The Effects of Computer-Mediated Communication on Inter-departmental Relationships: Propositions for Research

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This paper examines the current research in computer-mediated communication and interdepartmental relationships. It uses these two areas to develop several propositions about the effects computer-mediated communication systems have on interdepartmental relationships in organizations. Generally, an examination of these two research areas leads to the conclusions that computer-mediated communication systems will increase communication links inside and outside organizations and also will increase the number of messages transmitted. In addition, communication flows between departments facing a high degree of task variety and task interdependence will show comparatively greater increases. Finally, these systems will be most useful in situations which do not require a high degree of personal interaction.

Advances in information technology have set the pace for tremendous growth in the use of computerized tools for communication, decision making, and problem solving in the organizational environment. The use of these computerized tools has the potential to reorganize the type of work people do across industries and organizational levels. Clerical personnel are being affected through the automation of routine manual activities such as filing, information retrieval, moving messages, and computational tasks; as well as through the implementation of word and data processing systems. In addition, computer conferencing, decision-support systems, simulation and modeling programs, electronic mail, and on-line management information systems are revolutionizing the ways managers perform their tasks (Zuboff 1982).

Traditionally, most organizational communication has taken place through face-to-face interaction, telephones, written memos, meetings, and formal reports. Innovations in computer technology, however, have led to the development of new computer-mediated channels of communication. A computer-mediated communication system is a generic term used to refer to a broad class of communication systems. This
class includes electronic mail, voice mail, computer conferencing, and computerized bulletin boards. Electronic mail refers to technologies which allow for the distribution of text-based messages between individuals and groups. Voice mail has many of the same capabilities as electronic mail, but differs in the fact that the sender’s voice is digitally recorded by the system for later replay. In this way, voice mail systems can be used as a type of answering service. Computer conferencing programs allow a group of users to share a data file from which they can read and add comments. Computerized bulletin boards are similar to computer conferencing with the exception that, whereas the latter is usually limited to those invited to discuss a specific subject, the former is public and general in nature (Steinfield 1986).

O’Reilly and Pondy (1979) offer a view of organizational communication in which the communications process is strongly constrained by the communication structure, which is formed of networks, communication directionality, information channels (including media), and roles. The communication structure is, in turn, an outcome of organizational variables such as formal organizational structure and information processing needs. As will be discussed later, the computer-mediated communication technologies mentioned above appear to have new capabilities which could alter dimensions of the communications structure as well as influence elements of the communication process.

Given this, the effect the above technical innovations will have on organizational communication networks is of interest to both researchers and practitioners. This topic is important because, among other things, the alteration of communication networks could have long-range effects on organizational efficiency and effectiveness (Huber 1982). Unfortunately, little research has been performed regarding the effects these computer-mediated systems have on interdepartmental communication. The goal of this paper is to examine the current research concerning computer-mediated communication, and utilize it to develop an insight into the effects computer-mediated communication may have on interdepartmental relationships. In addition, tentative propositions which may serve as a guide for future research will be presented.

**Computer-Mediated Communication**

Communication in organizations does not occur in a vacuum. A model developed by Sproull and Kiesler (1986) and pictured in Figure 1, shows that in each communication opportunity, there are social context cues present which influence an individual’s cognitive interpretation of the situation. This interpretation then influences both the communication behavior of the individual, as well as the type and quantity of information exchanged. The figure also identifies the three types of factors which can contribute significantly to social context: geographic, organizational, and situational.

Geographic factors limit communication through the difficulties encountered in transmitting over distances. Organizational factors such as position within the hierarchy and departmental affiliation may additionally constrain communication. Information is exchanged more often within departments than across. In addition, communication occurs more frequently among peers than across organizational strata. Situational factors, on the other hand, are those which define the norms or social conventions appropriate to the immediate situation. These norms and conventions influence what is appropriate to communicate, how equal the information exchange is, and who will initiate and lead the communication process.

People interpret the social context through static and dynamic cues. Static cues are those which arise from appearances or the environment. The size of a person’s office or their
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