Technologies for Supporting Reasoning Communities and Collaborative Decision Making: Cooperative Approaches

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The information age has enabled unprecedented levels of data to be collected and stored. At the same time, society and organizations have become increasingly complex. Consequently, decisions in many facets have become increasingly complex but have the potential to be better informed.

Technologies for Supporting Reasoning Communities and Collaborative Decision Making: Cooperative Approaches includes chapters from diverse fields of enquiry including decision science, political science, argumentation, knowledge management, cognitive psychology and business intelligence. Each chapter illustrates a perspective on group reasoning that ultimately aims to lead to a greater understanding of reasoning communities and inform technological developments.

Topics Covered:

- Cognitive tools for group decision making
- Communication and group performance
- Communities of practice in knowledge management
- Deliberative decision-making
- Deliberative democracy
- Group decision making for advanced manufacturing technology
- Group decision methods
- Information sharing and processing in computer mediated interactions
- Intersubjective reasoning
- Sociometric feedback

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Section 1: Understanding Collaborative Reasoning

Chapter 1
An Argumentation Model of Deliberative Decision-Making
Walton Douglas (University of Windsor, Canada)

Chapter 2
Interobjective Reasoning and the Formation of Metaconsensus
Niemeyer Simon (The Australian National University, Australia)

Chapter 3
Communication and Group Performance:
Li Shu-Chu Sarrina (National Chiao Tung University, Taiwan)
Huang Lin-Mei (Shih Huir University, Taiwan)
Liu Yi-Ching (National Chiao Tung University, Taiwan)

Chapter 4
Information Sharing and Processing in Computer-Mediated Interactions
Campbell Jamonn (Shippensburg University, USA)

Chapter 5
Communities of Practice in Knowledge Management and Organisational Learning
Olszak Celina M. (University of Economics, Poland)
Ziembta Ewa (University of Economics, Poland)

Chapter 6
A Reasoning Community Perspective on Deliberative Democracy
Yearwood John (University of Ballarat, Australia)
Stranieri Andrew (University of Ballarat, Australia)

Section 2: Enhancing Collaborative Reasoning

Chapter 7
Group Decision Making:
Saaty Thomas (University of Pittsburgh, USA)

Chapter 8
Distributed Collaborations and the Effect of Sociometric Feedback
Kim Tae Rie (MIT Media Lab, USA)
Alex (Sandy) Pentland (MIT Media Lab, USA)

Chapter 9
Methods of Group Decisions and Aggregation of Experts’ Opinions
Vrana Ivan (Czech University of Life Sciences in Prague, Czech Republic)

Chapter 10
Cognitive Tools for Group Decision Making:
Castellani Marco (University of Brescia, Italy)

Chapter 11
Group Decision Making for Advanced Manufacturing Technology Selection Using the Choquet Integral
Kahraman Cengiz (Istanbul Technical University, Turkey)
Gehi Selçuk (Karadeniz Technical University, Turkey)
Kaya Ihsan (Selçuk University, Turkey)

Chapter 12
Indexing as an Ontological Support for Legal Reasoning
Schweighofer Erich (University of Vienna, Austria)

Chapter 13
A Case for the Re-Use of Community Reasoning
Stranieri Andrew (University of Ballarat, Australia)
Yearwood John (University of Ballarat, Australia)

Section 3: Collaborative Reasoning in the Real World

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Collaborative Transportation Sharing:
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Morana Joëlle (Université Lumière Lyon 2, France)

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Spatial Ontologies in Multi-Agent Environmental Planning
Camarada Domenico (Polytechnic University of Bari, Italy)

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Supporting Communities of Practice by Advancing Knowledge Management between Hybrid Collaborative Environments
De Liddo Anna (Open University, UK)
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Section 4: Collaborative Reasoning in the Virtual World

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Negotiating Meaning in a Blog-Based Community:
Dennen Vanessa P. (Florida State University, USA)

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Establishing Reasoning Communities of Security Experts for Internet Commerce Security
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Watters Paul (University of Ballarat, Australia)
Wu Xin-Wen (University of Ballarat, Australia)
Dazeley Richard (University of Ballarat, Australia)

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Miller Chalynn (University of Ballarat, Australia)
Smith Phillip (University of Ballarat, Australia)
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