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Carl J. Case

University of Pittsburgh at Bradford, cjc3+@pitt.edu

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The Role of Electronic Messaging: An Empirical Investigation

[Carl J. Case](#)

cjc3+@pitt.edu

University of Pittsburgh at Bradford

Background

Computer-Mediated Communication Systems, including electronic mail, are a major facet of American business in an age when organizations are faced with the problem of facilitating more timely and cost-effective interpersonal communication. Organizations are overloaded with information (Landau, 1995; Valovic, 1995) and managers find it more difficult to function with the deluge of information (Tetzeli, 1994).

As information technology proliferates, it is critical that advantages, not disadvantages, be derived from its use. One danger is that electronic mail could negatively impact employee productivity and thus negatively impact organizational effectiveness. For example, time critical messages may not be read within the time frame required or the electronic mail system may be overburdened with junk electronic mail. A current study of the most effective users of information technology suggests that electronic mail does not automatically cause the information productivity of a firm to increase (Strassman, 1995; Strassman, 1994). In addition, several chief executives of major computer companies have removed their name from their electronic mail systems because of the volume of junk mail (Zachary, 1994). Moreover, one firm disables the electronic mail system five hours per day so that employees can accomplish work (Zachary, 1994).

Prior Research

Electronic mail research has identified several facets of communication. Prior electronic mail research has indicated information exchange mail is more frequent than personal, social, influence, and negotiated communication (Sherblom, 1988). The primary function in bulletin board system communication is to obtain information (Smeltzer, 1992). When giving information, message length, complexity, and readability increase. Phillips (1989) explored the political aspects of electronic mail and found that electronic mail was used for simple, direct requests, but also for manipulative, coercive ends. McCormick and McCormick (1992) found that in a university environment, undergraduate electronic mail generally serves a purely social function. In addition, flaming has been identified in university electronic mail. Thompsen and Ahn (1992) found that 1/4 of faculty, staff, and student users of a university electronic mail system had experienced at least 25 flaming incidents during the past year.

Purpose

This research examines the role of electronic messaging in business firms. The study develops a theoretical framework for analyzing electronic mail impact and investigates risks and advantages of electronic messaging. The research focus is intermediate-size firms.

Research Methodology

The study employs a three-site case study design and uses multiple data sources including interviews, electronic mail messages, a user questionnaire, and a management questionnaire. Electronic mail messages were coded using computerized coding and human coders and analyzed using word and thematic content analysis. Electronic mail messages were converted from ASCII into a computer-based database management system to improve ease of coding and tabulation. Transcripts from questionnaires were summated and analyzed by counting responses, isolate themes, and organizing content to determine usage statistics and patterns. The sample population included three U.S. service organizations. One organization is utilized for theoretical model development. The model was next replicated using two additional organizations. For study purposes, the organizations have been designated organization "A", organization "B", and organization "C".

Study Organizations

All three organizations are relatively flat in hierarchical structure and have experienced computer users (mean = 10 years). Organization "A" has utilized electronic mail for ten years and has strong positive perceptions of the system. Organization "B" uses voice mail extensively and has implemented electronic mail within the past year. Organization "C" is workgroup oriented and has considerable electronic mail user experience (mean = 3 years).

Results

The study examined message content by distribution, characteristic, context, and function. Findings indicate messages are directed, relative to workgroup orientation, with few messages sent to all mail boxes. Table 1 illustrates that in organizations "A" and "B", the system was utilized primarily as a tool for one-to-one communication. In organization "C", the system was used almost equally as a tool for one-to-one and group communication.

Message characteristics' percentages are presented in Table 2. Results suggest the most common characteristic is the incidence of internal data. Carbon copying is also evident. However, it does not appear that electronic mail is used as a mechanism to expedite urgent communication. Moreover, storage of phone messages appears related to the presence or absence of a voice mail system.

Table 3 and Table 4 illustrate message context and function. Results suggest that electronic messaging systems are utilized primarily for information presentation, administrative purposes, and internal discussion. Dysfunctional electronic mail uses such as personal use and flaming have minimal incidence.

Conclusion

Overall, results are consistent with Sherblom and Phillips relative to internal discussion and using electronic mail as a tool for influence and persuasion. Findings, however, are contrary to McCormick and McCormick, Smeltzer, and Thompsen and Ahn. The implications are that electronic mail is minimally dysfunctional, workgroup orientation plays a role in electronic mail distribution, and electronic mail is perceived more as a tool for information presentation rather than for information request. The study also questions the validity of using students as subjects in electronic mail research.

In addition, a theoretical model is developed to provide a foundation for future electronic messaging research. Figure 1 illustrates the constructs of the Impact Model. Variables which are consistent among study organizations are identified with asterisks. Although potential relationships are indicated, causality is not implied.

