

## Managing Knowledge Networks

The information context of the modern organization is rapidly evolving in the face of intense global competition. Information technologies, including databases, new telecommunications systems, and software for synthesizing information, make a vast array of information available to an ever expanding number of organizational members. Management's exclusive control over knowledge is steadily declining, in part because of the downsizing of organizations and the decline of the number of layers in an organizational hierarchy. These trends, as well as issues surrounding the Web 2.0 and social networking, mean that it is increasingly important that we understand how informal knowledge networks impact the generation, capturing, storing, dissemination, and application of knowledge. This innovative book provides a thorough analysis of knowledge networks, focusing on how relationships contribute to the creation of knowledge, its distribution within organizations, how it is diffused and transferred, and how people find it and share it collaboratively.

J. DAVID JOHNSON has been Dean of the College of Communications and Information Studies at the University of Kentucky since 1998. He has also held academic positions at the University of Wisconsin-Milwaukee, Arizona State University, the State University of New York at Buffalo, and Michigan State University, and was a media research analyst for the US Information Agency. He has been recognized as among the one hundred most prolific publishers of refereed journal articles in the history of the communication discipline.

### *Advance praise*

“This book is about making the jump from IT to KM; from engineering potential information flow, to managing effective information flow. No one can know all the information relevant to our work and interests. We rely on friends, colleagues, and productive accidents for cutting-edge information and for blinders to information it is socially acceptable to ignore. Our points of access are connected in a network around us, and *Managing Knowledge Networks* provides frameworks for surviving and thriving in that network. Johnson draws on his years of research on human communication to speak simply with clarity, coverage, and examples. Addressed to academic and practical audiences, this book would be equally useful for an upper-division college course, a graduate seminar, or a manager responsible for information access and flow in the organization.”

RONALD BURT, Hobart W. Williams Professor of Sociology and Strategy,  
University of Chicago Booth School of Business

“What makes this a great book is its comprehensive treatment of an interdisciplinary topic – knowledge management – through a laser-like focus on one fascinating issue – knowledge networks. Nurturing them, monitoring them, diversifying them, and using them will be the knowledge professional’s toolkit in the coming decades. More and more innovation is not the answer to our organizational challenges. Value-added processes must come into play. David Johnson provides a terrific perspective for business leaders and organizational researchers – knowledge networks – and clarifies how they work in relation to innovation, organizational learning, and work performance.”

JAMES W. DEARING, Ph.D., Senior Scientist at the Institute for Health Research, Kaiser Permanente, Director of the Cancer Communication Research Center, and Co-Director of the Center for Health Dissemination and Implementation Research

“By marrying knowledge management to networks, Johnson derives important insights about the social and relational nature of knowledge. His dynamic view of knowledge and its management in knowledge networks is both innovative and insightful. This book will hold great interest for scholars and practitioners alike.”

MARSHALL SCOTT POOLE, David and Margaret Romano Professorial Scholar, Professor in the Department of Communication, and Senior Research Scientist at the National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign

“David Johnson’s book presents a comprehensive examination of how information and communication networks have evolved over time in personal, work, and broader environmental settings. What is unique about this book is that it taps into and synthesizes years of important research in communication network analysis and applies it to current day thinking and problems. This book is a must-read for anyone interested in studying networks.”

ALEX M. SUSSKIND, Associate Professor of Food and Beverage Management and Academic Area Director for Hospitality, Facilities, and Operations, School of Hotel Administration, Cornell University

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J. David Johnson



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J. David Johnson  
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To my mother, Edna Horn Johnson.

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## Preface

Managing knowledge networks (KN) within organizations has taken on enhanced importance in recent years because of the decline of middle management and other changes in formal organizational structures, the growth of information technologies, and our increasingly competitive global economy. KN can be manifested in a variety of forms: project teams, research groups, advice networks, professional communities, communities of practice, support groups, and so on. Individuals increasingly find that they must determine for themselves what choices they will make, distilling the information they have gathered in their personal networks to knowledge that results in strategies they can pursue as they act in an ever more complex world. The awareness of the operation of KN is, quite literally, an important survival tool for individuals. In turn, resulting individual learning and actions determine how organizations adapt to rapidly changing environments and innovate to meet new challenges.

I have been conducting network analysis, innovation, and information research for over three decades now (Susskind *et al.* 2005). This book represents a culmination of this work: a bringing together of what have been complementary, although separate, strands of research. As such it draws on my books and research articles in these diverse areas, hopefully resulting in a useful synthesis of ideas applied to the increasingly critical problem of understanding the role of KN in contemporary organizations. My first book, *Organizational Communication Structure*, placed network analysis within broader intellectual traditions relating it directly to formal, spatial, and cultural approaches to structure. *Information Seeking: An Organizational Dilemma* applied many of these structural approaches to the problems individuals confront when they seek information in organizations. It also explored the darker sides of individual action that I will discuss later in this work. My most recent work, *Innovation and Knowledge Management: The Cancer Information Service Research Consortium*, draws on my work on innovations, and my more recent interest in knowledge management, to analyze an elaborate case study of how these themes unfolded in a major provider of health information to the general public.

As Dean for the last decade of the College of Communications and Information Studies at the University of Kentucky I have had a unique opportunity to be exposed to the range of disciplines necessary for a holistic understanding of these issues. Our college is currently developing an undergraduate program in information studies that will address this critical manpower need in our

modern economy. In the tradition of land grant universities we have also tried to address these issues in more pragmatic ways. For example, as part of the Commonwealth's New Economy proposals we partnered with Decision Sciences to propose a Knowledge Innovation Management Center. We have also focused on Kentucky's Senate Bill 2 which would be instrumental in developing regional health information exchanges of electronic medical records, forming consortiums of vendors, providers, and insurance companies to try to control medical costs and improve quality. In addition to my research work with the Cancer Information Service, I have also been involved in Australia's Cooperative Research Centre for Freshwater Ecology in the development of their unique knowledge brokering partnerships with practitioners.

Typically the operation of the tools related to network analysis have been closely guarded. Fundamental (and often elementary) ideas related to structural research are masked with jargon and mathematics that make them inaccessible to all but those few individuals who have a mathematical/statistical background and/or who were trained in a limited number of graduate programs which focus on network analysis. While much of what is said in this book could be (and has been) expressed in mathematical terms (often in my own writings), I purposely have avoided them in this book. My desire is to acquaint a range of readers with the underlying substantive and pragmatic issues related to managing KN. I seek here to broaden the appeal of structural research along a number of dimensions and as such the book is intended to reach a wide audience. Accordingly, I have written the book in such a way that it will be appropriate to diverse audiences. I use summaries, charts, tables, and figures to make the book more accessible, especially to advanced undergraduates. The book also relies on boxes (equivalent to "sidebars") in the tradition of Ev Rogers' *Diffusion of Innovations* work (Backer *et al.* 2005) to illustrate substantive points with case studies, more elaborate descriptions of key researchers, emerging information technologies, and methodological approaches. The interested reader can consult the Further Readings noted at the end of each chapter for many excellent introductions in very concrete terms to such pragmatic issues as how to conduct a network analysis. This book focuses on general issues, providing readers with analytic frameworks that should be useful in specific situations as well as being applicable to the future in a way that discussions of particular, fleeting technologies is not. In writing this book I came to a deeper understanding of the many dilemmas and paradoxes posed by KN and the importance of managerial judgment in resolving them.

I would like to thank Paula Parish, Commissioning Editor for Business and Management at Cambridge University Press, for believing in this project. I would also like to thank Nathaniel E Johnson and Sally Johnson for their technical assistance.

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