

1. Overview

The first purpose of the project is to practice applying techniques covered in class to a conduct a Benefit-Cost Analysis you are interested in. The second, and more important, is to practice formulating analyses and presenting and explaining findings more generally.

2. Choosing a Topic

Choose a topic meeting the following criteria.

1. You are interested in it.
2. You can show why it is interesting or important to others.
3. There is a clear problem or issue and more than one option (including the status quo).
4. Benefit-cost analysis is clearly applicable.
5. Data to perform the analysis, at least approximately, is accessible.

3. Draft Proposal and Initial Literature Review

Your draft proposal must include:

1. A brief topic statement.
2. An explanation of why the problem or issue is important.
3. A description of the decision to be analyzed, including a list of possible alternatives.
4. A literature review
 - 4.1. Search for related materials and read. **READ A LOT!!!** You should do the reading before finalizing 1-3.
 - 4.2. Look for articles in academic journals. These may be at a level beyond what you have yet learned, but they can still be useful. Google scholar and JSTOR are good places to start. Look for articles in the news media and popular press. Websites of federal, state, and local governments can be productive too.
 - 4.3. Do searches including “benefit cost analysis” and “cost benefit analysis”, but don’t limit yourself to those. Relevant studies may be called “cost effectiveness analysis,” “analysis of the effects of _____,” and so on. Try lots of variations of words closely associated with your topic combined with variations of those terms.
 - 4.4. Once you have found a number of recent works related to your topic, find the relevant papers in their references. Then, find the relevant references in those papers. And so on.
 - 4.5. Once you have identified a large set of readings and read them, prepare an initial literature review. This does not mean you should summarize every paper. Rather you should pull from them all the material that is useful for your work and convey that organized by topic or idea, with parenthetical citations to the relevant papers.
5. An initial list of references, formatted properly, which must include at least three somewhat closely related analyses, along with other materials to give appropriate context and background. Basically, the things in your initial literature review at this point.

4. Final Proposal

Refine the draft based on feedback on the draft and include an expanded literature review and a more detailed work plan. It should comprise:

1. A brief topic statement.
2. An explanation of why the problem or issue is important.
3. A description of the decision to be analyzed, including a list of possible alternatives.
4. A review of related literature, going beyond the minimal references in your draft proposal.

5. A technical plan for how you intend to analyze the decision. You will probably deviate from the plan as you move forward. That is OK, as long as you are moving forward.
6. A statement of where you plan to obtain data, parameters, etc... for your study.
7. An expanded list of references.

5. Draft/Sketch Analysis

Though your analysis will not be the first section of your report when you write it, this is *NOT* a linear process. You do need to do some reading and data gathering up front, thus the initial literature review and project proposal. But start thinking about the analysis at the start! As soon as you have some data start whatever you can of the analysis. You will likely find you have forgotten something and need read more or gather more data. The analysis *MUST* be the first thing completed because you will not know all the data you will use or papers you will lean on or what your approach is or what your conclusions are until the analysis is finished!

Define the impacts and impacted parties, calculate the net benefits, and analyze which decision will make the most sense. Explain your work so someone unfamiliar with the topic can follow your calculation. Write this up as if it will be a section of your project report—because the final version of it will be.

6. Draft Report

6.1 Content and Organization

Make sure you explain: what your topic is, why it is interesting, what related research has been done, where your data came from, your approach, techniques, analysis, and conclusions. Be concise. I don't think you can do that in 5 pages, but if it is over 40 you are not being concise. The main requirement to be neat, logical, well supported, and easy to read. You will want to break it into sections. I suggest leaning on similar studies for organization, but adapt your format to suit your work as appropriate. Following is a rough guide, not an exact requirement.

