E-MAIL: DOES IT NEED TO BE MANAGED? CAN IT BE MANAGED?

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Abstract

Although e-mail is the most commonly used application, very little has been written concerning its impact on public organizations. This article reviews the existing literature and outlines the major aspects of e-mail that need the attention of public managers. Much of the existing literature has taken place in laboratories and focused on issues such as "flaming" and deindividuation and is not useful for learning how to manage e-mail in everyday organizations. For example, there is very little evidence of flaming in organizational e-mail. Another major body of literature has explored the hypotheses of media richness theory (MRT) which views e-mail as a "lean" medium compared with richer "face-to-face" (FTF) communication. However, if people know one another well, they may be able to read very much into e-mail and thus make it a richer medium. MRT hypothesizes that managers will be more effective if they use the appropriate medium for the action they want to take. But evidence from the few studies that exist indicates that managers are now using e-mail for even the most sensitive of communications. The distinguishing characteristic of e-mail is that it creates a detailed digital record unlike everyday FTF and phone communication. The existence of an unprotected digital record has legal implications that are explored in the paper. The paper also discusses how employees are now using e-mail strategically in order to document actions and, sometimes, point the finger at other employees whom they feel have not performed well. Some tentative suggestions for managers are outlined for each of these issues.

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Flaming and Deindividuation: Not So Important in Real Life Organizations?

There is sizeable literature concerning e-mail and other forms of CMC. However, much of this literature is based on laboratory experiments with students as the subjects and little has been published relevant to management of public organizations. Bordia (1997) states that it is "alarming how little we know about the effects of CMC" and its importance in interpersonal communication in managerial activities. Likewise, Rudy's (1996) critical review of research on electronic mail concludes that most of the work on the effects of e-mail has been conducted on individuals and groups and that very little has been done on the impact of e-mail "at an organizational level". Thus previous research on e-mail has focused on a narrow set of issues that are of limited relevance to most organizations. In particular, much of the early research concerned issues such as depersonalization and the occurrence of "flaming" that are hypothesized to occur with greater frequency in CMC due to the anonymity that CMC allows. Thus it has been hypothesized that individuals using CMC will be more likely to use rude, uncivil language than if they used FTF communication. The theory is that the remoteness and anonymity of CMC will result in more extreme positions due to the lack of social constraints that exist in FTF meetings. There is some empirical evidence to support this position (*see, e.g., Spears, & Lea, 1994*).

Zack (1994) decided to study ongoing organizations' use of e-mail because he noted that almost no research had studied "work groups in natural settings" and that "history, routine, norms, social relationships" and shared contexts could influence all forms of communication including e-mail. Symon (2000) also points that the decontextualized lab is a poor place to test what the effects of CMC will be in a real-life organization with formal organizational hierarchy and extended ties. Walther & Tidwell (1995) point out that when a group anticipates future interaction, the extent of differences between CMC and FTF are likely to be overridden. Coyne, Sudweeks, & Haynes (1996: p.751) studied architectural design firms and how their employees used e-mail and concluded with the following observations: (1) E-mail, phone, and FTF communication overlap and contain redundancy; (2) All three forms of communication are inconspicuous and ubiquitous and can be used on demand – there is no heavy capital investment; (3) Each technology supports or "provide metaphors" for each other. Weisband, Schneider, & Connolly (1995: p. 1148) conclude that, due to the pervasiveness of e-mail use, the trend is "toward ever closer approximations" of FTF and CMC.

To summarize the above points:

(1) Unlike students in laboratory conditions, organizational members are generally aware of the status of others and they have formal relationships with those with whom they exchange e-mail. It is likely they know much about e-mailers' characteristics including their personalities and the situation is far different from the anonymous lab.

(2) Organizational members are likely to encounter face-to-face those persons with whom they exchange e-mail. Indeed, even if they are in different organizations, if they are in the same profession, they may expect to encounter one another and this will constrain their behavior.

In short, in this review article, we draw on as much as possible from findings that are based upon studies of real-life employees and organizations whether through field studies or surveys because we believe that most of the experimental findings are not very relevant to ongoing organizations. The problems of flaming and deindividuation may be of most concern with respect to CMC to communication between persons who are not in the same organization and not closely linked professionally.

Media Richness Theory and Choice of Media

One significant body of research on e-mail and CMC effects concerns Media Richness Theory (MRT) developed by Daft and Lengel (1984). This theory *(Adams, Morris, & Scotter, 1998: p.9*) argues that messages differ in their content (e.g., how complex, personal, and emotional they are), their situational factors such as time and location, and their symbolic needs (e.g., need to convey authority or caring). A rich medium is one that can do the following (*Adams, Morris, & Scotter, 1998*): (1) use multiple channels simultaneously (e.g., in FTF situations, you can use voice inflection and non-verbal cues at the same time); (2) have the capacity for immediate feedback; (3) personalize the message to a high degree. MRT posits that FTF communication is the richest and e-mail the leanest medium. This theory has potentially important implications for managers because it suggests that e-mail should not be used for messages that require richness but be reserved for communications such as transmission of facts and details (*Adams, Morris, & Scotter, 1998*).

