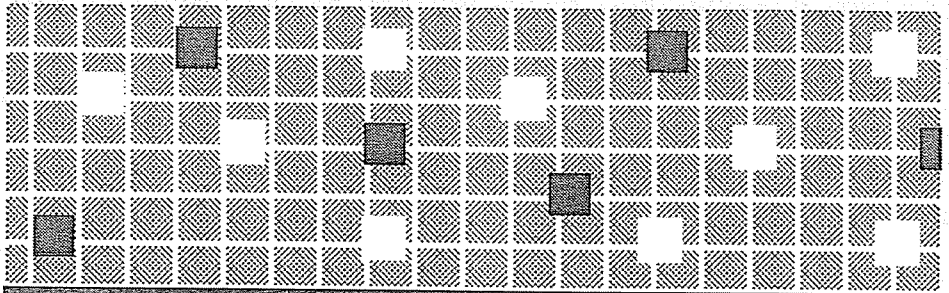




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COLLECTIVE  
INTELLIGENCE  
IN **COMPUTER-BASED**  
COLLABORATION

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■ JOHN B. SMITH ■

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# COLLECTIVE INTELLIGENCE IN COMPUTER-BASED COLLABORATION

John B. Smith

*A VOLUME IN THE COMPUTERS, COGNITION, AND WORK SERIES*

*Collective Intelligence in Computer-Based Collaboration* is a groundbreaking book that proposes a new paradigm for computer-supported cooperative work and a research agenda for developing and testing this paradigm. It constitutes the first attempt to outline a comprehensive model of collaboration that integrates the cognitive/conceptual and social dynamics of groups.

The challenge faced by all groups engaged in intellectual work is, on one hand, to divide the task so that efforts of individual members may proceed in parallel and, on the other hand, to synthesize their separate contributions to form a coherent whole. Addressing this challenge, Smith examines the general form of a theory of computer-based collaboration that extends across different tasks and situations. He uses the work of Newell, Simon, and Anderson as a base from which to consider a group as a form of distributed information processing system--within groups, there are constructs analogous to human long-term memory, short-term memory, and conceptual processes, as well as to problem-solving and knowledge-construction strategies. He discusses two metacognitive issues--awareness and control--as they arise in collaborative behavior. And he reviews a number of advanced computer systems that support collaboration; their impact on the thinking and behavior of groups is a particular focus.

Smith's theoretical framework combines elements of Information Processing System (IPS) theory--and its detailed process models of cognitive behavior--with the situated perspective of activity theory. The book suggests new and useful ways of conceiving problems and solutions to all those interested in the ways in which people interact with each other and with computers to achieve goals.



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# Collective Intelligence in Computer-Based Collaboration

John B. Smith  
*The University of North Carolina*



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*For Catherine, Ian,  
and my other collaborators*



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