1. Title page, including an abstract of 150 words or less.
2. Executive summary. Boil everything down to one page, two if you include crucial graphics.
3. Introduction, including a description of the major issues, the motivation for studying them, and the specific options and decision you will analyze.
4. A review of related analyses and other related and useful literature.
5. A discussion of data sources. You may want to combine this with the analysis section, depending on the exact nature of your work. Do what works best for your particular case.
6. Analysis. You may include a sensitivity analysis here or make it a separate section.
7. Discussion and Conclusion. One section or two, depending on what you need to do.
8. References

6.2 Format

1. One inch margins.
2. A twelve-point serif font, single spaced, first line of paragraphs indented one-half inch.
3. Figures, tables, etc... placed as near where they are first referenced as reasonable without creating lots of white space. They should be logically titled, labeled, constructed, and annotated to be almost completely self-explanatory.
4. Section titles in bold, with a blank space between them and the previous section.
5. References and Citations. Cite works you rely on in a standard style. I like APA (parenthetical citations) but any standard style is fine. Place a properly formatted reference list at the end.

8. Presentation (subject to change)

Guidelines

1. You have a full 8 minutes to work with. You can do more than present the bottom line findings.
2. You only have only 8 minutes, you can't tell us everything you did.
3. In your presentation you should:
 - a. Tell us what you are doing and why it is important
 - b. Give us a good idea of how your analysis worked
 - c. Present your main findings and explain what they mean
 - d. Use good graphics to communicate the main findings if there is a way to!
4. Use PowerPoint or something like it if you want and if it helps, but this is not required
5. Bring handouts, with your group members' names and project title, that include:
 - a. Your executive summary
 - b. Important graphics if used
 - c. Slides if you use them and want to provide them
6. Bottom line: Focus on why the issue was important, what your main findings were, how you arrived at them, and why we should believe you did a credible job. Convince us.
7. Rehearse a few times and make changes as needed to fit the time available. If you don't you are unlikely to use the 8 minutes correctly.

Evaluation

1. Content is necessary to have a good presentation, because you have to have something worth saying. But I judge the correctness of the content mostly by the report, not the presentation.
2. Good judgement about what parts to spend your limited time on and what to skip.
3. Clear organization, including sufficient support for your main points.
4. Clarity of speech.
5. Professional appearance and demeanor. This need not mean suit and tie. But, look neat, look at your audience when talking, make crisp transitions between speakers when appropriate, be courteous to those asking questions, etc...
6. Clarity and professionalism of handouts and slides.

9. Final Report

Make revisions based on feedback on your draft and presentation and submit an improved, well polished, final version. The content and format are as for the draft report.

Evaluation

You should have a very good idea of what a good report looks like based on the exemplars provided on canvas and the detailed feedback received at each project checkpoint, especially the draft analysis and draft report. If you do not, spend more time studying the exemplars and the feedback on your drafts. Beyond that, below is a partial list of things I will be looking for, but it is crucial that you keep the following in mind. There are an infinite number of specific ways you might demonstrate mastery, or lack thereof, that will never occur to me to list in advance. Any list like this is by necessity far from complete, so my grading is not constrained by it. If you show me you have a great point, you get lots of credit even if it is not on this list and no student has done it before. If you do something that shows me you do not have a clue, you will get a poor grade, even if it never occurred to me before a student might do that particular thing. It is up to you to show me you can competently apply course material to answer a real question.

1. Why is the issue being analyzed important? Why should anyone but you care?
2. Were the alternatives clearly defined?
3. Were the impacts, and the people impacted, clearly defined?
4. Were any important issues of standing squarely addressed?
5. Were valuation techniques from the course appropriately applied?
6. Was the sensitivity analysis reasonably thorough?
7. Was the organization easy to follow?
8. Was the writing clear and correct?
9. Were all crucial calculations presented and made easy to follow?
10. Were all assumptions and data behind the calculations made available?
11. Did the conclusion reached follow clearly from the results of the analysis?
12. Does the document have a professional appearance?
13. Did the executive summary correctly capture the essence of the analysis?

The general grading rubric from the syllabus applies.

10. Deliverables, Due Dates, and How They Count

<u>Item</u>	<u>Due</u>	<u>Turn in</u>	<u>Class Points</u>
Draft Proposal	9.25	Canvas	1
Final Proposal	10.16	Canvas	1
Draft Analysis	11.02	Canvas	1
Draft Report	11.16	Canvas	1
Presentation	11.23	Canvas & Zoom	1
Final Report	11.30	Canvas	10