

## Responsible NLP Checklist

Paper title: *Dynamics of Cognitive Heterogeneity: Investigating Behavioral Biases in Multi-Stage Supply Chains with LLM-Based Simulation*

Authors: *Jiuyun Jiang, Yuecheng Hong, Bo Yang, Jin Yang, Guangxin Jiang, Xiaomeng Guo, Guang Xiao*

How to read the checklist symbols:

- the authors responded 'yes'
- the authors responded 'no'
- <sup>N/A</sup> the authors indicated that the question does not apply to their work
- the authors did not respond to the checkbox question

For background on the checklist and guidance provided to the authors, see the [Responsible NLP Checklist](#) page at ACL Rolling Review.

---

### **A. Questions mandatory for all submissions.**

- A1. Did you describe the limitations of your work?

*This paper has a Limitations section.*

- A2. Did you discuss any potential risks of your work?

*See the "Ethics Statement" section.*

### **B. Did you use or create scientific artifacts? (e.g. code, datasets, models)**

- B4. Did you discuss the steps taken to check whether the data that was collected/used contains any information that names or uniquely identifies individual people or offensive content, and the steps taken to protect/anonymize it?

*The data consists entirely of synthetic simulation logs generated by LLM agents; no human subjects were involved, and thus no personally identifying information is present.*

- B6. Did you report relevant statistics like the number of examples, details of train/test/dev splits, etc. for the data that you used/created?

*See Section 3 (Preliminaries) and Appendix.*

### **C. Did you run computational experiments?**

- C2. Did you discuss the experimental setup, including hyperparameter search and best-found hyperparameter values?

*See Section 3 (Preliminaries) and Appendix for prompt details and model parameters.*

- C3. Did you report descriptive statistics about your results (e.g., error bars around results, summary statistics from sets of experiments), and is it transparent whether you are reporting the max, mean, etc. or just a single run?

*See Section 4 and 5 for statistical analysis, including mean and variance across multiple simulation runs.*

### **D. Did you use human annotators (e.g., crowdworkers) or research with human subjects?**

- <sup>N/A</sup> D1. Did you report the full text of instructions given to participants, including e.g., screenshots, disclaimers of any risks to participants or annotators, etc.?

*This study involves LLM simulations only; no human subjects were involved.*

---

The [Responsible NLP Checklist](#) used at ACL Rolling Review is adopted from [NAACL 2022](#), with the addition of [ACL 2023 question on AI writing assistance](#) and further refinements based on ARR practice. [ACL 2026](#) used a subset of ARR checklist form.

D2. Did you report information about how you recruited (e.g., crowdsourcing platform, students) and paid participants, and discuss if such payment is adequate given the participants' demographic (e.g., country of residence)?

*N/A (No human subjects involved).*

D3. Did you discuss whether and how consent was obtained from people whose data you're using/curating (e.g., did your instructions explain how the data would be used)?

*N/A (No human subjects involved).*

D4. Was the data collection protocol approved (or determined exempt) by an ethics review board?

*This research is based solely on simulations with public LLMs and does not involve human subjects or private data.*

**E. Did you use AI assistants (e.g., ChatGPT, Copilot) in your research, coding, or writing?**

E1. If you used AI assistants, did you include information about their use?

*We used AI tools for grammatical error correction and writing polishing. The experimental agents are also LLM-based.*