IMARTICUS LEARNING

WIN Prediction Analytics

DATA SCIENCE PRODEGREE PROJECT

ABSTRACT

In this project, you will analyze and predict the win possibilities of deals/projects for an IT consulting company and see how the possibility of winning a deal is impacted by other variables. This will enable the IT consulting company to manage the effort required to win a deal to meet the growth targets.

Market Outlook-

IT firms compete for winning large deals by designing and proposing solutions to their clients. These deals often differ from each other in terms sector of the client, solution to be delivered, technology to be used and the scope of the project. The deal value can reach up to millions of dollars, which leads to highly competitive bidding processes. Even a marginal improvement in the win rate can result into substantial revenue addition for IT firm.

By predicting the probability of winning a deal, the engagement teams can prioritize the pipeline of opportunities to staff the most attractive options first. With the probability of winning known in advance, deal engagement manager can ensure that for the most profitable deals there are resources available.

Overview Of the problem

You have been provided with a single file which contains data related to the projects/deals won or lost. This data contains the project category, price and sector from 2011 to 2018.

Data and Problem Detail

Your Organization puts in a lot of effort in bidding preparation with no indications whether it will be worth it. With multiple bid managers and SBU Heads willing to work on every opportunity, it becomes difficult for the management to decide which bid should be given to which bid manager and SBU Head. You are hired to help your organization identify the best bid manager-SBU Head combination who can convert an opportunity to win with the provided data points.

Objective 1: Predictive Analytics - Build a ML model to predict the probability of win/loss for bidding activities for a potential client.

Objective 2: Prescriptive Analytics – Identify variable/s that are most likely to help in converting an opportunity into a win.

You have to do the following:

Based on the data available build a model to predict the bidding outcome. This will help your organization decide whether the bid manager and his team should invest their effort working for the win.

Also note that in this data there are multiple bid managers working with a SBU Head and vice versa. Based on the data you also need to identify the SBU Head-Bid Manager pair which will have the highest winning probability for the bid.

Steps to be followed:

1. Understanding the problem and Objectives
2. Understand the data develop some business sense
3. EDA (if you require in this case)
4. Provide the results and understanding you got by performing exploratory data analysis.
5. Data Cleaning
6. Model building (trying various techniques and at the end justify why you choose a technique over the others)
7. Testing and cross validation
8. Recommending top 5 combination of SBU Head-Bid Manager.
9. For every false prediction calculate the loss which the company will face.
10. Find the results, recommendation and visualizations
11. Bonus: Any other insight or recommendation that you can give from the data which will help the business(optional)
12. Preparing the deck

The final solution should be in the form of a deck showing all the steps above. It will be judge on the following criteria:

- How well you have adhered to the modeling process discipline.
- Do your results make business sense, how have you used business intuition to take decision during the modeling exercise, including but not limited to the following?

        - Deciding Segmentation (in case you choose it)
        - EDA and Feature engineering
        - Variable and Model selection
- Performance of your model
        - Precision, Recall, Accuracy, AUC
        - Loss avoided by each model

Grading System

The project and presentation will be assessed & graded on completion. Details on this will be provided separately.