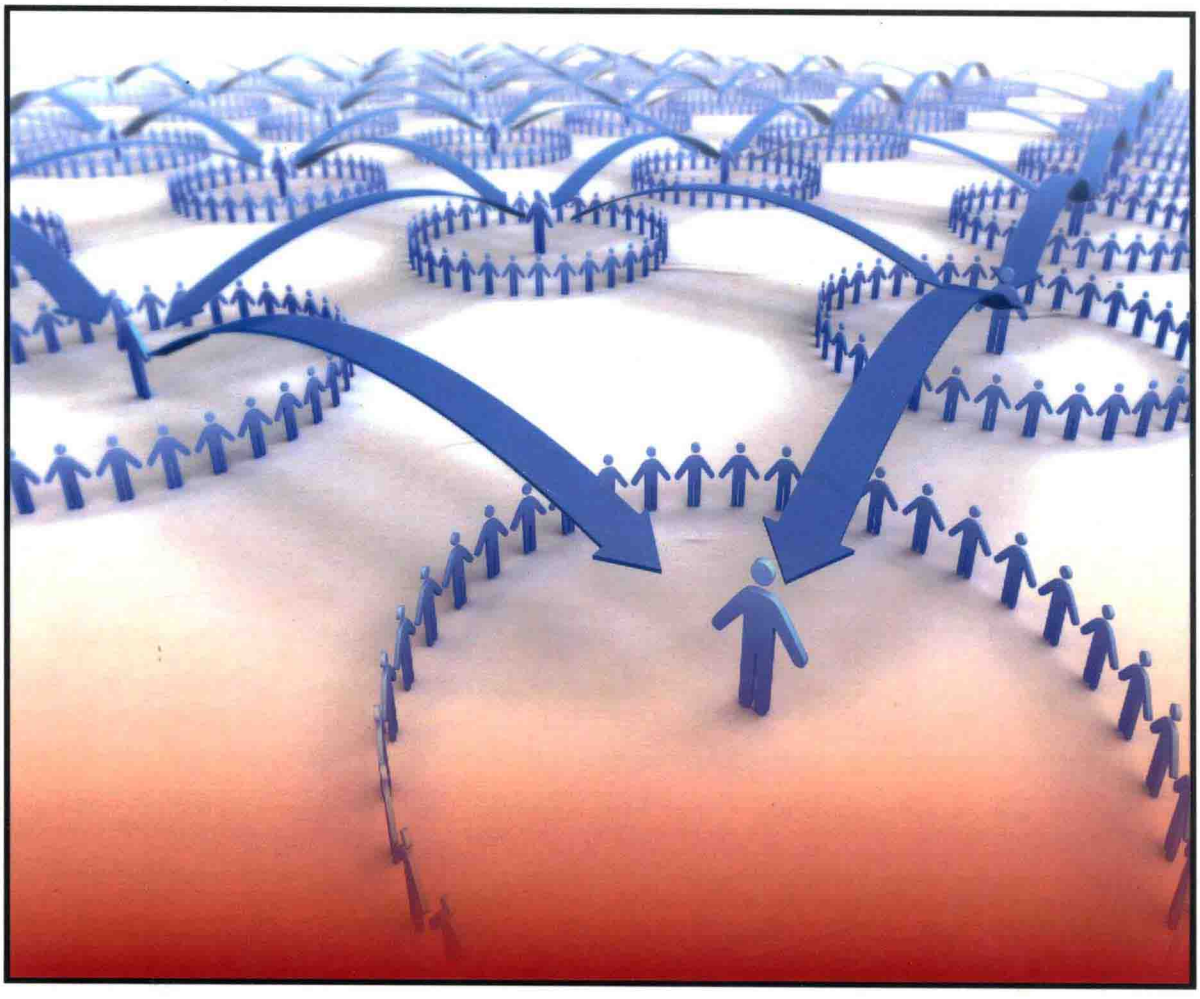
HANDBOOK OF RESEARCH ON

Methods and Techniques for Studying Virtual Communities

Paradigms and Phenomena



BEN KEI DANIEL

VOLUME II

Handbook of Research on Methods and Techniques for Studying Virtual Communities:

Paradigms and Phenomena

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Volume II

Information Science REFERENCE

INFORMATION SCIENCE REFERENCE
Hershey · New York

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Published in the United States of America by
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: http://www.igi-global.com

Library of Congress Cataloging-in-Publication Data

Handbook of research on methods and techniques for studying virtual communities : paradigms and phenomena / Ben Kei Daniel, editor.
p. cm.
Includes bibliographical references and index.
ISBN 978-1-60960-040-2 (hbk.) -- ISBN 978-1-60960-041-9 (ebook) 1. Electronic villages (Computer networks)--Social aspects. 2. Online social networks. 3. Internet--Social aspects. I. Daniel, Ben Kei, 1971-
TK5105.83.H36 2011
303.48'34--dc22
2010042272

British Cataloguing in Publication Data
A Cataloguing in Publication record for this book is available from the British Library.

