

# SRI International

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## **Computer-Mediated Communities: A Bibliography on Information, Communication, and Computational Technologies and Communities of Place**

### **Final Report**

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# Preface

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This bibliography is one of a series of SRI International reports on the role of information, communication, and computational technologies (IT) in people's lives. Although scholars in many fields have conducted research on the use and applications of IT in contemporary society, efforts to cumulate knowledge have been modest, and insights into the outcome of IT use in different social settings consequently remain weakly integrated.

In light of the above, the National Science Foundation contracted with SRI International's Science and Technology Policy Program to undertake a project exploring the implications of IT for community. The project's objective was to develop an analytical overview that synthesized multidisciplinary findings about IT and its consequences for communities. The central challenge was to formulate a picture of how these technologies affect communities of place and how they contribute to community building online.

The findings of the IT and community project are presented in two documents. The first report—*Computer-Mediated Communities: The Implications of Information, Communication, and Computational Technologies for Creating Community Online*—is an in-depth literature review that structures and synthesizes the theory and research on the ability of individuals to build meaningful social ties in an online environment.

This second document is a companion to the first. It is a subject bibliography (not a literature review) on the influence of IT in geographic communities—our communities of place. Limitations in the research make a subject bibliography more appropriate to this topic than a full-blown literature review, for two key reasons:

- Research on the outcomes of IT in our face-to-face communities is substantially less developed than the literature for online communities, making integration and synthesis more challenging.
- This is an emergent body of scholarship that reveals contradictory findings on some important subjects (such as the relationship between social interactions in our geographic communities and time spent online), making integration a premature exercise.

As a consequence, this report takes a slightly different tack than a standard literature review. Like a literature review, it identifies broad, key themes in the research and provides a representative list of references that will help orient interested analysts to each topic area. The subject bibliographies are *not exhaustive*, however, and this report does not attempt to summarize or synthesize the extant research. Instead, it represents a structured starting point for exploring how information technologies affect the

communities that we live in and the relationship between citizen and community of place. In particular, the references included in this report address the following core issues:

1. the ways in which IT is being used in traditional communities;
2. whether the existence of virtual community enhances or erodes participation in different aspects of traditional communities;
3. whether the existence of virtual community contributes to fragmentation, stratification, or solidarity of traditional communities; and
4. the ways that the implications of IT vary among people and groups, and what variation says about the causes of different social outcomes.

# 1. Introduction

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Americans have been concerned about declining communities for at least a century. The U.S. industrial revolution in the late 1800s triggered a wave of urbanization that moved people into cities away from the villages and towns that represent the idealized image of a traditional community. Instead of geography, ethnic identity and common interests—such as professional occupation, gardening, scouting, and sports—gradually evolved to become the basis of common social bonds. Communities of place, many believe, declined with the rise of cities, the growth of industry, and the emergence of more narrowly focused communities of interest.

The most recent wave of social anxiety about the strength and endurance of our local communities results in part from perceived threats by the Internet due to the amount of time individuals spend online instead of socializing face-to-face. On the other hand, the Internet and computer-based network technologies are also seen as remedies to community decline. In theory, IT could give people a greater opportunity to interact and mobilize their civic interests. Rural communities, increasingly marginalized by the global economy, could overcome their isolation through interactive telecommunications. People who feel lonely or alienated might find local connections through neighborhood and community networks.

At best, IT promises to rejuvenate flagging communities of place; at worst, these networks could further isolate people from real and meaningful interpersonal relations and disrupt what fragile social capital still exists in their local community. It is also quite possible that the technology will make little difference at all. As Claude Fischer, a prominent sociologist of telecommunications technology argues, "The historical record suggests that community patterns are remarkably resilient to technological change. As radical as the material transformations have been in the 120 years between Alexander Bell's novelty telephone and the Microsoft network, social lives remain more or less the same."<sup>1</sup> In a very fundamental way, social networks—defined by patterns of interaction with family members, friends, and residents of physical communities—show limited change despite the emergence and evolution of new telecommunications and information technologies.

## Scope of the Bibliography

This bibliography organizes the research on the Internet and its potential impact on our communities of place into key themes, and provides a representative list of references that will help orient interested analysts to each topic area. The bibliography is not exhaustive; it does, however, address (a) the significant ways in which our local

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<sup>1</sup> Claude S. Fischer, "Technology and Community: Historical Complexities." *Sociological Inquiry* (1997), vol 67(1), p. 116.

communities use IT to mediate their social interactions, and (b) the issues and concerns that are clearly emerging about the impacts of the Internet on place-based, geographic communities.