For communication that involves equivocality (e.g., issues that involve subjectivity) and ambiguity, MRT theory hypothesizes that FTF is the appropriate

medium. If a manager uses a medium inappropriate for the nature of the task (e.g., using e-mail for negotiations that are characterized by equivocality), MRT theory posits that they are likely to be less effective than managers who use the "correct medium." The studies that have been done comparing FTF with CMC have tended to find that FTF does better (*e.g., Menneke, 2000; Barkhi, 1999; Hightower & Sayeed, 1995*). For example, in a laboratory experiment, Barkhi found better communication and performance in FTF groups. The information submitted was more accurate and satisfaction greater in FTF groups.

However, CMC may work better for some – Coleman (1999) hypothesizes that a user who is shy or insecure is likely to do better in CMC due to its lack of social cues. Moore et al. (1999) did a laboratory experiment comparing the effectiveness of negotiations conducted via FTF versus CMC and found that the emotional aspects of communication are crucial in negotiation and the establishment of rapport is more likely to occur in FTF groups. Thus FTF teams did better in their study. The key, as Handy argues, may be that "trust needs touch" (*Jarvenpaa & Leidner, 1998*).

But, in real life organizations, the negotiators are likely to be familiar with each other and consequently e-mail may work better than under these laboratory conditions. Also, it is possible that there are cases where the lack of personal cues is advantageous such as where personal dynamics are negative between negotiators *(Moore et al., 1999: p. 24*). Moore et al. (1999) also notes that e-mail allows for examination of the complete transcript of communication and thus allows more "careful" consideration.

Unfortunately, as with the study of "flaming", testing of MRT theory has largely been done in laboratory conditions with students or other subjects who don't know one another. It is quite possible if not likely that e-mail is sent between people who know each other can be richer in meaning and significance as people can read much into the communications of those people they are familiar with thus making e-mail an effective communication device (*Mennecke, 2000*).

Zack (1994) studied electronic messaging done by the editorial group of large daily newspapers and his findings generally conformed to MRT. He cites quotes from workers that they tended to use e-mail for routine questions while reserving FTF for when they did not want any misunderstanding. Phillips & Eisenberg (1996: p. 89) note that managers may use face-to-face meetings even

though not technically necessary for "symbolic reasons" associated with "warmth and openness." Adams, Morris, and Van Scotter (1998) did a survey of U.S. Air Force World Wide Transportation Directory and found that MRT explained overall 67 percent of their choices of media. However, they go on to note that the "leanness of the medium may actually promote communication...where emotions such as fear, insecurity and excitement" are concerned in ways that are not covered by MRT theory (*Adams, Morris, & Van Scotter, 1998: p. 23*).

MRT suggests that the different media can be complementary to each other. The evidence is mixed. For example, Garton & Wellman (1995) conducted a broad review of the literature and site studies that showed that CMC exchanges might boost overall communication while another study found that groups that used e-mail more had fewer FTF meetings. Kraut et al. (1998) did a study of managers in 250 firms (drawn from advertising, publishing, and women's apparel organizations) found that FTF and CMC were complementary forms of communication and that communication was more effective when both forms of communication were used:

> First, our data provide evidence that the use of personal relationships and electronic networks are complementary methods of coordination with suppliers rather than competing mechanisms. Firms use personal relationships and electronic networks concurrently to coordinate. The same firms that report using electronic networks heavily also report using personal relationships heavily for coordination. In multivariate regressions, controlling for firm and product characteristics, the existence of personal relationships between a focal firm and a potential supplier is a predictor of their use of electronic networks to coordinate production.

Others have questioned the methods used to test MRT. In particular, D'Ambra, Rice, & O'Connor (1998) did an analysis of the scale that Daft developed to measure equivocality. They found that equivocality is multidimensional and thus is a difficult concept to measure and that Daft's instrument was not valid. To summarize, the choice of media may be related to managerial effectiveness and this relationship is an important area needing further research. Up until now, it has not been tested enough in real-life situations to derive strong confidence in prescriptive conclusions about when to use and not use e-mail.

