Week 9 – Lecture Notes

A network engineer has a shelf with collections of old network components from two vendors, Alcatel and Belkin. For the Alcatel gear, two devices still work and eight will not power up. For the Belkin gear, it's just the opposite: eight devices are working and only two are dead. What are the expected values for each cell of the contigency table? Explain your calculation. If you had to hazard a guess without any further calculations, would you say that a chi-square test of independence would be significant or not?

To calculate the expected values in each cell:

|  |  |  |
| --- | --- | --- |
| 2 | 8 | 10 |
| 8 | 2 | 10 |
| 10 | 10 | 20 |

|  |  |
| --- | --- |
| (10\*10)/20 | (10\*10)/20 |
| (10\*10)/20 | (10\*10)/20 |

Multiple regression.

Criterion variable/dependent variable: What we are trying to predict?  
Predictor/independent variable: One of the variables we used to predict the main variable.  
Coefficients/Weights: The strength of each of the predictor.

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If median is not near 0, make sure the data is right.

1 on F-statistic refers to the 1 – the intercept we calculate or the number of predictors.

118 – The observations that are left over after we take over the predictors.

Passing the omnibus test.

The t-value for the predictor is important, a high t-value, shows that it is all the way on the end of the bell shaped curve, which is accompanied by the p-value, shows you can reject the null hypothesis, that the coefficient of on hardwork is 0 in the population.

Adjusted r-squared : We use unbiased estimators for the estimate of total variance and “error” variance.

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Multicollinearity – When two or more predictors are highly correlated.

lmBF – Bayes factor. The odds are overwhelmingly

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