

Computer-Based Communication Technology as an Organizational Phenomenon: Electronic Mail in Organizational Communication

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Abstract - Peer-reviewed articles were reviewed and analyzed for based on the concept of computer-based communication technology as an organizational phenomenon. A discussion is presented according to the three themes that emerge from the literature review. These three themes include: 1) a concept of communication technology as a social phenomenon, 2) the use of electronic group mail in decision-making group, and 3) the advantages and disadvantages of the use of communication technology compared to that of face-to-face communication mode. The paper concludes with lessons learned from the review and provides suggestions for further research.

Keywords - Computer-Based Communication, Electronic Mail, Organizational Communication, Social Context Cues

I. INTRODUCTION

Communication technology helps promote organizational communication. Although various types of computer-assisted communication such as electronic mail, Skype, Facebook, and mobile applications have been used to create communication networks within and outside organizations, electronic mail is one of the initiatives in communication technology that fosters organizational communication through the utilization of electronic group mail. This paper aims to examine peer-reviewed articles related to a construct of computer-based communication technology as an organizational phenomenon and trace back to its original concept, which is found in the work of Sproull & Kiesler (1986)

namely “Reducing Social Context Cues: Electronic Mail in Organizational Communication”.

II. THE ORIGINAL CONCEPT

The original concept of computer-based communication technology as an organizational phenomenon is found in the paper, “Reducing Social Context Cues: Electronic Mail in Organizational Communication” by Sproull & Kiesler. The article was published in 1986. It has been cited 2,183 times. The study was an empirical study of electronic mail communication in a Fortune 500 company. Questionnaire data and actual messages were used to examine electronic mail communication in all levels of the organization. It explored the use of a new communication technology: electronic mail in organizational communication. With the belief that electronic mail may do more than speed up the information exchange process, the study aimed to investigate how the lack of social context cues in electronic mail affects communication behavior or the patterns of information distribution in organizations. The hypotheses of the study about communication behavior in organizations when social context cues are weak or absent are: 1) Social context cues are relatively weak in electronic mail, 2) Electronic mail’s behavior is relatively self-absorbed, 3) Electronic mail’s behavior is relatively undifferentiated by status or professional position, 4) Electronic mail’s behavior is relatively uninhibited and nonconforming, and 5) Electronic mail provides new information, not just a faster way to receive old information.

Consistent with the hypotheses, the findings showed that the lack of social context cues equalize users' social status in communication. Electronic group mail provides a mechanism for communicating with an unknown partner. The lack of social context information of the unknown partner creates status equalization. It provides access equalization, that is, either secretaries or managers can equally get access to information. It also helps managers get information that was difficult or impossible to get. An uninhibited behavior was found in electronic mail communication. The information conveyed through electronic mail appeared to be different from information found in a face-to-face communication mode.

In the sections that follow, 16 peer-reviewed articles, which was developed based on the concept of computer-based communication technology as an organizational phenomenon, is reviewed and analyzed. A discussion is presented according to the three themes that emerge from the literature review. These themes are a concept of communication technology as a social phenomenon, the use of electronic group mail in decision-making group, and the advantages and disadvantages of the use of communication technology compared to that of face-to-face communication mode. The paper will then conclude by addressing what was learned about the construct and further research that needs to be conducted to generate additional knowledge.

III. THE THREE THEMES

According to Sproull & Kiesler (1986), electronic mail reduced "social context cues," provided information that was undifferentiated by status, uninhibited, and provided new information that was usually hard to get. The concepts of the computer-based communication in social context, a lack of social context information or social context cues of the unknown partner in electronic group mail, and a social equalization found in electronic group mail, which helped generate new information, are the constructs that later scholars have built on fruitfully. The implication of these concepts has suggested new areas of research. Three

themes emerged from the review including communication technology in social context, electronic group mail in decision-making process, and the concepts of social context cues that can be both advantages and disadvantages of the use of communication technology compared to that of face-to-face communication mode. In the sections below, these themes are elaborated in order.

A. *Communication Technology in Social Context*

Sproull & Kiesler (1986) brought the concept of communication technology in social context into light. This concept influenced later research, which viewed communication tool as a social phenomenon (Markus, 1987; Markus, 1994a; Orlikowski, 1992). One year after their research, there was an attempt to explain the diffusion of the utilization of various types of interactive media such as electronic mail, fax, telephone, and computer conference (Markus, 1987). Markus developed a critical mass theory based on the recognition of communication technology in social context. The theory explained that the two main characteristics of interactive media - a universal access feature and a reciprocal interdependence feature - make interactive media such as electronic mail become widely used in the communities. In 1994, Markus conducted a study on using electronic mail as the medium of managerial choice. The survey was distributed to 504 managers at a company, HCP, to examine why managers use electronic mail. The finding confirmed Sproull & Kiesler's study (1986) that electronic mail was a social phenomenon. The finding indicated that media selection or use is a result of social process. Society shapes how users in organizations select and use communication media. Another theoretical model, named the structurational model, proposed a reconceptualization of the use of technology in organizations to include social perspective in explaining the interaction between technology and organizations (Orlikowski, 1992). The theory stated that technology, including but not limited to communication technology, has a dual nature as an objective reality and a social construct.

