Irish Whiskey Case Study Rubric

DS 4002 – Spring 2023 – Joseph Mistretta
Due: May 2023
Submission format: Upload link to Github repo to Canvas

Individual Assignment

General Description: Submit to Canvas a link to your case study repository.

Preparatory assignments: Case study resources and previous case study assignments

Why am I doing this? The goal of this assignment is for you to practice analyzing case studies and conduct your own analysis in order to derive your own conclusion that answers a real-world question. This assignment is meant to give you the experience of being a real-life data scientist as you set out to solve a problem on your own. For this case study, you will imagine that you work for a team of investors who want to understand more about the data related to the landscape around Irish whiskey sales. You will offer conclusions based on your analysis.

What am I going to do? To begin, read this case study's one-page hook document, which will introduce you to the topic and give you an understanding of your deliverables. Using this document as a guide, you can begin to think about the resources you plan to use, consider how you will utilize data, and set your analysis plan. Following this, you will determine the analytical techniques you want to pursue in order to understand the descriptive and predictive characteristics of Irish whiskey imports. Once you have chosen your techniques, you will conduct your analysis to quantitatively describe the nature of Irish whiskey importations, make comparisons by region, determine possible variables that impact importation, and then predict future imports for one region. Upload this information as a README.md file in your Github repo, along with materials and references in your repo. Next, you will write a PDF document that offers conclusions based on your findings, and offers key takeaways for your investor team based on your understanding of Irish whiskey importations.

Tips for success:
- Follow the data to a conclusion, not the other way around. Don't begin with a conclusion in mind and look to make your analysis support that conclusion. (However, a hypothesis can be a useful tool to drive your analysis plan.)
- Remember your audience and don't overthink your task. Remember, you're presenting to a team of investors who want to understand an overview of the situation. You want to present the big picture to them without falling down a rabbit hole.
- Pay attention to the analytical techniques you choose. Not all techniques are suited for all contexts and all types of data, so be careful to choose techniques that best fit your assignment and your data.

- Don't be afraid to ask questions. You may come across a number of unknowns – exploring them might help you unlock new insights and understandings.

How will I know I have succeeded? You will meet expectations on this assignment when you follow the criteria in the rubric below.

Spec Category	Spec Details
Formatting	- Link to a Github repository containing the following materials: - README.md - SRC - DATA - Write up 1 (PDF): Descriptive analysis - Write up 2 (PDF): Predictive analysis - Write up 3 (PDF): Conclusions - Images folder
README.md	- Goal: Contain in one place the motivation and context for the case study, the plan you followed, the data you used, and the project deliverables - Use clear headings so it can be quickly understand - Include a list of suggestions based on your insights - Include all references - Use markdown format
SRC	Goal: Create a folder that contains all of the code sources used for the descriptive and predictive analysis
DATA	- Goal: Create a folder that contains all data used in the code for the analysis - Use CSV file format, when applicable
Write up 1: Descriptive Analysis	- Goal: Be able to provide quantitative metrics that describe the current state of the data - Include, at minimum, the following metrics for North American Irish whiskey imports: - Stationarity - Decomposition - Autocorrelation - Write at least 1 paragraph drawing conclusions from the 3 metrics listed above - Include a graphic that compares Irish whiskey imports in North America to other regions - Maximum 1-page, PDF format

Write up 2: Predictive Analysis	- Goal: Understand and explain what future Irish whiskey imports will look like 1 paragraph describing the predictive analysis method you chose and why you chose it - A graphic showing projected Irish whiskey imports for each region 1-2 paragraphs drawing key conclusions from your analysis and from the graphic
Write up 3: Conclusion	- Goal: Summarize the your findings from your analysis so they can be understood by someone unfamiliar with the technical details - Include - Executive Summary 1 paragraph summarizing the documents - Descriptive Conclusions - Shortened, less technical version of your conclusions from Write up 1 1 paragraph - Predictive Conclusions - Shortened, less technical version of your conclusions from Write up 2 1 paragraph - Suggestions - List 3-5 suggestions for the investors based on your analysis - Next steps - List next steps that you as a data researcher would take to better understand the issue, or next steps the investor group should take given your analysis. 1 paragraph - Maximum 1-page, PDF format
Images folder	- Goal: Compile all of your graphics into one place for easy visual reference - Upload any relevant graphics produced during your analysis, including those used in your write ups - Use .jpg format, when applicable

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