CALIFORNIA STATE UNIVERSITY

FULLERTON

MIHAYLO COLLEGE
OF BUSINESS AND ECONOMICS

ISDS 415

Decision Support & Business Intelligence Systems

Regression (Weddings)

By

Archit Jajoo

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Regression Practice

Using the Excel file *Weddings*, apply the Excel Regression Tool using the wedding cost as the dependent variable and attendance as the independent variable.

a. Interpret all key regression results hypothesis tests, and confidence intervals in the output.

Ans: P-value   Results   Significance Level
Hypothesis testing -   0.0000304507560006995 < 0.05
Do not Reject the null hypothesis. 95% of the time the intercept will be between -8397.976865 (lower) and 12209.35411 (upper)

b. Analyze the residuals to determine if the assumptions underlying the regression analysis are valid.

Ans: Residuals should be close to 0. Standardized residuals are the standard deviation of the residuals and we want them to be less than 3. In this case the total of residual is -2.55 and total of standard residual is -4.39 which is less than 3 suggesting that the underlying assumptions of the regression analysis are valid.

c. Use the standard residuals to determine if any possible outliers exist.

Ans: To fit the model in standard residual we see that that observation number three is 2.84 which is close to 3 and in case of standard residual anything more than or close to 3 can affect the output. So, by dropping obs. no. three we can do the regression analysis again and find that the total of residual comes out to be 0 and standard residual to be -7.50. We have removed an outlier to get a better output.

d. If a couple is planning a wedding for 175 guests, how much should they budget?

Ans: We can find this by doing Intercept + (coeff. Of attendance * 175) since we need to find out for 175 guests. Therefore, our solution comes out to be $24,676.91.