

Guidelines for Literature Review Using AI Tools

Professor Khazra

Please read below carefully. There is a **(20 points)** penalty if you miss any of the following.

- All citations must be in the APA or Chicago style and must be correct.
- Any output generated by GPT or other AI tools **must be verified** by consulting the original papers.
- You are responsible for the correctness of all statements, data descriptions, and citations.

Introduction

A literature review is the foundation of any empirical research project. Its goal is not only to summarize what previous studies have found, but also to help you understand *how economists think about a question*, what data they use, how they identify causal effects, and where important gaps remain. **A good literature review evaluates the quality of existing research, compares approaches, and clarifies what is known, what is uncertain, and what has not yet been tested.** *More importantly, it reads as a consistent story rather than a bullet point summary of unrelated papers.*

In applied economics, research questions are typically framed as studying the effect of one variable (X) on an outcome (Y). However, strong papers go one step further by explaining *why* X affects Y . This is done through a mechanism or channel (Z). For example, instead of only studying the effect of education on income, economists may study whether this effect operates through parental wealth, social networks, or access to better jobs. Importantly, **a mechanism is only useful if it can be**

measured in the data. Do you have any data on parental network? Or their wealth?

Recent advances in AI tools, including GPT-based systems, can help you organize and summarize the literature more efficiently. These tools can assist with identifying themes, comparing papers, and structuring summaries. **However, AI tools do not replace reading papers. They are assistants, not authors.** You must always verify their output by consulting the original sources. Reading papers is a skill you must develop.

Important: You cannot write a literature review if you have never seen one. Before doing anything else, you must read at least **3 to 5 paper introductions** from the literature you identify below. Pay close attention to how authors:

- position their research question,
- discuss existing papers,
- motivate their contribution.

Reading introductions carefully is essential.

1 Part One (25 points): Defining the Economic Story (Before Any Search)

Before using any databases or AI tools, answer the following in plain language. **One line per part, number the parts accordingly so TAs can find your answers.** Deviating from the format can have mark penalties.

1. What is your main explanatory variable (X)?
2. What is your outcome variable (Y)?
3. What is the main mechanism or channel (Z) through which X affects Y ?
4. In one sentence, explain *why* Z is a plausible mechanism.

5. Name at least one dataset that you believe may contain information on Z (even if you are unsure).

Important: If Z cannot be measured in data, your research question is not feasible as an empirical project. Identifying this early is part of the exercise.

2 Part Two (25 points): Finding Core Papers Using Web of Science (Clarivate)

Luckily U of T has bought access to this super cool AI tool for us, so log in with your credentials. Here's the cite: <https://www-webofscience-com.myaccess.library.utoronto.ca/wos/woscc/smart-search>

The goal of this part is to identify high-quality, field-relevant papers and understand how economists build research agendas.

1. Open Web of Science (Clarivate).
2. Use **Topic Search** to search for papers related to X and Y together. Then, do another search with X , Y , and Z .
3. Use the following tools within Web of Science:
 - “Highly Cited Papers”
 - “Cited By”
 - “Related Records”
4. Identify **3 to 5 core papers** that are central to your topic.
5. **Upload to Crowdmark for Question 2:** For each paper, write down:
 - the citation
 - the research question,
 - the main variables (X , Y , and whether Z is studied),
 - the dataset used.

3 Part Three (25 points): Using GPT as a Research Assistant (Not a Search Engine)

1. Select **5 (a minimum of 5) to 8** papers that are most relevant to your research idea.
2. Upload the papers (or paste their abstracts) to ChatGPT if and only if they are publicly available. If the papers are not public, you can't upload to chatgpt and need to do this part by hand.
3. Ask GPT to extract the following for each paper or do it by hand (either way must be verified):
 - research question,
 - identification strategy (if any),
 - data used,
 - whether and how the mechanism (Z) is measured.
4. Ask GPT to produce a comparative table with the following columns:
 - (a) citation,
 - (b) data,
 - (c) method,
 - (d) results, e.g. if the question is the impact of education on income, what is the increase in income due to an extra year of education in dollars for the given paper.
5. Verify all entries in the table by checking the original papers.
6. Upload the verified table to Crowdmark with a minimum of 5 rows (per paper) and exactly 4 column.

Note: now you have a summarized table to refer to and to guide you in writing your literature review. **This table is not your literature review, it is just a table with summarized information.** Your lit review should read like a story! Where are you in the story? Tell me that.

4 Part Four (25 points): Re-defining Your Research Question

Now that you have read many papers and have a better idea about the literature. Let's revisit your research question. Your final research question should explicitly include X , Y , and Z (we can obviously deviate from this format, come talk to me). Use the literature you reviewed to motivate the question.

- Be specific and focused.
- Clearly state how Z is measured or proxied in the data.
- Ensure the question is empirically testable.

A recommended template is:

Would X affect Y through Z ?

Example:

- Would education (X) affect income (Y) through access to better social networks (Z)?
- Would trade liberalization (X) affect firm productivity (Y) through changes in input quality (Z)?

Your research question must be no more than two sentences. If you cannot state it clearly within this limit, talk to the professor before submitting.

Why Do We Write Literature Reviews

In economics, a literature review shows that you understand how your research fits into an existing conversation. For example, if you study how education affects individual earnings, you might discuss recent micro-level studies that use administrative or survey data to revisit this relationship. Many new papers published use individual-level datasets linked to family background, schools, or labor market outcomes to study not only whether education affects income, but also *how this effect operates*.

In your literature review, you should explain how these papers relate to your own project. Are you studying a similar X – Y relationship but focusing on a specific mechanism, such as parental income, school quality, or peer networks? Are you testing whether the proposed mechanism explains part of the effect, or whether the effect remains even after controlling for it?

A good literature review makes these connections explicit and shows how your research builds on, complements, or challenges recent empirical work.

AI tools can help you organize and synthesize the literature, but they do not replace economic reasoning. The goal of this exercise is to help you think like an economist: grounding ideas in data, understanding mechanisms, and building research questions that are both interesting and feasible.