SHOULD EMERGING TECHNOLOGIES CHANGE BUSINESS COMMUNICATION SCHOLARSHIP?

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The scope, scale, and substance of business communication are undergoing a sea change as the result of recent developments and emerging uses of communication technologies. This article adopts Sproull and Kiesler's model of first-level and second-level effects to explore how business communication research might respond to these changes and to introduce the articles in this issue by Herrmann and by Turner and Reinsch. Herrmann is offered as an example of how researchers might tap the increasing amount of data available, and Turner and Reinsch's concept of multicommunicating is offered as an example of how researchers can fundamentally rethink basic communication concepts.

Keywords: *communication technology; Internet; online communication; Web 2.0*

Fifteen years ago, Lee Sproull and Sara Kiesler published their landmark work *Connections: New Ways of Working in the Networked Organization*. *Connections* was one of the first substantial efforts to study the use and impacts of computer-mediated communication outside of experimental or laboratory contexts and in actual organizations. This was 1991. Given the ubiquity of communication technologies in 2006, we might forget that 1991 was only 1 year after the Web was invented, 2 years before major commercial networks interfaced their e-mail systems to the Internet, 2 years before a graphical Web browser was introduced, 3 years before the first major commercial spam campaign, and still 4 years before the Internet backbone in the United States was given over to private carriers (Crocker, n.d.; Zakon, 2005).

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The communication technologies in the two studies of this issue's forum are several generations descended from the technologies reported by Sproull and Kiesler (1991). Herrmann (2006) examines postings to a Web-based discussion board hosted by the investor firm The Motley Fool (TMF). Functionally, these are a species in the family of online bulletin boards, which also includes FidoNet, BITNET, and usenet (Stewart et al., 2005). Turner and Reinsch (2006) present results from two studies of multicommunicating, most clearly enabled today by peer-to-peer-based instant messaging (IMing), which can trace its roots to the earliest time-share computer operating systems but first appeared in its modern form as ICQ in 1996 ("I Seek You") (http://www.icq.com/info/icqstory.html).

Connections called on researchers and practitioners to recognize two levels of technology effects. The first level of effects, argued the authors, includes those that are intended. Typically, organizations adopt technologies to increase the efficiency of a particular process. We can think of these as surface or direct effects. For example, a customer service division might develop a Web site with product information to make communication with its clients more efficient. Second-level effects are those that are unintended. These are effects that change the social system in which the process is embedded. They are indirect and affect organizational processes at a deeper level. For the organization in our example, the availability of information on the Web site might alter the expectations of consumers for customer service, requiring the organization to rethink the goals and objectives of that division. An early example common across many organizations is the adoption of electronic mail. Often introduced as a way to distribute information more efficiently, e-mail also had unpredictable and uncontrollable systemic effects, such as creating new groups within the organization, enabling the rapid sharing of sometimes indiscreet information, and supplanting various occasions of face-to-face communication (Sproull & Kiesler, 1991).

Scores of studies since then confirm the insight of this two-level model. The introduction of a technology into an organization does indeed bring about changes that are observed and measured relatively easily, but there are also always deeper impacts that do not immediately surface and that, potentially, might bring about such radical change that it alters core elements of the organization itself, such as its structure, culture, or performance (Jackson, Poole, & Kuhn, 2002; Nardi & O'Day, 2000; Yates, 1993; Zuboff, 1988).

In this article, I propose that we extend Sproull and Kiesler's (1991) insight into first-level and second-level effects to consider its implications for

the scholarship of business communication. The studies by Herrmann (2006) and Turner and Reinsch (2006) provide an excellent opportunity to reflect on the surface and deep effects of computer-mediated communication on our methods of research. I use Herrmann to suggest that first-level effects primarily result from the changes in the scale and the scope of available data. In comparison, Turner and Reinsch's article is evidence of second-level effects, in which the nature of communication itself is potentially transformed.

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FIRST-LEVEL EFFECTS: A NEW SEA OF COMMUNICATION

Herrmann (2006) presents an interesting analysis of the online discussion of individual investors in Berkshire Hathaway by examining postings to the investor community TMF. He suggests, rightly so, that these discussion boards are an important resource for businesses concerned with monitoring "how people make sense of financial messages . . . understanding what investors perceive as equivocal . . . [and examining] the porous connections between corporate discourse and investor discourse" (p. 14 [this issue]).

The boon, and the bane, of researchers or practitioners looking to pursue this type of research is the great mass of data available. Herrmann (2006) analyzes about 20 discussion threads from a pool of hundreds, yet still this relatively small sampling totals more than 400 pages of data. And this number keeps growing. As of June 2006, the TMF Berkshire Hathaway board is alive and well, with more than 120,000 postings.

