

# Project Rubric

Project: Analyze NYSE Data

Submission Phase

Criteria	Submission Requirements
The student has uploaded a written report as PDF or PowerPoint necessary for review.	A PDF file or PowerPoint presentation has been uploaded as part of a zipped folder.
<p>The student has provided an Excel file or a link to a Google Sheet necessary for review. This file should contain individual tabs for the dataset, a calculation of the summary statistics, a dashboard for the Profit and Loss statement, and a Forecasting model with scenarios.</p> <p>In case the student did not include an Excel file as part of the submission, the Google link should be included in the PDF or slides document with appropriate permissions to validate the formulas and tables.</p>	The spreadsheet (Excel or Google Sheets) should contain individual tabs for the dataset, calculation of the summary statistics, a dashboard for the Profit and Loss statement, and a Forecasting model with scenarios. There can be additional tabs in the Workbook that are needed for the dashboard and forecasting model.

## Exploration of Summary Statistics

Criteria	Submission Requirements
The student is able to calculate measures of center for quantitative data and interpret it correctly.	<p>The student utilizes measures of center (Mean and Median) to derive insights. Merely stating the value of the summary statistics is insufficient; thus, it is crucial to include a brief insight related to each one in the written description.</p> <ul style="list-style-type: none"> <li>Includes the calculations of the measures of center in a tab named <i>summary statistics</i> in the spreadsheet, as mentioned in the rubric above.</li> <li>Includes the interpretation of the measures of center in your written report (PDF or PowerPoint).</li> </ul> <p>For example, The mean total revenue for companies categorized under the Pharmaceutical industry (\$26,325,440,909.09) was higher compared to the mean total revenue for all healthcare industries (\$23,142,217,458.76). It looks like companies in the Pharmaceutical industry have a higher total revenue on</p>

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	average than all industries categorized under Health Care.
The student is able to calculate measures of spread for quantitative data and interpret it correctly.	<p>The student utilizes measures of spread (Standard Deviation and Range) to derive insights. Merely stating the value of the summary statistics is insufficient; thus, it is crucial to include a brief insight related to each one in the written description.</p> <ul style="list-style-type: none"> <li>• Please include the calculations in the same tab <i>summary statistics</i> as mentioned in the rubric point above.</li> <li>• Please include the interpretation of the measures of spread in your written report (PDF or Powerpoint): For instance, consider the following insight based on the range: The Range for the Agriculture sector Total Revenue at \$5 Billion is higher than the Range of Total Revenue for the Telecommunications sector at only \$2 Billion. It looks like companies in the Agriculture sector have more significant variability in the total revenues they receive because their range is more spread out.</li> </ul>
The student is able to build graphs for quantitative and categorical data.	<p>The student uses at least one plot to explore the data. The plots may include histograms, box plots, scatterplots, and bar charts to explore data and gain insights. Screenshots of values in a table do not count.</p>
The student is able to present findings in an understandable way.	<p>An appropriate visual is chosen to present the data. All labels are legible, and the visual has appropriate axis labels.</p> <p>Every visualization should have:</p> <ul style="list-style-type: none"> <li>• chart title (including which year's data the chart depicts) <ul style="list-style-type: none"> <li>• x-axis title</li> <li>• x-axis labels</li> <li>• y-axis title</li> <li>• y-axis labels</li> </ul> </li> </ul>

Criteria	Submission Requirements
	Please refer to the finished slide example page in the classroom for an example.

#### Communication Phase

Criteria	Submission Requirements
The student is able to avoid making inferential or causal statements when using descriptive statistics.	<p>The results of the analysis are presented such that any limitations are clear. The analysis does not state or imply that one change causes another based solely on a correlation.</p> <p>The results do not imply facts about a larger group of individuals based on descriptive values. Language is only applied to the specific data provided unless a correct analysis beyond the course material is conducted that allows for inference.</p>
The student is able to choose the correct statistical analysis and a plot to visualize the results.	<p>This rubric point summarizes the requirements for communicating the results of your analysis:</p> <ul style="list-style-type: none"> <li>• Student uses the appropriate data type (quantitative) for statistical analysis.</li> <li>• Interpretation of measures of center and spread is described in the context of the analysis.</li> <li>• Student uses at least one visualization to communicate the results.</li> </ul>

#### Business Metrics

Criteria	Submission Requirements
The student demonstrates proficiency in correctly utilizing financial metrics within an income statement (profit and loss statement) as well as in a forecast model.	<p>The student has accurately input the appropriate formula for each business metric in both the income statement (P&amp;L statement) and the forecast model.</p> <ul style="list-style-type: none"> <li>• Please make sure to include a separate tab in your spreadsheet for the P&amp;L and forecast model.</li> <li>• Make sure that the P&amp;L statement includes a dropdown list for selecting the ticker symbol, including all tickers from the dataset. Note that a dropdown in the forecast model is</li> </ul>

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	optional, as the forecast analysis can be done for a single company.
The student provides appropriate assumptions for the financial model scenarios.	The student provides appropriate assumptions based on gross margin, revenue growth, and operating margin for the financial model (forecast) scenarios.

#### Excel Functions and Modeling

Criteria	Submission Requirements
The student can use various Excel functions.	The student demonstrates using VLOOKUP or INDEX and MATCH statements. The student can use the appropriate functions, such as OFFSET and MATCH, to create forecast scenarios.

#### Suggestions to Make Your Project Stand Out

- The visuals go above and beyond to be appealing and informative.
- Visuals not included in this course we used to communicate in creative ways.