"Community" in the context of this project is holistic: its analytical focus is on community Internet use and broad-based community dynamics, particularly with respect to community development. One subject area that is notably excluded from this bibliography is that of e-governance. This is a body of literature that is growing rapidly but increasingly focused on the use of IT as a tool for administrative government, social service delivery, and information dissemination. While this is clearly a significant subject in its own right, it is excluded as a separate topic because the goal of this project was to characterize the influence of IT on community dynamics. Nonetheless, some useful references on e-governance are included in the sections of the bibliography that address *Civic Engagement* and *Community Development*.

## **State of the Literature**

The literature on computer-mediated geographic communities is substantial, spans several disciplines, and reflects multiple methodologies. Insights are generated by research ranging from rigorous ethnographic studies to national random-digit dial telephone surveys. Most of the literature is descriptive and attempts to characterize the current nature and status of community use of IT. There is, however, a growing body of scholarship that explicitly analyzes the impacts of electronic community information networks on community development and civic participation.

## **Communities of Place**

There are many sources of disagreement over what *community* means. An important root of the conflict, however, is the endurance of the communitarian vision in American culture: communities have been thought of traditionally as idealized geographic entities—neighborhoods, crossroads, towns, cities. Perspectives that romanticize rural lifestyle and collective action are central features of communities in the Western philosophic tradition. From Aristotle to de Toqueville to Etzioni, communities are described in almost mythical terms. Everyone knows and recognizes one another, community members are highly engaged in civic life, and moral obligations are the ties that bind. Community is a *virtue* that is practiced by people living in the same place.

Contemporary social thinkers reiterate these idealistic themes, but many critics reject the communitarian ideal. Anderson states flatly, "All communities larger than primordial villages of face-to-face contact (and perhaps even these) are imagined."<sup>2</sup> The concept of community may, unfortunately, be "a convenient analytical metaphor that has been extended far beyond the bounds of acceptable reasoning."<sup>3</sup> Nonetheless, physical

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<sup>2</sup> Benedict Anderson, *Imagined Communities*. (London, England: Verso, 1983), p. 6.

<sup>3</sup> Tharon Howard, *A Rhetoric of Electronic Communities*. (Greenwich, CT: Ablex Publishing Corp., 1997), p. 115.

communities support physical lives by meeting the need for homes, roads, schools, water supplies, police services, phone lines, recreational spaces, hospitals, places of worship, and so forth. These tangible artifacts of a community provide the infrastructure not just for a material standard of living but also for personal safety, health care, and spiritual needs. Local communities require civic governance and social capital, and suffer when they are neglected.

It may be easy, however, to overestimate the significance of day-to-day community ties. Wellman and his colleagues found that in Western urban societies, people may know about 1,000 others but hold primary social relationships with only about 20 people—typically family, neighbors, colleagues, and close friends.<sup>4</sup> People interact with others in their secondary networks much less deeply, without expectations of reciprocity, and typically in the context of their social role, not as people with unique identities and needs.<sup>5</sup>

For most people, the sense of support and affiliation that comes from truly personal interaction involves fewer than two dozen people in a densely bound network. These primary relationships are persistent over time but not overwhelmingly so. Limited evidence suggests that over the course of a decade, people replace two-thirds to three-quarters of these primary ties due to changes in life circumstances and personal needs.<sup>6</sup> The core personal relationships that people maintain over time are kinship ties and those that tend to be the most personally supportive. Otherwise, face-to-face social networks are neither tightly bound nor stable. Peripheral relationships—the vast majority of social ties—are replaced regularly and conducted somewhat superficially.

Notwithstanding the profound conceptual concerns, enduring criteria for communities *are* represented in the literature. At a minimum, a community is characterized by:

- social interactions;
- common ties;
- reciprocity in relationships;
- shared beliefs, values, and cultural habits among members;
- a sense of belonging among members;
- a sense of solidarity, or community identity, among members;
- standards of conduct for members; and
- members' ability to take collective action.

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<sup>4</sup> Jill Sutor, Barry Wellman, and David L. Morgan, "It's About Time: How, Why, and When Networks Change." *Social Networks* (1997), vol. 19(1):1-7.

