

Leveraging Large Language Models for Collective Decision-Making

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LLMs can help humans with collective decision-making tasks, such as meeting scheduling

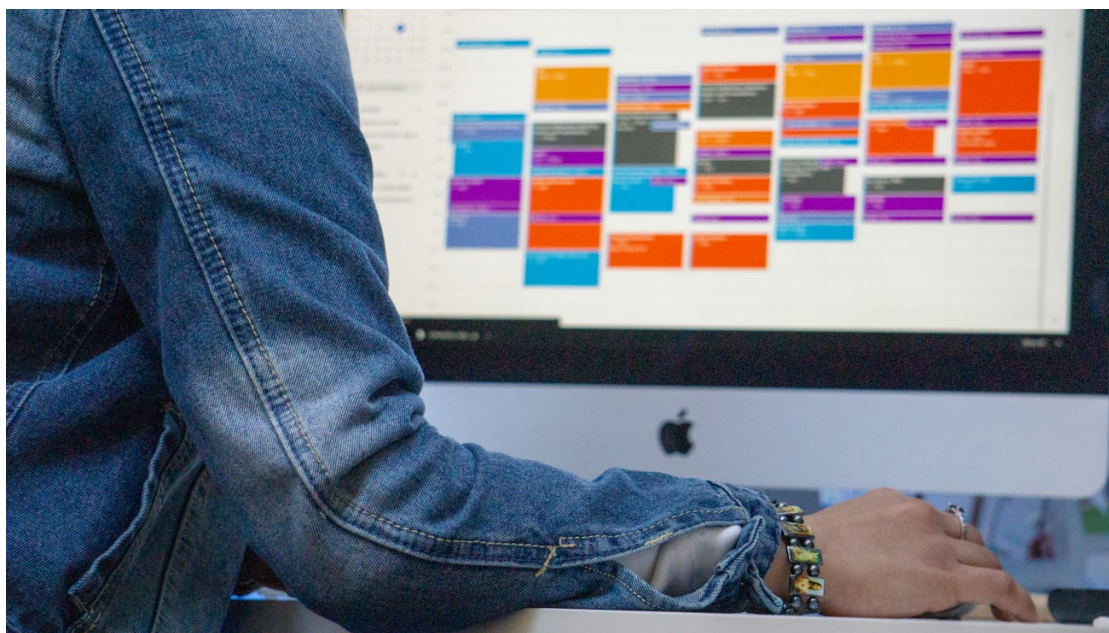


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What is it about?

Coordinating group decisions, such as scheduling a meeting time that works for everyone, is a common yet time-consuming task in modern workplaces. This study presents a new system that utilizes Large Language Models (LLMs) to facilitate collective decision-making by understanding individual preferences expressed in natural conversations and proposing fair, balanced options for the group.

To evaluate the system, the authors combined two complementary approaches. First, they conducted large-scale in-silico experiments, where multiple LLMs acted as simulated employees interacting with the system to test its coordination performance at scale. Then, they conducted a human-participant study to evaluate

the quality of the AI's reasoning and preference aggregation.

Together, these studies demonstrate that the system reduces coordination effort, enhances fairness among members, and provides transparent reasoning for its recommendations. The work demonstrates how LLMs can serve as neutral facilitators of collaboration, opening up new pathways for AI-supported teamwork and decision-making within organizations.

Why is it important?

As organizations become more distributed and hybrid, coordinating group decisions has become a growing challenge. At the same time, Large Language Models (LLMs) are increasingly embedded in everyday workflows but are rarely studied as mediators of group collaboration. This work is timely because it demonstrates how LLMs can go beyond assisting individuals to facilitating consensus among multiple people. By combining real-user studies with large-scale in-silico experiments using LLM agents, the research provides a new framework for understanding how AI can act as a fair, transparent, and efficient partner in collective decision-making.

Perspectives



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We were inspired by how much time teams spend simply trying to agree on things like meeting times, project priorities, or next steps. With the rise of conversational AI, we wondered if these systems could do more than automate tasks; could they mediate human collaboration? This project began with that question. By testing how Large Language Models can listen to, balance, and reason about multiple perspectives, we explored what it means for AI to participate in decision-making in a responsible manner. I see this work as a first step toward AI systems that don't replace human judgment but help groups reach it together.

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