Editorial Advisory Board

Foreword

If you go back to the earliest days of virtual communities, methods were simple: journalists and researchers participated, and then wrote about it. Lindsy Van Gelder met "Joan" (who was really "Alex") on Compuserve in 1983, and wrote "The Case of the Electronic Lover" for Ms. Magazine in 1985 (Van Gelder, 1985). Howard Rheingold got advice from a friendly pediatrician in the middle of the night, chatting with friends on the WELL in the early 1990s (Rheingold, 1993). When Judith Donath was engaged to be married, she hung out on the brides group on USENET and then used concepts from animal behavior to understand what she observed (Donath, 1998). Just explaining the medium to the public and to scholars was half the battle. Applying established theory to understand your personal experiences was cutting edge.

At the time of this writing in 2010, virtual communities/social computing are now part of mainstream popular culture. The medium is pervasive in industrialized nations, and mobile computing is growing explosively in developing nations. As virtual communities have accelerated in popularity, our need to understand them has grown commensurately.

Our teenagers are gaming and texting, our elderly parents are renewing friendships online that are 50 years old, and our businesses are locating and vetting new suppliers on other continents. What does it all mean? How do we begin to tease apart the evolving socio-technical system that is the Internet today?

With the rise of the importance of social computing comes a need for a wide range of methods to study these phenomena carefully. In this volume, Ben Kei Daniel has pulled together a global, savvy group of authors to survey a broad spectrum of methods and approaches. These methods borrow from a variety of disciplines. Ethnographic methods have their roots in anthropology, and social network analysis has its roots in quantitative sociology. Semantic network approaches have their roots in computer science and artificial intelligence. Conversation analysis comes from linguistics. And that doesn't mention work in this volume coming from researchers in management, geography, mathematics and education. Most of the tools and projects described in this volume draw on not just one of these disciplines, but use multiple approaches in a complimentary fashion. Together, these chapters provide a window on our growing methodological sophistication in how to understand virtual communities.

Amy Bruckman
Atlanta, Georgia

June 2010

Amy Bruckman *is an associate professor in the School of Interactive Computing at the Georgia Institute of Technology. She and her students in the Electronic Learning Communities (ELC) research group do research on social computing, particularly for educational applications. She is interested in the ways that we can design online communities to encourage individuals*

to create and share content online, and learn through that process. Dr. Bruckman received her Ph.D. from the MIT Media Lab's Epistemology and Learning group in 1997, her M.S.V.S. from the Media Lab's Interactive Cinema Group in 1991, and a B.A. in physics from Harvard University in 1987. In 1999, she was named one of the 100 top young innovators in science and technology in the world (TR100) by Technology Review magazine. In 2002, she was awarded the Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies.

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Preface

INTRODUCTION

The 21st century has witnessed a phenomenal increase in the number of virtual communities. This growth signifies our augmenting desire to connect, work, share, exchange, play and socialize with others irrespective of time, space, speed and distance. Today, more and more people are using social software such as Facebook, Twitter, MySpace, Blogs, Wikis, LinkedIn, and many others, to help them carry out their daily activities. As new technologies become an increasingly interwoven aspect of our everyday lives, it has become apparent that traditional methods for studying social systems that characterizes some of these technologies often lack the detailed understanding of aspects of human, social and cultural life that is required. Since virtual communities and phenomena inherent in them are emergent, there is still a lack of robust methods and approaches to study and understand virtual communities in breadth and depth. Clearly, this is critical if we are to provide complete and useful information systems, build better tools, and develop lean and efficient processes that can make interactions in these communities more productive, trustworthy, safe, secure and fun.

Currently, the massive utilization of virtual communities generates huge volume of data, which if systematically captured and appropriately analyzed, would be invaluable to increased understanding of social, educational and technological phenomena happening in these communities.

