Construction Bid Project

AA502 – Logistic Regression

IAA Construction

Background

Our construction company spends money every year bidding on projects that we may or may not win. This includes as hiring consultants from different engineering firms to estimate the cost and time of building each project that we bid on, after which we also invest time and money into researching the projects to make respectable bids.

We'd like to make this process more efficient by either knowing which projects to bid on or gaining insight into why we've won the projects that we have in the past. With this information, we could make more informed decisions on whether or not to invest time and money in bidding on different projects. We are asking your consultant group to build a model to predict the probability of our company winning a project bid.

Data

We have provided a dataset (**construction.sas7bdat**) that contains our bid history from the previous three years. This data is randomly compiled and does not have a time stamp, so no time analysis is possible. The dataset contains the following information:

- Estimated cost (in millions): engineering firm's estimated cost of project
- Estimated years to complete: engineering firm's estimated completion time of project
- Bid price: the price IAA Construction bid on the project
- Sector: ten different construction sectors where we bid on projects
  - Transportation
  - Lodging
  - Multi-family residential
  - Amusement/recreation
  - Highway/street
  - Education
  - Healthcare
  - Manufacturing
  - Power
  - Military
- Region of country: which region of the country that the project is located
- Number of competitor bids: the number of other companies bidding on the project
- Competitor A–J: Binary variables indicating if Companies A, B, C, D, E, F, G, H, I, or J bid on the project
- Win bid: Binary variable indicating if IAA Construction won the project
- Winning bid price: price of the winning bid on the project

Please do not hesitate to contact us with any questions about our request or about the dataset.