

## **Beyond Distributed Cognition**

*Widening Our Conceptual Foundations to better support  
virtual organization*

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**Abstract.** American social science since World War II has been centrally shaped by the “cognitive revolution.” Fields as disparate as behavioral economics and cognitive anthropology have exploited a shared core of ideas about the workings and limitations of human cognition, such short-term memory and judgment heuristics. This cognitive toolkit has been a principal asset in the efforts to understand and better support the requirements of newly emerging forms of virtual organization. This keynote address examines two other human faculties, habit and emotion. Across western intellectual history these have often been understood as equally important determinants of organized action, and this was the case in the period before World War II. However, since then habit and emotion have not been tightly integrated dimensions of our analyses of social life, including virtual organizing. Rather they have served, if present at all, as labels for clusters of exceptions, cases that involved issues not well handled by the default cognitive approach. Both habit and emotion are rising in psychology as topics of inquiry. These two additional human faculties are notable for being significantly less available to direct introspection, but powerful new measurement techniques—most notably various forms of scanning—are bringing into focus their large role in determining our actions. The keynote provides an overview of these developments and some suggestions some of their implications for the understanding and supporting virtual organizing with concepts that make habit and emotion more central to the primary analysis.

### About the Author

**Michael D. Cohen** is the William D. Hamilton Collegiate Professor of Complex Systems, Information and Public Policy at the University of Michigan. His research centers on processes of learning and adaptation that go on within organizations as they adjust to their changing environments. He has written numerous articles contributing to the theories of organizational decision making and learning—many employing computer simulation. The most influential of these is "A Garbage Can Model of Organizational Choice," co-authored with James G. March and Johan P. Olsen. It inaugurated the use of what is now called agent-based simulation as a tool for refining theories of organizational process.

In recent years his empirical research has focused increasingly on the organizational effects of information technology and has focused on organizational implications of new developments in psychological studies of memory. The work has involved laboratory studies as well as observation and prototype construction in field settings such as case management agencies and hospital radiology services.

Cohen was a founding co-director of CREW, the Collaboratory for Research on Electronic Work, a multi-disciplinary research group of University of Michigan faculty. Subsequently, he joined an interdisciplinary group of faculty in creating the new School of Information that was formally chartered by the University of Michigan in 1996. He is a member of the core faculty group that founded Michigan's Center for the Study of Complex Systems. His work on complex systems led to his book with Robert Axelrod, *Harnessing Complexity*. He also serves as co-director of the Interdepartmental Committee on Organizational Studies (ICOS), an interdisciplinary research seminar of doctoral students and faculty that has met weekly for seventeen years. He has served as an External Faculty Member of the Santa Fe Institute and as a long-term consultant at the Xerox Palo Alto Research Center.