<sup>5</sup> See Claude S. Fischer, *To Dwell Among Friends: Personal Networks in Town and City*. (Chicago, IL: University of Chicago Press, 1982); Sutor, Wellman, and Morgan, *op. cit.*; William J. Mitchell, *E-Topia: "Urban Life, But Not As We Know It."* (Cambridge, MA: MIT Press, 1999); and Barry Wellman and Milena Gulia, "Virtual Communities as Communities: Net Surfers Don't Ride Alone." Pp. 167-94 in *Communities in Cyberspace*, eds. Marc A. Smith and Peter Kollock. (London: Routledge, 1999).

<sup>6</sup> Sutor, Wellman, and Morgan, *op. cit.*

In short, community is an ambiguous concept, and debates about its meaning are complex and extensive. In this report, community of place is defined as a social aggregate that satisfies the sociological requirements of community behavior presented above, but its members are geographically proximate. That is, they live within a common and defined geographic boundary.

## 2. Subject Bibliography

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### Community Theory and IT

The community theory literature explores the meaning of community and evaluates the potential impacts of information technologies on community cohesion, strength, and vitality. The first set of references elaborates and/or critiques the concept of community in general; the second set addresses explicitly the implications of information technologies for communities of place.

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## Who's Online: What People and Communities Do With IT

The literature on IT and communities of place is characterized largely by case studies of individual communities or types of technologies. Less common are comprehensive datasets that characterize, in a statistically valid way, national patterns of individual and community IT use. The references provided here are analyses that draw on national random digit dial telephone surveys of Internet use or are based on data gathered by the U.S. Bureau of the Census. Almost all of the works cited provide some treatment of the demographics of who uses the Internet (either as individuals or communities); they *all* explore what the Internet and IT are used for.

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## Equality of Access Issues

An enduring and significant theme of the research literature on IT and communities of place is the impact of these technologies on social stratification. Because IT is perceived to be vital to Americans' ability to successfully engage in education, the economy, and civic life, lack of access becomes an important equity issue in our culture. Access questions broadly differentiate themselves into two categories: concerns about stratification within communities and society at large (the Digital Divide), and the potential exacerbation of rural/urban inequalities (the rural telecommunications infrastructure).

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## Modes of IT Within Communities

Communities of place do not design and implement an infinite variety of IT applications and uses. Over the past two decades, two basic community IT "paradigms" have emerged—the community technology center and the community network. Each has evolved with a different purpose. Community technology centers are designed to compensate for the Digital Divide and provide some measure of public access to IT hardware and connectivity with the Internet. Community networks are web-based communication tools that provide a spectrum of information services to local residents. At a minimum, community networks provide local information, functioning much as an online community directory; at a maximum, they may offer interactive capabilities where citizens may actively converse with one another and make community decisions.

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## Civic Participation

Research on the use of IT by communities has largely focused on two broad topics: (1) civic engagement by local residents, and (2) community development. Civic participation as a theme explores how individuals interact with their community's social life—building social capital, involvement with political decision-making, and so forth. Community development is a closely related topic that also addresses how residents use IT to strengthen the community, for example, through job training, better provision of social services by the government, and enhancing social capital. While related, civic engagement and community development are treated as two separate topics in this bibliography.

One strong sub-theme within the civic participation topic is that of political activism—how individuals and groups use information technology to initiate social movements and grassroots activism. This topic is therefore broken down into two categories—political activism and civic engagement more generally.

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## Community Development

One of the great hopes for the new information technologies is their potential for strengthening and reinvigorating local communities. Community development in its broadest sense represents improving the quality of life of local residents and increasing the cohesion and sense of identity and connection among citizens. Some analysts have ongoing concerns, however, that IT represents a threat to communities of place and may erode the social capital that presently exists within them. The references included in this section of the bibliography reflect both points of view.

One issue in particular is worth a separate category, and that is the legal issues that are emerging in the tension between cyberspace and communities of place. Our legal system has evolved a framework of geographically-based political authority. For example, torts (civil liabilities) are defined at the individual state level; the Supreme Court has ruled that local community standards may be used to determine some first amendment rights to free speech (in particular, whether speech is pornographic or inflammatory); and nation-states have well-defined geographic borders marking their territorial sovereignty. Cyberspace has begun to severely challenge laws that are place-based and attempt to protect communities from harm. The citations included here represent basic introductions to this topic and cover issues related to personal liability for web-based activity, the difficulty in applying local standards to speech on the Internet, and the problems of international sovereignty in global information networks.

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