The effectiveness and appropriateness of e-mail may vary by the personalities of those involved. As already noted above, some people may feel much more comfortable to conduct certain exchanges via e-mail. Gotcher & Kanervo (1997) found three different personality types in their study of e-mail: (1) Rhetorical sensitive people who realize that not all emotions and feelings should be communicated and who neither sacrifice their position nor promote it without regard to considering the position of others; (2) Noble selves who view any compromise of their position as a violation of integrity; (3) Rhetorical reflectors who mirror the position of others and have no position of their own. Their research (*Gotcher & Kanervo, 1997: p. 153*) found that e-mailers with a rhetorical sensitive orientation expressed less anger in their e-mails while those with the "noble self" orientation experienced "more harm" from e-mail.

Despite these arguments that e-mail *should* not be used for important issues that involve equivocality, nevertheless it is clear that managers are now using e-mail to deal with all kinds of issues including strategic, political, and sensitive personnel issues. An article (*Kelly, 1999*) in the New York Times stated that "E-mail is supplanting to a large extent face-to-face communication among all sorts of people." Thus, although MRT provides some guidelines for when to use and not use e-mail, in practice, it appears that managers and employees are violating many of the prescriptions of MRT. The question is whether violation of MRT results in impaired organizational communication and there is little evidence on that.

E-mail and Legal Issues

There are many legal issues raised by e-mail and other forms of CMC that public organizations need to address. There is substantial literature on the most common problems such as the development of rules and guidelines for e-mail use. As Rosen (2000) points out, postal mail has been protected since 1877 by a Supreme Court ruling that inspectors need a search warrant to open first class mail but such protection does not exist for e-mail. The Electronic Communications Privacy Act of 1986 left employee e-mail unprotected and courts have often concluded that e-mail can be viewed without the employee's consent (*Gotcher & Kanervo, 1997*). Most public and private organizations now warn their employees that their e-mail is subject to being reviewed and that there should be no presumption of privacy concerning it. One prominent issue concerns whether e-mail for personal purposes should be allowed or banished completely. Menzel (1998: 447) summarizes the conditions under which some public organizations allow such e-mail: (1) provided it is done on the employee's

personal time; (2) does not interfere with his or her job; and (3) does not result in incremental expense for the organization. Menzel categorizes e-mail policies into three major types: (1) Generic approach in which 3-mail is considered similar to other forms of communication and employees are reminded as to what types are impermissible; (2) Formalistic approach in which a long list of acceptable principles are stated but fewer specific "do's" and "don'ts" thus relying on the employee to use their common sense and discretion. The policy of Champaign, Illinois (March 12, 1999) provides an example of what Menzel labels a "guideline" approach to personal e-mail use with a fairly short list as to what is acceptable and prohibited in their statement of e-mail policy:

> "Examples of appropriate incidental use are:
>
> Employees may make short and infrequent incidental use of e-mail for personal messages. However, any use impairing or negatively impacting work performance is subject to supervisory review and possible disciplinary action. Examples of appropriate incidental use are: (1) Personal conversation as a minor part of business-oriented message; (2) Brief communications concerning work-related social events; (3) infrequent sending or receiving of a brief personal message…
>
> Prohibited uses are:
>
> (1) Solicitations or selling of goods or services for profit, such as posting of garage/yard sale notices and including personal messages to buy or sell goods or services; (2) Direction to family, friends, and acquaintances to use a City e-mail address as a regular means of communication;…(5) Composing or communication e-mail, internally or externally which contains derogatory, defamatory, obscene or otherwise inappropriate messages in violation of the city's organizational philosophy;…(7) Sending or forwarding chain letters or SPAM; (8) Sending or forwarding non-work related executable files…"

Nancy Flynn, head of the e-Policy Institute that provides assistance to organizations in developing e-mail guidelines, advises employees "never to use company e-mail to send a really personal message" (*Taylor, 2001*). Flynn goes on to state that if an employee should receive an e-mail message that they think is

"inappropriate" that they should report the message to the company in order to protect themselves (*Taylor, 2001, p. 7*).

The guideline approach appears to be much more realistic than explicit outlawing of all personal mail although many public (and private) organizations have adopted the latter policy. Prysby & Prysby (1999) argue that employees should be given the right to have personal e-mail and a degree of privacy concerning it because such a policy will encourage better morale as well as more open discussion. They also note that business and personal items are often juxtaposed in the same messages just as they can be in phone calls and FTF meetings so that banning personal e-mail would make normal communication difficult. Chicago Tribune columnist Mary Schmich (*Schmich and Zorn, 1999*) summarizes the view that personal e-mail should be allowed and not monitored:

> …I might think that because so many employees spend so many waking hours at work or getting there, they might be able to conduct some personal e-mail business without fear they were being spied on by a company peeping Tom. I might even argue that employees work better when they feel trusted.

This author is under the impression that many public organizations have established these rigorous e-mail policies as legal protective devices in case there is a case of real abuse but that most don't monitor to see if such policies are being implemented unless a problem was indicated with a specific employee. Lewis Maltby, President of the National Work Rights Institute, has stated that most notifications of the right to monitor e-mail are written by lawyers and that "it seems clear that companies are not reading each and every message" because "there are not enough hours in the day" (*Taylor, 2001:p. 7*). Of course, we need empirical data to determine the degree to which public organizations actually do monitor messages.

