Title	【課題研究報告書】オンライン議論における注目コンテンツ抽出
Author(s)	王, 治中
Citation	
Issue Date	2024-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/18905
Rights	
Description	Supervisor: 長谷川 忍, 先端科学技術研究科, 修士(情報科学)

Abstract

Consensus is the process or outcome where two or more parties reach a common opinion, solution, or decision. In social, economic, and political contexts, consensus-building is fundamental for groups, organizations, and communities to move forward. Achieving consensus allows individuals with conflicts or differing perspectives to find common ground and cooperate toward shared goals.

Effective consensus building holds value beyond merely making decisions. It strengthens relationships among stakeholders, lays the foundation for future cooperation, and leads to better outcomes.

In meetings, consensus building involves participants working together towards common goals or solutions and reaching a shared understanding or decision. This process is particularly important in meeting environments where people from diverse backgrounds and perspectives come together to share information, exchange opinions, and deepen discussions. Consensus building in meetings serves various purposes, such as achieving organizational or community objectives, solving problems, and making policy decisions. Typically, the process includes clarifying issues or setting goals, discussing proposed solutions or ideas, and exchanging views on their merits, drawbacks, and feasibility. Through discussion, participants enhance mutual understanding and gradually converge on a common solution or decision, eventually finding an agreement or compromise point everyone can support.

Effective communication, open discussions, mutual respect, and flexibility are essential for realizing this. An environment where participants can freely express their opinions, listen to others, and adjust their positions as necessary promotes consensus building. The role of facilitators is also crucial in guiding discussions, managing conflicts, and helping participants focus on common goals. However, consensus building is not always easy, and strong differences of opinion or conflicts can sometimes be barriers. Facilitators are needed to resolve such situations.

Facilitators play a central role in the consensus-building process in meetings. Their main task is to structure discussions and ensure that all participants have the opportunity to express and be heard. They maintain a neutral stance in conflicts and seek constructive solutions to manage them. They also foster communication among participants and deepen mutual understanding. Facilitators guide discussions toward common understanding or compromise points to promote consensus building and focus on shared goals or solutions. They also record and summarize meeting content, decisions, and unresolved issues, helping participants understand the discussion outcomes and move forward.

To effectively manage online meetings and promote consensus building, it is necessary to support participants in overcoming technical issues, actively engaging in the online environment, and taking measures to protect security and privacy. High-quality discussions and effective consensus-building can be achieved even under pandemic conditions by leveraging the advantages of online meetings and addressing new challenges.

The development of AI agents to support consensus-building in online meetings is advancing. These agents offer various functions, including structuring discussions, organizing and summarizing information, encouraging participant engagement, managing conflicts and issues, promoting consensus building, and providing technical support. These agents aim to address the unique challenges of online meetings and enhance the efficiency and productivity of meetings. Agents are crucial in maximizing meeting outcomes by focusing discussions, encouraging active participation, and guiding toward constructive solutions. The development and implementation of these agents are expected to overcome the challenges of online meetings and realize more productive and satisfying meetings.

This study proposed an agent for extracting objective content during meetings to address the potential influence of facilitators on meeting outcomes. This agent aims to reduce the subjective impact of facilitators on meeting proceedings and evaluate opinions and proposals from participants in a fair and objective manner, thereby improving the efficiency and fairness of meetings and promoting more meaningful consensus building. The agent was realized by collecting text data generated during online meetings and applying natural language processing technologies for topic extraction and attention assessment. Subsequently, a platform for online meetings was constructed to conduct meeting experiments and evaluate the agent.

In the experiments, students from various fields within the university were gathered to discuss issues related to the Sustainable Development Goals, conducting six experiments divided into morning and afternoon sessions, each lasting 30 minutes. After the experiments, a survey was conducted. In the survey, participants selected the content they focused on every 10 minutes in a format that allowed them to choose from the provided options. Many participants were able to find the content they focused on among the provided options. However, some participants chose "Other," suggesting that the survey options did not cover all the content of interest. Future research needs to analyze the content entered by participants to improve the accuracy of the focused content.

The AI agent developed in this study has been shown to be an effective tool for supporting consensus-building in online meetings. Future research is expected to explore the applicability and effectiveness of the agent in various meeting envi-

ronments and discussion themes and to seek ways to support consensus building more effectively in online meetings.