At least two developments in just the past few years have set the stage for a dramatic increase in the amount of online communication archived on Web sites and available publicly: first, the high penetration of Internet access into residential areas and, second, the much wider adoption of

broadband. Together, these have both increased the number of individuals posting material online and lowered significantly the effort required for any individual posting. An "always on" Internet, integrated not only with our computers but also with our cell phones and personal digital assistant (also known as PDA) devices, is the key component for the phenomenon of "social computing."

Social computing is the next generation of online communities. On text-based discussion board sites, such as TMF, we will likely see a dramatic increase in both the number of postings and the number of people doing the posting. But the real innovation is in sites that support multimedia content. Two thirds of Facebook.com's 7.5 million registered users visit the site regularly, with more than 1.5 million photos posted daily (http://www.facebook.com/press.php). The video site YouTube.com, launched in December 2005, has just 6 months later grown to receive 50,000 videos daily (http://www.youtube.com/t/fact_sheet). As of March 2006, the social networking site myspace.com is hosting more than 60 million profiles (http://www.micropersuasion.com/2006/03/myspace_mania.html). Technorati reports that the number of blogs has doubled every 6 months during the past 3 years, with more than 75,000 new blogs created daily and 50,000 entries posted every hour (http://technorati.com/weblog/2006/04/96.html).

Try to get your head around that.

Essentially, we are witnessing the creation of readymade data sets on a scale we have never before experienced. This is truly a new sea of communication. As business communication researchers, we would be remiss to disregard these phenomena, to view them as the province of disaffected and marginalized people, or to view them as somehow inauthentic when compared to traditional face-to-face communication. So then, communication researchers must address how best to deal with the changes in scale and scope of available data. Herrmann's (2006) use of Weick is an interesting example here: How shall we best employ established constructs, such as the double interact, to analyze these data? As Herrmann rightly points out, participants work to create coherence in the face of a cacophony of voices, "attempting to chisel all the various informational, narrative, and visual texts into one message that makes sense" (p. 30 [this issue]). Indeed, this is the objective we face as researchers as well. How do we grapple with the sheer amount of data? In what ways should we change our expectations for scholarship? For example, stratified sampling across periods is an acceptable method for some data, but it does not suit other types of data (such as blogs) in which an important communicative element is the interconnection and interpenetration with other sites across time.

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One path we might take is that of Steve Corman and his colleagues at Arizona State University, who created specialized software that can identify patterns in large amounts of digital data (http://www.crawdadtech.com/index.html). We might also become more savvy users of publicly available tools, such as search engines. Google, for example, provides tools for searching only within a single site, or for synonyms, or for numbers within a given range. The aggregating power of social tagging sites, such as del.icio.us (http://del.icio.us/) or flickr (http://www.flickr.com/photos/tags/), offers the researcher new rationales for sampling, such as centrality and impact.

Similarly, we must consider the implications for business practice. How does this new environment change models for communicating with publics, for marketing, for management practices? One sector, intelligence gathering, is already experiencing transformation of fundamental business practices. Our field might look to the emerging field of "open source intelligence" for lessons on how to manage the great sea of communication (Lahneman, 2003).

A dramatic increase in available data is the most important first-level effect of online communication as we near 2010. As a field, we need to discuss these issues. And given how quickly the tide is rising, we should do that sooner rather than later. Perhaps we might consider this a call to bring out the bloggers among us.

SECOND-LEVEL EFFECTS: A NEW WAY OF SEEING COMMUNICATION

Recently, my daughter asked me for advice on researching a project she was working on for school. The unusual thing about this request is that it came to me as an IM while I was working in my home office and was sent from a computer not more than 15 feet from my own. My door was open, and we could see each other, yet she chose to communicate electronically. As we worked on her project, we did talk to one another, yet we communicated more effectively through IM. Though this seemed very unusual to me,

it wasn't at all to my daughter. Nor, according to studies of young people, is it unusual to others (Clark, 2005). The Pew Internet and American Life Project reports in 2001 that IMing had become a major form of communication for teenagers: One fifth identified IM as the main way they communicated with friends (Lenhart, Rainie, & Lewis, 2001). IMing may be reconfiguring friendship networks and expectations for social commitment among young people in the United States (Grinter & Palen, 2002).

For a number of years, research in computer-mediated communication was driven by the "difference question": How is mediated communication different from face-to-face communication? Or how do various forms of mediated communication differ from one another? Influential examples of difference question research include social presence theory (Short, Williams, & Christie, 1976), media richness theory (Daft & Lengel, 1986), and social information processing (Walther, 1992). The difference question has been enormously productive, particularly in aiding researchers to understand environments where people perceive communicating through one medium as tangibly different from communicating through another.