To what extent and under what conditions should a public organization monitor its employee's e-mail? There appears to be a great deal of monitoring going on in the private sector. It is reported that a survey by the American Management Association *(Rosen, 2000:p. 50*) of 1000 large companies found that "45 percent monitored e-mail files or phone calls" and that the percentage had increased significantly from a study done just two years before. There exist computer programs that will perform such monitoring *(Guernsey, 2000*) such as xVmail that allows managers to view and search the text of messages. One manager who uses such a program to protect against e-mail that will bog down

networks estimated that *50 percent of the company's e-mail is not work-related* [emphasis added] (*Guernsy, 2000*). A major use of such monitoring is to avoid cases where personal misuse of e-mail may bog down servers such as forwarding of e-mail with large attachments. Lockheed Martin got rid of an employee who had sent "thousands of co-workers a personal e-mail message that requested an electronic receipt" (*Taylor, 2001:pp. 1 & 7*). This action caused their e-mail system to crash. But monitoring software is becoming more sophisticated so that now it can read the actual text and make decisions based on rules as to whether e-mail should be allowed to be sent or redirected. For example, e-mail monitoring software is used by movie studios to protect against the loss of "intellectual property rights" (*Cohen, 2001*) and detects whether the message should be monitored or automatically be redirected. If an employee mistakenly tries to e-mail a confidential document outside the company, the software will redirect the e-mail (*Cohen, 2001*).

Private companies are also now facing ethical issues with respect to e-mail. For example, in the fall of 2000, an employee at Lockheed Martin inadvertently received an e-mail that contained information on figures used by one of their competitors on a bid to the Federal government (*Wilder & Soat, 2001*). The Lockheed employee responded in a very ethical manner, immediately notifying their company's legal counsel and taking action to delete the e-mail message from the company's server before anyone else could access it (*Wilder and Soat, 2001*). As the article point out, because of the changing communication patterns with e-mail supplanting other forms of communication, information technology departments now have to take on major ethical and legal issues concerning communication. The communication of jokes has led to some notable court cases. For example, an employee (*BNA Employment & Discrimination Report, 1995*) of Microsoft was able to use e-mail messages from her boss in a discrimination case despite the organization's contention that the messages were irrelevant to the case. A lawsuit was brought against the Chevron Corporation because employees were offended by an e-mail joke about "reasons why beer is better than women" (*Cohen, 2001*).

Governmental e-mail faces greater scrutiny than that of private organizations because it may be subject to Freedom of Information Act (FOIA) and sunshine laws that mandate public access to public records. Prysby & Prysby (1998: p.241) point out that preliminary discussions of possible policies by public officials may be considered as "thinking out loud" and this type of e-mail should be protected from public disclosure or open discussion of such issues would be discouraged. However, the results of the Antitrust suit against the

Microsoft Corporation would seem to indicate that even private organizations cannot expect such protections. Indeed, both the governmental prosecution and the Microsoft defense were based on electronic messages to a great extent and many of these messages appeared to be of the "thinking out loud" variety. The government was able to contrast Mr. Gates' taped remarks with his e-mail messages. Likewise, the Microsoft defense counsel cited e-mail correspondence from many corporate witnesses testifying against Microsoft to show that their own companies did exactly the same thing as Microsoft (*Lohr, 1998*). Lohr states that Microsoft handed over to the government an estimated 30 million documents, mostly e-mail and concludes that "e-mail has supplanted the telephone as the most common instrument of communication." As Rosen (2000) has noted, e-mail has "blurred the distinction between written and oral communication" and become the repository of information that used to be "exchanged around the water cooler." Gotcher & Kanervo (1997) cite studies that show that users tend to view their e-mail as similar to phone messages despite the fact that, unlike the phone messages, they can be retrieved as legal evidence. As a result of the Microsoft case, organizations such as the Amoco Corporation have a policy of limiting e-mail communication to topics that are "not mission critical" (*Sipior, 1998*).

