SI 305 | Introduction to Information Analysis
Project Assignment 4: Final Deliverable
Due Date: Tuesday, December 12, 11:59 pm ET
Weight: 40% of total course grade

The final assignment is broken into 3 parts.

1 Final Report (20% of total course grade)

The first component of the assignment is your final report. This is where you describe the full scope of your project. You must upload a PDF that includes your name and your report. Where the assignment calls for you to write 1 paragraph, that paragraph should be 150-225 words.

Your report should include the following sections:

1. Summary
    a. Present a brief summary of your project. You should describe the problematic situation, what you found in your analyses, and what the main impact of your analysis is. Focus on the most important details.
    b. Your summary should be 3-5 sentences, 125 words maximum.
2. Problem diagnosis
    a. Present your problem diagnosis, following the instructions from the project proposal.
    b. You are welcome to make changes from the problem diagnosis in your prior assignments, but you should not describe those changes here.
3. Research questions
    a. Present your 2-3 RQs, following the instructions from the project proposal.
    b. You are welcome to make changes from the RQs in your prior assignments, but you should not describe those changes here.
4. Analysis for RQ1
    a. Present your findings for RQ1.
        i. You should include:
            1. 1 paragraph summarizing what you found. This description should qualify your answer with any uncertainties or limitations to your analysis.
            2. 2 visualizations that present your findings. All visualizations should be understandable and convey a clear message, following the guidelines of L18 (see the slides and lecture recording for guidance). For each visualization, include a 1 sentence caption.
        ii. You should not present any code or raw output from python (e.g., screenshots of data frames). It's fine to take screenshots of your visualizations to include in the report.
        iii. Your analyses don't need to present statistically significant results. Non-significant results are important to note, especially if they run counter to expectations. Don't hack your analysis just to arrive at a significant statistic. You don't want to make recommendations that aren't supported by the data.

    b. Interpret your findings for RQ1.
        i. To help you get started, consider the following questions: What do the quantitative measures you found reflect in terms of real-world conditions? Do your findings align or conflict with your expectations? Do your findings inform your plans for approaching RQ2 and RQ3? How could your findings inform policy, organizational operations, or other behavior?
        ii. Your interpretation should be 1 paragraph.
5. Analysis for RQ2
    a. Follow the same instructions as RQ1.
6. Analysis for RQ3
    a. If you have a third RQ, include this section, following the same instructions as RQ1.
7. Conclusion: Recommendations
    a. Conclude your report with 2 recommendations. This is your chance to highlight the key impacts of your analysis.
    b. For each recommendation:
        i. Provide a clear header that presents each recommendation (e.g., "Recommendation 1: XXX").
        ii. Clarify who the audience is for your recommendation. This should be a person or group of people who are equipped to act on your recommendation (e.g., "Audience: XXX").
        iii. Provide 1 paragraph justifying and explaining each recommendation. You should make it clear how the recommendation follows from your analyses. Be specific about how your audience should act on your recommendation.

2 Analysis (15% of total course grade)

The second component of the assignment is your analysis. You must complete your analysis using Jupyter notebooks in Vocareum. You can present your analysis all in one notebook or in multiple notebooks. (Having one notebook for each RQ makes it easier to read. However, if you are using the same data across multiple RQs, it will be easier to keep the full analysis in one notebook.) Either way, you should use Markdown headers to make it clear what you are working on at each part of your notebooks.

You should present a complete analysis for all of your RQs. Your analysis should include any applicable robustness checks (e.g., considering alternative explanations for your findings, exploring whether different levels of aggregation affect your results, and exploring whether different ways of defining metrics affect your results). Your code should be well-organized and should include comments explaining what each code block is for.

You should present the code you use to generate the visualizations that you present in your final report. However, you will not be graded on the quality of the visualizations in your notebooks. Your visualizations will be graded as part of your final report.

You are not required to provide a Markdown cell with explanation and interpretation of your analysis, since that material goes into your final report.

3 Retrospective Commentary (5% of total course grade)

The third component of the assignment is a short reflection on lessons learned during the project. You must describe 2 or 3 lessons. For each lesson, explain why you learned that lesson and how the lesson will inform your work in the future.

These lessons should focus on the process of working on your project, not the substance of your findings. For instance, you should not describe learning about water quality in Ann Arbor as a lesson.

To help you identify lessons, reflect on the following questions:

- What challenges did you encounter?
- What parts of the project were harder than you expected?
- What parts of the project took more time than you expected?
- What would you differently the next time you work on a similar project?

You must upload a PDF that includes your name and your reflection on Canvas. Your commentary should be between 400-600 words total.

Deadline notes

As noted above, the deadline for the assignment is Tuesday, December 12, 11:59 pm ET. As noted in the syllabus, you are allowed to use at most 1 late day on this assignment. If you have at least 1 late day remaining (out of the 6 you were allotted), you can take until Wednesday, December 13, 11:59 pm ET. If you are unsure how many late days you have remaining, you are welcome to email Ben.

Whether you submit on the 12th or the 13th, the deadline that day is 11:59 pm ET. Anything that arrives after this time is considered late. There is no "grace period." It is your responsibility to ensure that your assignment is submitted on time. I strongly caution against waiting until the last minute to submit, to avoid any last-second issues that push you beyond 11:59 pm.

If you would like to request an extension, you must provide a written request to Ben ahead of the deadline. Extensions will not be granted after the assignment is due.

Sharing with others

The course staff would like to share some final reports with other groups, such as the Engaged Learning Office and our project partners outside of UM. These groups are interested to review final projects and learn from your analyses. If you would prefer that your project NOT be shared with anyone, please indicate that clearly near the top of your final report. This decision will not affect your grade.