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Status, cognitive overload, and incomplete information in advice-seeking networks: An agent-based model

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Advice-seeking typically cuts across organizational boundaries by means of informal connections. By using Stochastic Actor-Oriented Models (SAOM), previous research has tried to identify micro-level mechanisms behind these informal connections. Unfortunately, these models assume perfect network information, do not consider threshold-based critical events, such as simultaneous tie changes, and require agents to perform too cognitively demanding decisions. Indeed, in the context of knowledge-intensive organizations, the shortage of high-skilled professionals could create complex network effects given that many less-skilled professionals would seek advice from a few easily overloaded, selective high-skilled, who are also sensitive to status demotion. To capture these context-specific organizational features, we have elaborated on SAOM with an agent-based model that assumes local information, status-related tie selection and simultaneous re-direction of multiple ties. By fitting our simulated networks to Lazega's advice network used in previous research, we reproduced the same set of macro-level network metrics with a parsimonious model based on more empirically plausible assumptions. Our findings show the advantage of exploring multiple generative paths of network formation with different models.

Keywords

Advice-seeking, Status, Cognitive Overload, Stochastic Actor-Oriented Models, Agent-Based Modeling

Topics

• Statistical methods and models for network analysis

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