As the legal case against Microsoft showed, e-mail is essentially different from (unrecorded) FTF and phone communication in one very important sense: *it presents an explicit, detailed, retrievable record* and thus does not provide the employee with the refuge of deniability or disagreement over what has been said that is available in normal FTF or phone communications. As Lohr (1998) points out in his coverage of the Microsoft trial, e-mail is essentially different because people communicate with it "more frankly and informally than when writing a memo" but the e-mail constitutes documentary evidence:

> It [e-mail] can be a sharp contrast to formal oral testimony, so often coached by lawyers and influenced by selective memory. 'The E-mail record certainly makes the I-don't-recall line of response harder to sustain,' said Robert Litan, a former senior official in the Justice Department's Antitrust Division…

Harmon (2000) in an article entitled "E-mail is treacherous, So Why Do We Keep Trusting It?" points out that many companies have strict policies governing use of e-mail but that people "continue to send…messages that they would never commit to a written document – and save them." As a result of the Microsoft case, executives are "sanitizing their own e-mail" even if there are no formal

policies requiring them to do so" and they are changing their use of language away from "warfare language" that frequently were used (*Harmon, 1998*). It appears to be the case that the many e-mail policies are given lip service and exist to protect the organization in case a problem occurs. Physicians worry about malpractice in all sorts of cases but, despite the attractiveness of using e-mail to communicate with patients, see CMC as increasing their vulnerability (*Kassirer, 2000:p. 117*):

> Not only could physicians be sued for diagnosing and prescribing without examining the patient, but (in contrast to telephone exchanges), the record of the electronic encounter is permanent.

The Microsoft case emerged due to competition and struggle among private corporations. But e-mail is a potentially major issue for public organizations too. In 1996, e-mail was officially labeled as an official record that is subject to the Federal Freedom of Information Act requests (*Keeley, 1999*). In Spokane, Washington, two county commissioners discussed public business via e-mail and could have been considered to have violated the state's open public meetings' act since there is only a total of three commissioners and thus an e-mail discussion among two of them constituted a quorum. The response of the county was to change the way they dealt with e-mail (*Kelley, 1999*) according to one County Commissioner:

> "We eliminate all E-mails, delete them instantly from our mailbox, which in one respect cleans up our hard drive, but on the other side of the coin, we do not have a history of what goes on. I just chose to eliminate them rather than have someone else go through my E-mails. The county's server keeps E-mail messages for just a week," he said.

As the County Commissioner himself notes, the deletion of such e-mail can lead to a loss of historical record concerning policies. One solution, according to Kelly (1999) is to place all e-mail between city council members in a public folder. Municipalities may receive (as did one Illinois municipality) FOIA request for e-mail that discuss certain policies that have been adopted. It is not yet clear whether and to what extent municipalities need to retain and make available such e-mail records.

As the Microsoft case and some other cases illustrate, top-level managers may be the biggest problem for revealing sensitive policies. It appears to be

difficult to control their tendency to write about policies and politics via e-mail because it has become their preferred method of communication. One possible aid is software that deletes e-mail automatically. For example, Disappearing Inc. has developed an e-mail program that allows its users to set a time period after which a message can't be read (*Scott, 2000*). Once the time limit is reached, the message is deleted from the server. Other e-mail has been constructed that would enable senders to control whether their e-mail can be forwarded by the recipient (*Harmon, 2000*). But these software solutions may be useless if state and local governments may be required to archive e-mail that pertains to substantive policy as some have advocated (*Miller, 1995*).

The legal issue raises some important issues for public organizations that want to convert key operations to e-government. Neu, Anderson, & Bikson (1999) explored e-government possibilities for the Rand Corporation among a variety of governmental agencies. For example, one possible application is to have the Health Care Financing Administration (HCFA) divert many of their phone calls to web-based queries concerning potential beneficiaries that would be answered via e-mail. This could save substantial resources and might be more convenient for many potential customers. But Neu, Anderson, & Bickson (1999) point out the potential danger of such a policy:

> Representatives are not chosen for their ability to write clear, concise prose that will stand up to close (perhaps even legal) scrutiny. A written response to a query leaves a different kind of trail than does an oral explanation over the telephone and additional training may be required for representatives if written responses become commonplace.

In short, while the use of e-mail is becoming so pervasive that people view it similar to talking on the phone or in person conversation, there exists a crucial legal difference that managers need to give heed to. Committing messages to e-mail compromises their security and privacy in ways that are quite different from phone and FTF exchanges. Ideally, no message should be committed to e-mail that would not harm the organization if it were subject to media exposure or legal scrutiny. Software programs may be able to control the most obvious types of problems such as forwarding attachments and chain letters that will bog down servers. But the much more difficult issues involve its use to discuss such matters as politics and policies. E-mail is so pervasive that it may be the case that the best managers can do is to encourage self-discipline on the part of employees (including the managers themselves).