B. Electronic Group Mail in Decision-Making Process

Besides bringing the concept of communication technology in social context to other researchers' attention, electronic group mail is another area that provides conceptual foundation for later research. According to the finding discovered by Sproull & Kiesler (1986), electronic group mail provides a tool for communicating with unknown users or partners. Electronic group mail not only helps distribute fast information, but also helps expand and change information within an organization. Because anyone can create distribution lists in electronic group mail, Sproull & Kiesler pointed out that electronic group mail has the power in changing the nature of information and informants. Building upon the concept that electronic group mail changes the nature of information and informants and expands information within an organization, other researchers viewed electronic mail as a tool that creates collaboration and flexible structures within an organization (Finholt & Sproull, 1990; Hinds & Kiesler, 1995). The significance of communication technology for collaboration and information sharing across organizational levels was found in two empirical studies. An empirical study of the effects of electronic group mail and group behavior in organization was conducted based on the concept that electronic distribution lists form electronic groups (Finholt & Sproull, 1990). The finding showed that electronic group mail creates social groups. It was used in group communication and the electronic groups behaved like real social groups. Electronic mail allows expertise and experience sharing. Employees across boundaries and levels can easily share information anytime they want. This flexible information sharing process leads to flexible organizational structures. Similarly, an empirical study of communication inside and outside the chain of command and department, and the use of communication technology including telephone, email, and voice mail confirmed that communication technology promoted communication flows across organizational boundaries thus increased collaboration and nonhierarchical communication (Hinds & Kiesler, 1995).

C. Social Context Cues

Another key finding of Sproull & Kiesler (1986) was the key concept of "social context cues." Sproull & Kiesler (1986) stated that computer mediated communication like electronic mail reduced social context information. Social context cues were viewed as both a positive (Dubrovsky, Kiesler, SaraSethna, Beheruz N., 1991; Hinds & Kiesler, 1995) and negative influence (Kiesler & Sproull, 1992; Straus & McGrath, 1994) to organization. While a positive influence is a result of a social equalization created by electronic mail (Dubrovsky, Vitaly J. Kiesler, SaraSethna, Beheruz N., 1991; Hinds & Kiesler, 1995), the causes of negative social effects such as unwanted behaviors of electronic communication are unclear (Markus, 1994b).

The positive influences caused by electronic mail are the increase in equality in decision-making groups and the increase in collaboration and nonhierarchical communication (Dubrovsky, Vitaly J. Kiesler, Sara Sethna, Beheruz N., 1991; Hinds & Kiesler, 1995). The study indicated that, compared to face-to-face communication, electronic mail increased status and expertise equalities in decision-making groups, and the first advocacy in decision-making was shared by both high- and low-status members (Dubrovsky, Vitaly J. Kiesler, Sara Sethna, Beheruz N., 1991). Electronic mail increased equality of influence across social status and employees' expertise. In addition, in the study of vertical and lateral communication inside and outside the chain of command and department, the results showed that the equalization characteristic of electronic mail promote collaboration and nonhierarchical communication within organization. However, it was argued (Weisband, Schneider, & Connolly, 1995) that computer-mediated communication does not simply equalize social status and does not simply affect participation in group discussions in mixed-status groups. Their research indicated that high-status group members dominated group discussions in both face-to-face and electronic groups. They concluded that status labels and impressions affect participation more than communication

mode does.

The negative influences caused by electronic mail are the delays in decision-making, unwanted behaviors, risky decision-making, and the lower productivity compared to face-to-face communication (Kiesler & Sproull, 1992; Straus & McGrath, 1994). A study of electronic decision-making in groups (Kiesler & Sproull, 1992) confirmed Sproull & Kiesler's study (1986) that electronic mail filtered out social cues. They indicated that the lack of social context cues led to unwanted behaviors such as explicit and outspoken advocacy; and more extreme, or risky decision. However, Markus (1994) argued that the causes of negative social effects such as unwanted behaviors occurred in electronic communication were unclear, and these negative effects still occurred when users intentionally tried to avoid the negative results. Another negative influence caused by electronic mail is a low productivity in group performances. An empirical study of the effects of communication media on group performance indicated that the productivity of tasks that used computer-mediated communication was less than that of the task that used face-to-face communication (Straus & McGrath, 1994). The groups that used computer-mediated communication in doing tasks were reported as having more difficulty in understanding each other. These groups made more errors than the face-to-face groups did. However, Zack (1993) argued that both communication modes could lead to a successful managerial task. He indicated that the effectiveness of communication is based on an appropriate selection of communication modes: face-to-face and electronic messaging. Face-to-face communication is more interactive compared to electronic mail and is more appropriate for shared interpretive context among group members. Although electronic mail is less interactive, it is appropriate in an established context.

IV. CONCLUSIONS

To conclude, the seminal paper "Reducing Social Context: Electronic Mail in Organizational Communication" by Sproull & Kiesler (1986) presented an empirical study of electronic mail communication in a Fortune 500 company. The study examined the use of a new communication technology: electronic mail in organizational communication at all levels. The study had initiated a new area of research in the communication technology field. The study viewed communication technology in social context rather than merely viewed the interaction between an individual and technology. The findings provided new concepts of electronic mail characteristics including the lack of social context cues; social equalization; and the ability to change the nature of information and informants, and expand information within an organization of electronic group mail. These concepts have shaped the conceptual framework for later research. The idea of computer-assisted communication in social context has been explored. The concepts of a lack of social context cues and social equalization features of electronic mail have given grounds for later scholars to develop a construct on the use of electronic mail or communication technology in group decision-making. At present, scholars have a broader view of communication technology. It has been at both individual level and social level. It can be used as a tool not only for speeding up the information exchange process, but also for expanding information through its unique features, like social equalization of electronic group mail. Scholars have explored the use of electronic group mail in a decision-making process. They also acknowledge the advantages and disadvantages of the utilization communication technology and have developed a construct of a choice of communication mode in different tasks. Further research should address a preferred communication mode of different types of workers, such as those who have different background and demographic.

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(Arranged in the order of citation in the same fashion as the case of Footnotes.)

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