However, the sense of demarcation among media is lessening. I send an IM to my daughter as I talk to her. Our students listen to our lectures while previewing the PowerPoint slides we have posted online, checking their e-mail, and surfing Facebook profiles for new groups to join. At our conferences, participants blog in real time and chat on backchannels while listening to presenters. Friends check their text messages while chatting with each other over lunch. We are living not only in a multimedia environment but in a truly multicommunicating environment.

In this issue, Turner and Reinsch (2006) introduce the term *multicommunicating* to identify the practice of an individual engaging in multiple conversations simultaneously, typically through coordinating independent IM sessions. Multicommunicating is related to multitasking but is distinct in that individuals must meet the interactional demands of conversation, such as turn taking, relevance, and timely response. The potential insight of the concept of multicommunicating is to challenge the assumption that individuals engage in one interaction at a time and that the interjection of other interactions constitutes interruptions or distractions. As the authors argue, what multicommunicating suggests is, instead, a much richer communication environment, in which presence can be allocated and compartmentalized. This idea of multicommunicating suggests a number of interesting questions, including that investigated by Turner and Reinsch, of the notion of a conversational hierarchy, in which perceived status and power of interlocutors moves them higher in what might be called the "attention queue." Another

example for future research might be to look at redefining and expanding what is meant by communication competency, perhaps extending the recent work by Potter (2005) that emphasizes the importance of a mediated environment to defining media literacy.

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Multicommunicating is one example of the second-level effects that will be brought about with systemic changes to our communication environment. This and other unintended, emergent effects are potentially transformative, challenging our basic assumptions by changing the fundamental elements of our communication environment. Walther's (1992, 1994, 1996) work in online identity is an interesting example. His early research was guided by an assumption that online communication is inauthentic when compared to offline communication, but then, he moves to challenge this assumption and posits the concept of the "hyperpersonal," in which authenticity is continuously constructed according to the affordances (or capabilities) present in the communication environment. Palen and Salzman's research is showing how a generation's conception of time and of social commitment is fundamentally different because of the capabilities provided by cell phones (Palen & Salzman, 2002; Palen, Salzman, & Youngs, 2000).

Also possible is that, as communication scholars and practitioners, we actively engage in designing technologies that work by challenging the restrictions assumed in face-to-face situations. One example is the well-established work in group support systems, in which contributors may be anonymous, and free exchange may be structured according to principles of good discussion (Scott, 1999). Other examples are the work we are doing at the University of Colorado. In collaborations with Marcelo Milrad and his colleagues (Milrad, Jackson, & Bergman, 2005) at Växjö University in Sweden (http://www.celekt.org/), we are using specially enabled cell phones to make face-to-face interactions persistent over time and space, challenging the traditional assumption of the ephemeral quality of these exchanges. In another project, we are soon piloting a new educational technology, called the "metalecture," that

challenges the concept of "floor" and "turn taking," enabling multiple participants to build a presentation collaboratively and synchronously during a class period.

Second-level effects change the very phenomenon we are studying. As researchers, we would do well to look for how these changes challenge fundamental assumptions about elements of communication that we take as enduring or unchanging. Thus, this emerging environment calls on us to reexamine the way we see communication.

CONCLUSION: LEVELING OUR PLAYING FIELD

Until recently, it was meaningful to consider research into computer-mediated communication as a subfield of business communication. As the work by Herrmann (2006) and Turner and Reinsch (2006) illustrate, however, that distinction is evaporating. Mediated communication is infused into nearly any business communication context, perhaps even coming to dominate certain areas such as public relations. The world we investigate is, at the surface or first level, bigger in scale and scope. Typical limitations to collecting data that previously were enforced by constraints to time and space are dissipating as technologies allow us to communicate anywhere, anytime, to anyone. At the deeper second level, we must be attuned to see changes in fundamental patterns and practices that we have traditionally taken for granted.

As illustrated by the articles in this volume, the two-level model articulated by Sproull and Kiesler (1991) remains useful today. Herrmann (2006) demonstrates successfully how researchers might tap the increasing amount of data available. Turner and Reinsch's (2006) concept of multi-communicating is an insightful example of how researchers can fundamentally rethink basic communication concepts. These are interesting times for studying business communication, whether to investigate traditional questions or new ones. As researchers, we can profit by remaining open and adaptable to the continued changes to communication—whether in scale, scope, or substance—enabled by emerging technologies.

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