Unions and E-mail

Unions are beginning to use e-mail and the web to disseminate information and help in organizing. In one case, a company (Pratt & Whitney) acknowledged that employees should be able to use e-mail to discuss "terms and conditions of employment" as long as the use was infrequent. In other cases, organizations have successfully opposed union use of e-mail. For example, one union sent e-mail to all of the factory's 2000 engineers at their company e-mail addresses (*Cohen, 1999*). The company objected after a few such e-mailings. Unions have found it to be a very potent tool because it can combine "efficiency of the mass-produced leaflet" with intimacy of conversation (*Cohen, 1999*). However, some companies view union e-mail as "trespassing" on their system and contest it. Intel took legal action to stop the sending of e-mail from a former employee to current employees using this very argument (*Cohen, 1999*). Of course, if companies shut down the use of company e-mail systems for union efforts, unions can and do turn to online bulletin boards on the Web as a replacement (*Cohen, 1999*). However, the legal issues are still unresolved. Since public employee unions are often strong and have been the one growth sector in union organizing, it is quite possible that public organizations will be faced with making decisions about the use of organizational e-mail for such purposes.

Employee Feedback Via E-mail

While the loose use of e-mail has caused problems for organizations, at the same time it can perform the very useful function of obtaining honest feedback and increased communication among those in the organization including those at the top and bottom of the hierarchy. One recent article (*Richtel, 1998*) points out that in many computer companies, the most honest criticism comes from employee e-mail forums. These exchanges are welcomed by many of the companies and viewed as a "form of catharsis" (*Richtel, 1998*). For example, one Netscape e-mail list is called "Bad Attitude." But Netscape shut down another, more elite and even more virulent e-mail-list name "Really Bad Attitude" due to fears about potential liability (*Richtel, 1998*).

Bishop (1999) conducted an in depth case study of one company (again, a high-tech company with a skilled labor force) that allowed and, indeed, encouraged CMC among its employees. One listserv known as "Café" was moderated but allowed anonymous postings that made up about 25 percent of

the messages. The system operator maintained confidentiality and resisted management pressure to divulge the name of people who submitted anonymous messages critical of the company (*Bishop, 1999: 221*). Management announced a revision of a profit-sharing plan that was less generous than the previous plan. The action led to a great deal of criticism on the "Café" – one of the most active employee bulletin boards. Subsequently, management changed the announced policy to one that was more generous to employees and this change was ascribed by many to the impact of the bulletin board discussions (*Bishop, 1999: 220*). Later on, other employees formed other "interest groups" such as one to raise general issues about employer-employee relations and another to support gay and lesbians in the company (*Bishop, 1999: 224-225*). West and Berman (*2001: p. 241*), based on surveys from more than 200 cities with a population greater than 50,000, found that 50 percent had bulletin board systems as part of their intranet. However, it is not clear whether these bulletin boards are used for critical feedback similar to that encouraged by private sector companies. A preliminary analysis of small to moderately sized municipalities by this author in the Chicago area revealed no such bulletin boards or listservs being employed. Such feedback could have both positive effects of bringing to the fore issues that otherwise would be neglected. At the same time, they would potentially be subject to FOIA and other forms of exposure that could embarrass the organization.

Of course, e-mail and other forms of CMC do not inevitably lead to greater sharing of information. Vandenbosh and Ginzberg (1996-1997) report on studies that software such as Lotus Notes did not result in greater collaboration according to their study and they note that cultural change such as overcoming interdepartmental obstacles may need to precede new software programs.

Personnel: Employee-Supervisor Relationships and E-mail

During the past, managers used to look down upon managers who used e-mail for negative actions such as reprimands and believed that managers should use FTF meetings for such important actions including negotiations (*e.g., McKinnon & Bruns, 1992*). But there is some qualitative evidence that many managers and other employees are employing e-mail for sensitive and even negative feedback purposes. Landry (2000: p. 134) reports evidence that e-mail is used "routinely" in order to "make unpopular requests" and conduct "performance reviews, work assessments, and decisions about resource allocation." Sussman & Sproul (1999) conducted a laboratory experiment and found that negative information was less distorted when done via computer. They point out that there is evidence in a number of areas that people are more honest in interacting with computers than in person. Sussman & Sproul (1999) also found that people were more satisfied delivering bad news via CMC. Of course, this finding could be evidence of the problem of using e-mail for such purposes because, if people do not "cushion" bad news in CMC, then the communication is likely to be received in an even more negative manner. Interestingly, Sussman & Sproul (199) found that people, contrary to their hypothesis, also experienced more satisfaction in delivering good news via CMC than FTF communication.

There have been several examples in academia where e-mails have influenced personnel decisions. For example, a tenure-candidate at Yale sent "two incendiary e-mails" that criticized senior members of his department to all members of the Yale History Department prior to his tenure decision (Leatherman, 2000). Although the e-mails were ruled as "out-of-bounds" in the review of the professor's tenure case, nevertheless Leatherman (2000: A13) reports that "many in the department say the decision eventually turned on those e-mails." Listservs that contain information that is often critical of administration are common in many academic organizations but whether this will carry over to other organizations where employees have less independence and are less protected by tenure is not clear.

