Project Details

Why this Project?

This project introduced the data analysis process - the process of calculating summary statistics, drawing an inference from the statistics, calculating business metrics and using models to forecast future growth prospects for the companies. The goal is for you to perform an analysis and also create visual tools to communicate the results in informative ways.

A clean dataset is provided for the project.

What skills will be used?

The main goal of this project is for students to demonstrate their ability to:

- interpret the measures of central tendency and spread (mean, median, standard deviation, range)
- use a combination of Excel or Google Sheets functions (e.g., IF statements, INDEX and MATCH, calculating descriptive statistics with the IF statement, drop downs, data validation, VLOOKUP).
- analyze and forecast financial business metrics using Excel or Google Sheets.
- create visualizations of a business metric and use Excel or Google Sheets to create a financial forecast model.

How Do You Complete this Project?

This project is connected with the Introduction to the Data part of the course, but depending on your background knowledge, you may not need to take this module to complete this project.

Introduction

For the final project, you will conduct three tasks:
1) complete your own data analysis and create a presentation to share your findings,
2) develop a dashboard for a Profit and Loss Statement, and
3) create a Financial Forecasting Model using three scenarios.

You can start by taking a look at your dataset and brainstorming which sub-category and company you want to focus your data analysis on - the questions leading to this page should have assisted in this process! Then you should use spreadsheets or another Excel-like software to conduct your analysis and choose a sub-category and company you are most interested in. This project is open-ended in that there is no one right answer.

Project Goals:

Here are the three tasks that you will complete in the final project.

Task 1:

a. Identify the question about the data that you will answer based on your data analysis, and include this in your **slide presentation**.

- Your **question should include at least one categorical variable (GICS Sector or GICS Sub Industry) and one quantitative variable (one of the financial metrics) and require the use of at least one of the summary statistics**.
- A **tab within the Excel spreadsheet** that you submit should include the summary statistics [measures of central tendency (e.g., mean, median) and measures of spread (standard deviation and range)] you used to answer your question.
- *Deliverable:* Slide presentation, Spreadsheet with tab for Summary statistics

b. **Your slide presentation** should provide **at least one visualization to help with your answer**.

- This visualization might be a bar chart, histogram, scatterplot, box-plot or other visual that you learned to make. Include your insights from the measures of center and spread and at least one numeric summary statistic in the description.
- *Deliverable:* Slide presentation (includes visualization)

Task 2:

- Create a **dashboard for a Profit and Loss Statement** that calculates the **Gross Profit**, **Operating Profit or EBIT** for a company selected from a drop-down list.
- Your drop-down list should pull historical fundamentals data to create the P&L Statement.
- The P&L statement should include the **Gross Profit, Operating Profit or EBIT values for all the years there is historical data available for that company in the dataset**.
- *Deliverable:* Spreadsheet with tab for Dynamic P&L statement

Task 3:

- Create a **financial model** for a company (different from Task 2) of your choice that forecasts out the **Gross Profit, Operating Profit or EBIT for two more years using three scenarios (Best case, Weak case and Base case)**.
- Your assumptions for revenue growth, gross margin and operating margin should change for each scenario.
- The forecasting model should be dynamic for the selection of the case (Weak, Base, Strong). However, the forecasting model can be static for the chosen company sticker symbol.
- *Deliverable:* Spreadsheet with tab for Forecasting Model

Steps to Completion

Step One - Get Organized

When you complete your analysis and presentation you'll want to submit your project. Get organized before you begin. I recommend creating a single folder that will *eventually* contain:

- The presentation with the visual and summary
- The original data set
- A copy of the spreadsheet workbook you will use to do the analysis for your report that contains at least the following tabs:
    1. Data file
    2. Summary statistics
    3. P&L Statement Dashboard
    4. Forecast scenarios

Step Two - Analyze Your Data

Look through the Tasks described above and select the qualitative variable and quantitative variable you want to focus your analysis on for the various tasks. Then use the .csv file to conduct your data analysis.

Step Three - Create Your Presentation

Once you have finished analyzing the data, create a presentation that shares the visual and summary paragraph. The summary paragraph should clearly communicate your findings based on your analysis, and provide visual or numeric values associated with your summary.

Step Four - Assemble your Worksheet You will need to include the Excel file with the summary statistics, dashboard, and financial model scenarios.

Step Five - Check the Rubric

Use the **Project Rubric** located here. If you see room for improvement, keep working to improve your project.

Step Six - Assemble your folder ready for submission

If you are happy with your submission, then you're ready to submit your project. Put your presentation and spreadsheet workbook in a folder and zip it. Then submit the zipped folder for your project.