



Courses / Advanced Statistics / Project 3

Project 3

Submission type	:	Online upload
Due Date	:	Dec 13, 9:30 PM
Total Score	:	60
Available from	:	Nov 29, 6:30 AM

Description



Dear Participants,

Please refer to the Project video for a complete context about the problem.

The objective of the project is to build a regression model to predict customer satisfaction. The dataset to be used is '[Factor-Hair-Revised.csv](#)'

You are expected to

- Perform exploratory data analysis on the dataset with the help of appropriate visualizations and identify observations/insights. In the process, also check for outliers and missing values **(8 marks)**
- Identify if there is evidence of multicollinearity (multiple variables being correlated to each other). Present your observations on the relationship between various variables. **(6 marks)**
- Perform simple linear regression for the dependent variable with every independent variable **(6 marks)**
- Perform PCA/Factor analysis by extracting 4 factors. Interpret the output and name the factors **(20 marks)**
- Perform Multiple linear regression with customer satisfaction as dependent variables and the four factors as independent variables. Comment on the model output and validity. Your remarks should make it meaningful for everybody. **(20 marks)**



1. There are two parts to the submission:

1. The output/report in any file format - the key part of the output is the set of observations and insights from the exploration and analysis
2. Commented R code in .R or .Rmd

2. Please don't share your R code and/or outputs only, we expect some verbiage/story too - a meaningful output that you can share in a business environment

3. Any assignment found copied/ plagiarized with other groups will not be graded and awarded zero marks

4. Please ensure timely submission as post-deadline assignment will not be accepted

Thanks

Program Office


Scoring guide (Rubric) - Project 3 Factor Hair Rubrics



Criteria	Points
Perform exploratory data analysis on the dataset. Showcase some charts, graphs. Check for outliers and missing values	8
Is there evidence of multicollinearity ? Showcase your analysis	6
Perform simple linear regression for the dependent variable with every independent variable	6
Perform PCA/Factor analysis by extracting 4 factors. Interpret the output and name the Factors	20
Perform Multiple linear regression with customer satisfaction as dependent variables and the four factors as independent variables. Comment on the Model output and validity. Your remarks should make it meaningful for everybody	20



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