**Multiple logistic Regression:**

The Multiple Logistic Regression model has been selected for obtaining results. The Multiple Logistic Regression model is used because the dependent variable is dichotomous.

Null Hypothesis: H0: No gender-based difference in negotiations at the start of the job.

Alternate Hypothesis: H1: There exists a gender-based difference in negotiations at the start of the job

The dataset:

Table

Description automatically generated with medium confidence

Importing the Xlsx file in RStudio and converting all the required columns into factor.

Graphical user interface, text, application

Description automatically generated

* Conditional formatting representation of NS and G variable.

A picture containing text

Description automatically generated

Now implementing our logistic regression model where we are interested in finding whether men or women who are more interested in negotiating at the start of the job.

Here we are using cor plot library to plot the and show the correlation between variables.

Calendar

Description automatically generated with medium confidence

Chart, bubble chart

Description automatically generated

From the correlation plot we have enough evidence that the NL variable and NS variable are highly correlated. So we exclude the NL variable from our analysis.

Table

Description automatically generated

Here we included all the variables to see which variable are statistically significant to become predictor variable. As the NL variable is a self-dummy (imaginary variable and highly correlated to NS) we exclude it from our model. Our model than have only one statistically significant variable that is Gender.

Text

Description automatically generated

Explanation of the output:

Deviance Residuals: When they are close to 0 and being centered on 0. They tend be roughly symmetrical.

Here in our model family= Binomial means it takes GLM into consideration as logistic regression.

The difference in the Null Deviance and the residual deviance indicates that our model is a good fit.

Model: Negotiating at start=-0.1070+(-1.2588\* Sex male or sex female)

Where female =1 and male=0.

The log odds that a person negotiating at start is male is -0.10170.

The log odds that a person negotiating at start is female is -1.3658

* Women odds of doing negotiation at start are 0.283 smaller than men’s odds of doing negotiation.

Graphical user interface, text

Description automatically generated with medium confidence

Women odds of doing negotiation at start is 10 % smaller than men’s odds of negotiating at start.