

Introduction to the Minitrack on Emerging Issues in Distributed Group Decision-Making: Opportunities and Challenges

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This mini track addresses emerging issues, such as diversity, culture, adaptability, mobility, remote monitoring, smartphone vulnerability, sharing economies and agility related to teams in distributed group decision-making, as well as the underlying theories of group dynamics, coordination, and communications among groups. The papers submitted specifically examined the emerging issues related to team configuration, communication challenges and performance in a distributed environment.

The mini track attracted several papers related to various aspects of distributed decision making. Accepted papers study adult remote monitoring, shared economies paradoxical need for both cohesion and conflict in teams and models for recurrent neural network as part of a strategy for the multi-agent patrolling task. In the First paper authors discuss skeleton recognition technology which is useful to monitor people with high accuracy while protecting their privacy. Authors developed a system that combines skeleton recognition and selective speech recognition by the audio direction to maintain privacy of elders as well as monitors individuals with high accuracy. In the second paper authors point out the important nuances of cohesion and conflict in distributed ISD projects, and recommends a new style of leadership that embraces this paradox. Their findings derived from the application of this lens reveal numerous challenges and opportunities arising from the interplay between macro-level patterns and micro-level interactions.

In the third paper authors discuss sharing economy and propose an agent-based simulation to shed light on how information sharing dynamics can affect the decision-making process and outcomes of asset sharing online communities. They discuss insights regarding the potentiality of this approach and the effect of behavioral rules on agents' outcomes and decision-making patterns. The Fourth paper discusses dis-comfort factors of smartphone usage. In this exploratory factor analysis, they discuss five factors which contribute to discomfort feeling. In the fifth paper authors propose to integrate a recurrent neural network as part of a strategy for the multi-agent patrolling task. They evaluate this new LSTM-based network and compare with two strategy, a cognitive and coordinated one, and a reactive and decentralized one. Their preliminary results indicate that the proposed strategy is better than the decentralized one for the criteria of mean interval and quadratic mean interval, and but also close to HPCC for the former.

Each of the above paper is timely, as they address emerging issues related to distributed group decision-making. The distributed group decision making area is still emerging and research is conflicting. As long as research produces mixed results, there will be continual need for validation and replication of experiments and development of new underlying theories.