Up until now, there is no clear evidence that managerial use of e-mail is harmful. Indeed, Markus (1994b) found that higher-level managers made greater use of e-mail. In her study, she found examples of the strategic and political use of e-mail. For example, one manager learned "the hard way" not to put politically sensitive information into a request because the person to whom she sent the information forwarded it to the person she had been "intriguing against" (*Markus, 1994b: p. 522*). Markus's (1994b, 1994b) studies of one private organization

are seminal works in which she identified a number of other interesting patterns of e-mail use that need to be studied to see how prevalent they are in public organizations including the following:

(1) E-mail was viewed as by far the best medium for when communication "involved dislike or intimidation" and also when people were angry or fearful about how others would receive their messages (*Markus, 1994a: p. 136*). It appears that a large number of employees prefer to use e-mail when dealing with situations with which they feel uncomfortable. The lack of body language and voice inflection may be a positive aspect of e-mail communication in these situations.

(2) About 50 percent of her respondents (*Markus, 1994a: p. 135*) felt that too many people used e-mail in "accountability games" such as to "cover your anatomy."

(3) E-mail dominated communications in the organization so much so that many managers found it necessary to resort to the telephone from time to time in order to boost the quality of their relationships that they felt might be harmed to over-reliance on e-mail (*Markus, 1994b: p. 139*). Indeed, Markus found some employees gave curt attention to people who actually visited their offices in order to return to their e-mail (*Markus, 1994a: p. 141*).

(4) Markus found a "documentation mania" in which people put even simple requests into e-mail. She goes on to show that employees would often forward e-mail to upper level managers to point out the wrongdoing of those whom they believed had behaved incorrectly (*Markus, 1994a: p. 142*).

Phillips & Eisenberg (1996) employed qualitative methods to study the use of e-mail by employees of a not-for-profit research firm affiliated with a West Coast University and found the following findings that overlap those of Markus significantly:

(1) The organizational members copied their own boss when contacting others frequently in order to "let their boss know what they were requesting" (*Phillips & Eisenberg, 1996: p. 74*);

(2) They sometimes copied someone else's superior or peers in order to convey the "force" of a "manager looking over" the shoulders, though they admitted that such a practice as "rude" (*Phillips & Eisenberg, 1996: p. 74*);

(3) They copied their e-mail messages to others in order to "broaden the base" of people aware of the situation. For example, they cited the case where an employee sent a supervisor a message expressing disagreement and the supervisor copied his reply to the employee's supervisor (*Phillips & Eisenberg, 1996*).

(4) They kept e-mails that ask someone else to do something as a record in case it is not done. When it is still not done a significant period later, they then ask for the same action again attaching the earlier request and, if necessary, frequently copied the second request to higher-ups (*Phillips & Eisenberg, 1996, p.74*).

To summarize, e-mail is now being used as a device for creating a paper trail (e.g., over who is at fault for the failure of some project) and altering the context of the communication by bringing third parties into the situation. Of course, the same strategic purposes could possibly perhaps be achieved by other forms of communication but only with great difficulty as Phillips & Eisenberg (1996: p. 75) point out:

> Obviously, these actions could be carried out face-to-face or via the telephone…imagine marching in to speak to Person A, asking Person A to do something, and letting them know you are also going to tell Person B (A's boss) that you asked them to do some task and then marching to Person B's office…When the same task could have been accomplished via e-mail simply by hitting 5 to 10 extra strokes on the keyboard.

The existing qualitative studies reveal differences among organizations and employees in their approach to the privacy of e-mail. Coyne's (1996) study of an architectural firms' use of e-mail found that some users are conscientious about not forwarding personal messages to others unless they "seek permission to make them public." Many employees agree that e-mails should not be sent via "blind copy" so that the recipient is not aware of the fact that the message is being copied to one or more third parties. Markus (1994a: p. 140) cites one employee as saying that blind copying and forwarding of e-mails should be "outlawed."

Despite reservations about use of forwarding messages, managers can employ e-mail effectively for achieving goals they deem important. For example, Ngwenyama & Lee (1997: p. 154) draw on Habermas's critical social theory to identify four types of communicative actions: instrumental (to obtain objectives), communicative (to maintain mutual understanding), discursive (to achieve agreement), and strategic (to transform the behavior of others). They employ these concepts to analyze a case study that shows how one private sector manager (Ted) was able to use e-mail strategically to achieve conformance with the law by another manager (Sheila) who initially stated that she was in conformance with the law (*Ngwenyama & Lee, 1997: pp. 159-163*). Ted was able to send copies of memos by a third-party (Mike) to provide evidence that Sheila was not in conformance that helped to convince Sheila to admit that there was a problem that needed attention. Of course, such activities could also possibly be done via FTF meetings or via phone calls but the ease, speed and available of concrete evidence (the e-mail evidence suggesting non-conformance) makes e-mail the ideal medium to achieve desired change.