# of Recipient Addresses	Org. "A"	Org. "B"	Org. "C"
1	81%	87%	45%
2-10	18%	13%	51%
Everyone	1%	0%	3%
Total	100%	100%	100%

Table 1. Message Recipient Percentage

Characteristic	Org. "A"	Org. "B"	Org. "C"
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External Data	55%	37%	12%
Internal Data	46%	56%	87%
"Phone" in Subject	13%	1%	0%
Carbon Copied	9%	17%	32%
Urgent	1%	2%	6%

Table 2. Message Characteristic Percentage

Context	Org. "A"	Org. "B"	Org. "C"
Provide Information	87%	85%	89%
Request Information	26%	31%	25%
Discuss Strategy	6%	1%	5%
Flame	2%	0%	0%

Table 3. Message Context Percentage

Function	Org. "A"	Org. "B"	Org. "C"
Administrative	57%	58%	55%
Internal Discussion	19%	20%	22%
Phone Message	9%	0%	3%
Influence	7%	1%	10%
Other	7%	13%	10%
Personal	1%	7%	1%

Table 4. Message Function Percentage

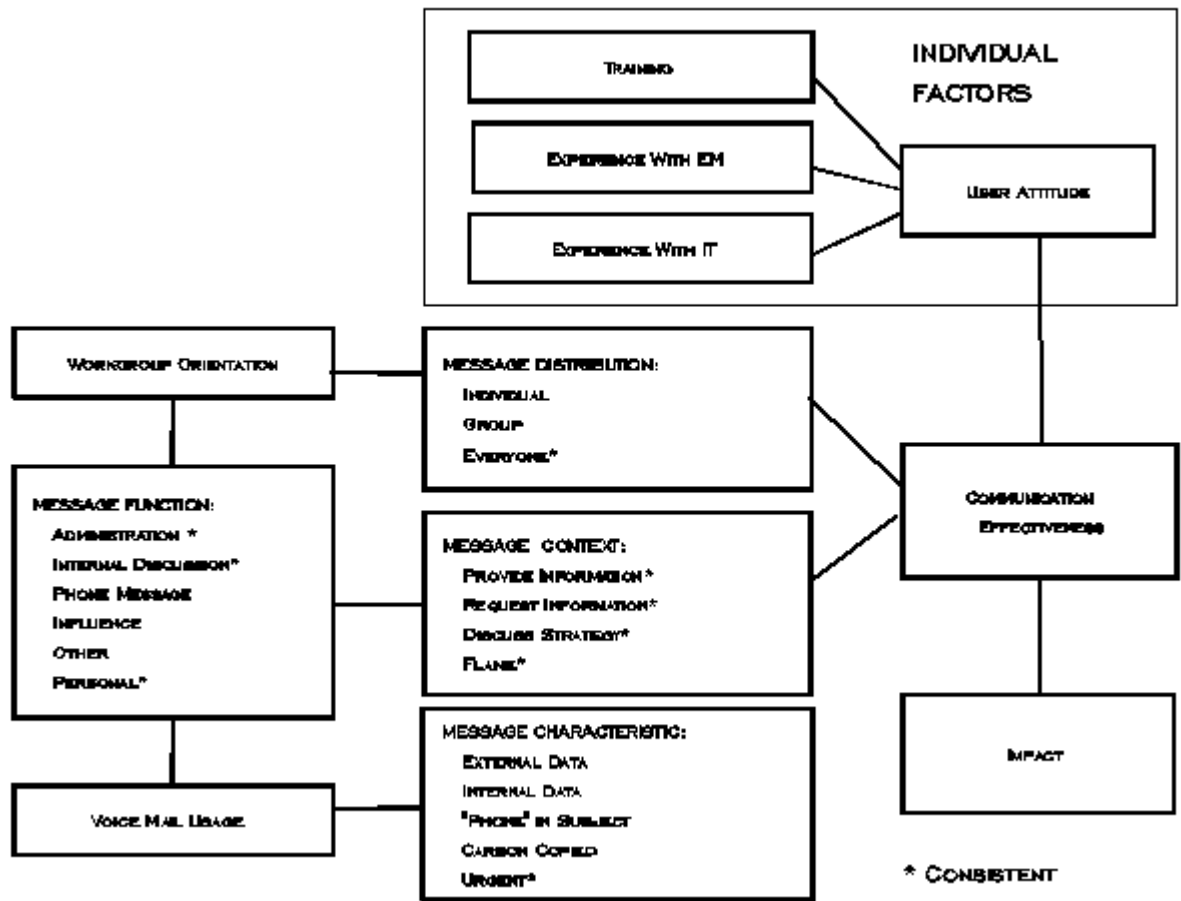


Figure 1 Impact Model

"References available upon request from author"