Further, the availability of tracking and analytic tools as well as the development of robust just-in-time data visualization software has helped enhance unprecedented opportunities to help researcher's answers questions they have entertained only theoretically for decades, largely due to the difficulty to directly observe social relations inherent in these communities.

This handbook of "Research on Methods and Techniques for Studying Virtual Communities: Phenomena and Paradigms" collectively appeal to a reorientation of research directions and methods and techniques on studying virtual communities. The book satisfies the need for diverse and yet coherent methodological consideration and tools for data collection, analysis and presentation on virtual communities.

Drawing from a wide variety of disciplines and sectors, methods covered in the book include; qualitative, quantitative, mixed methods, social network analysis, content analysis, program evaluation, discourse analysis, data mining, and data and user modelling. Metrics for measuring virtual communities are also discussed. Moreover case studies on important emergent phenomena in virtual communities are presented.

PURPOSE OF THE BOOK

Virtual communities have become a subject of considerable interest in both research and practice. These communities encompass a broad spectrum of activities, ranging from social networking, knowledge

networking, health and health care, educational and economical. Attempts to evaluate the performance of virtual communities would depend on various possible ways of defining and measuring "success" and depending upon the perspective of the researcher, the sector they are associated with, as well as the type of community being investigated. In the past, several researchers have used various methods and metrics to investigate and measure different phenomena in virtual communities. Some researchers employed rigorous research methods such as social network analysis; others used traditional qualitative or quantitative methods and data mining techniques, while others have relied on ad hoc methods. This is the first book that brings together a number of methods for examining virtual communities. The book describes various research methods relevant for virtual communities and provides the readers with ways in which to apply these methods. The methods and techniques presented in the book are mainly based on empirical research. Since currently there is no comprehensive book on research methods for studying virtual communities, this book is likely to have enormous impact on scholarly and practical profound knowledge on doing research on virtual communities. In addition, the book makes strong theoretical and practical contribution to the field.

TARGET AUDIENCE

This is a reference book, primarily intended for advanced undergraduate and graduate students and researchers interested in studying and building tools to support virtual communities. The book will be useful to programs taught in Computer Science, Educational Technology programs, Information Studies, Business and many other disciplines in the Humanities and the Social Sciences.

BENEFITS AND SCHOLARLY VALUE

This book is a practical and immediately useful reference for researchers, technologists, instructors and graduate as well as senior undergraduate students who want to better understand how to use scientific research methods to study virtual communities. Contributors also write about the nature of relevant tools for data collection and analysis. The major contributions of the book however, are the internationally and diverse chapters and the breadth and depth of the issues covered as well as the detailed discussions and presentations of various methods for studying virtual communities, illustrating with practical examples drawn from current research.

ORGANIZATION OF THE BOOK

The book has 44 chapters, which are spread across 5 sections. Section 1 of the book consists of chapters focused on an overview of virtual communities, and philosophical foundations of learning, teaching and engagement in virtual communities. Section 2 presents social and semantic network analysis of various aspects of virtual communities' as well as dynamic models of virtual communities. In Section 3, chapters deal with methods and methodology for studying virtual communities. Section 4 introduces chapters describing various measures and approaches for studying virtual communities. And Section 5 presents case studies on various technical and social aspects of phenomenon of virtual communities. An overview of each section of the book and chapters in it are described in the beginning of each section.

Acknowledgment

This excellent volume is a collaborative project. I am grateful to many people for making this project a great success. I would like to thank all the contributors to this volume for their dedication and time. Thanks are also due to the members of the Editorial Advisory Board for their guidance and advice. Further, I am grateful to all the anonymous reviewers for taking their valuable time to review all the chapters, and provide constructive feedback. I would also like to take this opportunity to thank my mentors Dr. Beth Horsburgh and Dr. Veronika Makarova who provided me with numerous opportunities to develop and extend my research insights to practical domains, and within clinical settings. Thanks are also extended to Dr. Richard Julien for his Departmental leadership and support.

Special thanks go to IGI Global Editorial and Publishing Team, whose contributions throughout the whole publication process were invaluable. In particular, I am deeply indebted to Julia Mosemann who continuously provided support via e-mail and kept the project on schedule, and Jan Travers for co-coordinating the editorial process.

I am also grateful to my fiancée Michelle Lavergne for her unconditional love, patience and support. It was her encouragement to start this book project. And finally, thanks to everyone who contributed in one way or another towards the completion of this project.

Sincerely,

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University of Saskathewan, Canada

List of Contributors

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