Business Analytics – BA 728 ONLS 01

Case Study #2: What Determines Alumni Giving?

Due on September 24, 2024

Fatma Abdel-Raouf   Fall I, 2024

Use Excel to Perform all the Calculations and Show all Your Work:

Alumni donation is an important part of revenue for colleges and universities. The administrators at a large university want to determine the factors that increase the percentage of alumni who donate to the university. Knowing these factors enables the university to implement them and increase their revenue.

Graduation rate is an important factor, so anything that increases graduation rate is of an interest to the university. Research shows that students are more likely to graduate when they are more satisfied with their contact with professors. The administrators think that smaller class sizes and lower student/faculty ratios might result in a more satisfied students and accordingly an increase in the percentage of alumni who donate. The administrators collected data to help them in this task. The "Alumni Giving Data" file posted on Canvas includes the following data:

Graduation Rate: The percentage of students who enrolled at the university and graduated.

% of Classes Under 20: The percentage of classes with less than 20 students. It is a measure of class size.

Student/Faculty Ratio: The number of students enrolled divided by the number of faculty.

Alumni Giving Rate: The percentage of alumni who donated to the university.

Use this data file to a write a 2-4-page case study addressing this issue. Make sure you include the following:

- Use the descriptive analytics techniques to summarize the data.
- Build a simple linear regression model to predict alumni giving rate using the graduation rate as the predictor. Comment on your findings.

- Build a multiple linear regression model to predict alumni giving rate using the graduation rate, % of class under 20, and student/faculty ratio as the predictors. Comment on your findings.
- Comparing the previous two models, do you think you can build a third model to better predict the alumni giving rate? (Hint: Examine the relationship between alumni giving rate and graduation rate more carefully and check whether a quadratic form of the graduation rate is more appropriate. You may also want to drop an insignificant variable).
- Based on your analysis, what conclusions and recommendations can you give the administrators to help them with this issue?