

# Managing Business Complexity: Discovering Strategic Solutions with Agent-Based Modeling and Simulation

By Michael J. North, Charles M. Macal



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Agent-based modeling and simulation (ABMS), a way to simulate a large number of choices by individual actors, is one of the most exciting practical developments in business modeling since the invention of relational databases. It represents a new way to understand data and generate information that has never been available before--a way for businesses to view the future and to understand and anticipate the likely effects of their decisions on their markets and industries. It thus promises to have far-reaching effects on the way that businesses in many areas use computers to support practical decision-making.

Managing Business Complexity is the first complete business-oriented agent-based modeling and simulation resource. It has three purposes: first, to teach readers how to think about ABMS, that is, about agents and their interactions; second, to teach readers how to explain the features and advantages of ABMS to other people and third, to teach readers how to actually implement ABMS by building agent-based simulations. It is intended to be a complete ABMS resource, accessible to readers who haven't had any previous experience in building agent-based simulations, or any other kinds of models, for that matter. It is also a collection of ABMS business applications resources, all assembled in one place for the first time. In short, Managing Business Complexity addresses who needs ABMS and why, where and when ABMS can be applied to the everyday business problems that surround us, and how specifically to build these powerful agent-based models.



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Review

"Managing Business Complexity is a thorough, practical, and easy-to-understand guide to effective agent-based modeling and simulation. It's a must read for anyone considering applications of agent-based modeling for solving real-world problems."--Vincent P. Roske, Jr., Former Deputy Director for Wargaming, Simulation, and Analysis, U.S. Department of Defense Joint Staff Force Structure, Resources, and Assessment Directorate

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