

Multi-Theoretical Multilevel (MTML) Models to Study the Emergence of Networks

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May 18, 2006

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Abstract

The changes looming in the organizational landscape signal the need for a new generation of organizational theory and research that responds to the assumptions, aspirations, and adversities that will characterize these 21st century organizational forms. While there has been a long-standing interest in the study of organizations from a social network perspective the fundamental changes outlined above suggest that the research agenda needs to evolve from studying networks in (or between) organizations to grapple with the notion that the network is the organization. This nuanced, yet significant, change in perspective has substantial – and substantive – implications for the deployment of a comprehensive network analytic framework to specify and statistically model the structural tendencies of network forms on the bases of multiple theories and at multiple levels of analyses (Contractor, Wasserman, & Faust, 2006; Monge & Contractor, 2003). Towards that goal, this workshop begins by reviewing some of the theoretical and methodological accomplishments and challenges of contemporary research on networks. Next the workshop offers an analytic framework that can be used to specify and statistically test simultaneously multilevel multi-theoretical hypotheses about the structural tendencies of networks. The workshop concludes with an empirical study that illustrates some of the capabilities of this framework.

Bio

Noshir Contractor is Professor of Communication and Psychology at the University of Illinois at Urbana-Champaign. He is a Research Affiliate of the Beckman Institute for Advanced Science and Technology, Director of the Science of Networks in Communities (SONIC) Research Group at the National Center for Supercomputing Applications, and Co-Director of the Age of Networks Initiative at the Center for Advanced Study at the University of Illinois at Urbana-Champaign. His current research program is investigating factors that lead to the formation, maintenance, and dissolution of dynamically linked knowledge networks among profit, non-profit, government as well as non-government agencies involved in issues of public interest including emergency response, food safety, public health, environmental engineering. His research has been funded continuously for the past decade by major grants from the U.S. National Science Foundation, as well as additional support from NASA, the National Cancer Institute, and the Rockefeller Foundation. His research has been published in journals including *Academy of Management Review*, *Communication Research*, *Computational and Mathematical Organizational Theory*, *Decision Science*, *Human Communication Research*, *Journal of Broadcasting & Electronic Media*, *Journal of Cultural Economics*, *Organization Science*, *Small Group Research*, and *Social Psychology Quarterly*. His papers have received top-paper awards from both the International Communication Association and the National Communication Association. His book titled *Theories of Communication Networks* (co-authored with Professor Peter Monge and published by Oxford University Press) received the 2003 Book of the Year award from the Organizational Communication Division of the National Communication Association. He is the lead developer of IKNOW (Inquiring Knowledge Networks On the Web), a web-based social networking software (<http://iknow.spcomm.uiuc.edu>) and Blanche, a software program to simulate the dynamics of social networks (<http://csu1.spcomm.uiuc.edu/Projects/Teclab/Blanche/>).