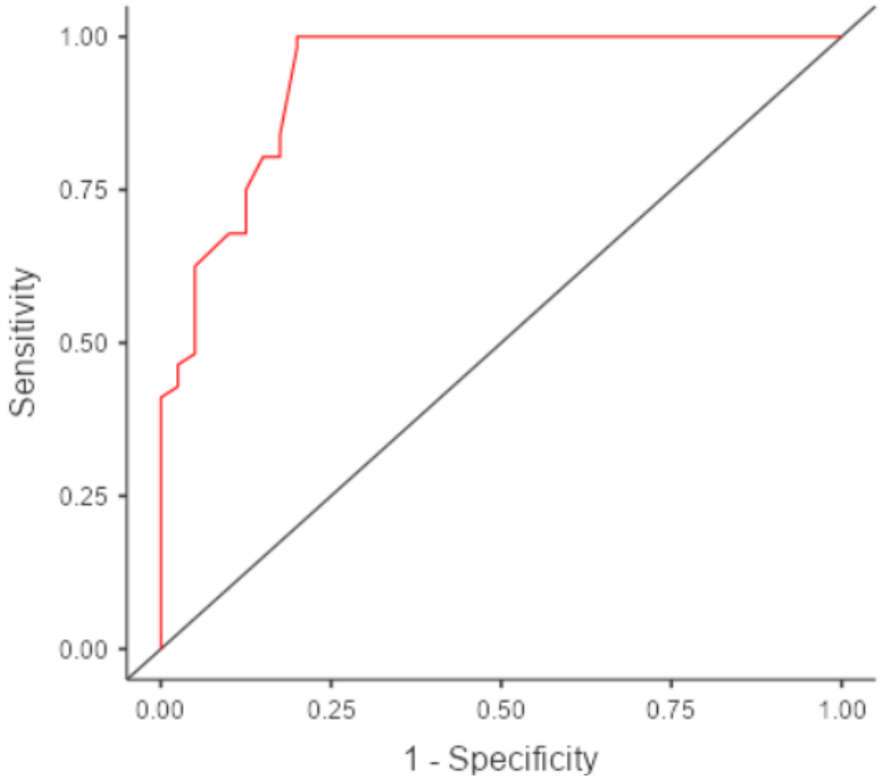
We see all these 3 factors are having more VIF (Variation Inflation Factor) value than other variables hence it affects intention more in comparison of others 3.

The observed or actual intention has been shown in the table using the working model. The correctness percentage of no intention is 80%, this is the specificity. The correctness percentage of intention yes is 100%, this is the sensitivity

VIII

Prediction

TH



Predictive Measures

Accuracy	Specificity	Sensitivity	AUC
0.917	0.800	1.00	0.934

Note. The cut-off value is set to 0.5

- Results

The Accuracy of the working model is 0.917. Thus our model with 3 variables can predict with 91.7% accuracy whether the employee has the intention to leave the company or not. Specificity measures the proportion of true negatives, i.e., 0.800. Sensitivity measures the proportion of true positives that are correctly identified, i.e., 1.0. The AUC (Area Under the Curve) value is 0. 934

Conclusions

- The delivery head should send analysts with better business knowledge for onsite.

- Analysts with a good demeanour should be preferred.

- The communication skills of analysts should also be considered while selecting for onsite opportunities.