It was originally thought that e-mail would level status differences among communicants because strategies often used by high-status persons in FTF meetings such as interruptions are no longer available. However, David Owens (*Owens, Neale, & Suton, 2000*) has done empirical research that shows that e-mail is also used for status moves in organizations. He notes that the common use of a "Signature" for e-mail communications often communicates status. Owens & Sutton (1999) developed a model that predicts different styles of e-mail communication based on the status of organizational employees. They hypothesize that low-status employees are likely to focus on enhancing the "social-emotional" climate of communication and use emoticons and other e-mail techniques that improve the "climate" of the group. High-status individuals are likely to appear busy, "say more with less," and thus message length will be inversely proportional to the status of the sender (*Owens, Neale, & Sutton, 2000*). They note that listservs can have the impact of opening up communication because they can serve as a "perpetual open-door-meeting" and that members can try "status moves" twenty-four hours a day, seven days a week (*Owens, Neale, & Sutton, 227*). However, they note that often high-status individuals will form a smaller, more elite discussion list with marginal members left out. Owens studied 30,000 e-mail messages sent over four years and confirmed some of these hypotheses. He found that senior managers took the longest to respond and used curt messages while midstatus employees used long, contentious e-mails that were overkill for the simple questions involved (*Headlam, 2001*).

Unfortunately, there are very few studies available which have examined these very important and subtle uses of e-mail in the public sector. Consequently, there are few generalizations we can make to managers other than the following: (1) All employees need to be aware of these strategic uses of e-mail including their potential negative consequences; (2) They may want to consider the banning of practices such as blind copying and/or forwarding of e-mail without the knowledge of permission of the original sender; (3) However, they need to be aware that such uses of e-mail can have positive as well as negative consequences for organizations and such policies would be hard to enforce. Indeed, it is not clear whether the effects of these strategic uses of e-mail are positive or negative. The documentation mania could lead to a great deal of time spent composing and reading e-mails that could be spent more productively. On the other hand, it may provide for greater accountability for actions to a greater degree in the past. Rules that clamp down on communication via e-mail may lead to less honest and open communication.

E-mail influences the personnel process and the workings of the organization in a variety of ways. For example, Barnes and Greller (1994: p. 132) point out that e-mail can often "bypass the traditional information gatekeepers such as secretaries." Likewise, some public executives such as Stephen Goldsmith who, during his tenure as Mayor of Indianapolis, encourage police officers and other street level employees to directly contact him via e-mail (*Miller, 1995*). Goldsmith reported receiving and reading as many as 400 e-mail messages a day. How does such activity on the part of the CEO of a public organization affect its performance? It can provide the CEO with a direct line of information about problems that otherwise might be squelched by going through the hierarchy and thus have positive effects. It could undermine middle-level managers and their relationships with their employees. Likewise, it could divert high-level executives from spending enough time on other activities (e.g., external activities) that are important to the success of the organization. We very much need case studies and other research to inquire into the impact of such use of e-mail. We have drawn heavily on the few cases that exist such as Markus's but her study is based on a single private organization. We need more research into the extent and use of e-mail for such purposes.

Information Overload and E-mail

As noted at the beginning of this paper, e-mail can improve the productivity of staff greatly by providing quick access to a wide variety of sources

of information as well as a quick way of disseminating information. Thus e-mail can be a great time-saver. However, there is also evidence that e-mail can produce information overload in which employees feel overwhelmed by the volume of information received. First, junk mail has become a major problem as it fills e-mail boxes and servers (*Crowley, 1999*). Use of filters and other devises may assist in keeping out such messages. A bigger problem (*Crowley, 1999*) can be internal e-mail such as jokes, chain letters, personal messages, and poorly written or useless organizational e-mail. Chain letters with sizeable attached files or headers can bring servers to a halt (*Crowley, 1999*). Monitoring may be useful for controlling these kinds of problems too. Likewise, limits on the size of messages may be useful. Some organizations create websites and shared databases in order to eliminate wasteful sending of large attachments.

Nevertheless, as Barnes and Greller (1994) note, many employees have become "overwhelmed by the number of messages they receive." Although e-mail brings in valuable information to organizations, there is an indication that it may be driving out other forms of communication (FTF and phone) and activities (time to read, think, write, get outside the organization, etc.) Mackay (1988) noted more than a decade ago that e-mail is "seductive" and that most people read their e-mail as soon as it arrived even though it is not necessary to do so. Lantz (1998) surveyed employees of high-tech organizations and found that 51 per cent of the users open their e-mail immediately. We cited above a case where employees ignored visitors to their office in order to attend to the e-mail. Maltz (2000) did a study of managers in companies that manufacture high-tech equipment and found that some received 100 messages per day and the study suggested that "random e-mail" had created a problem of information overload. Managers need to pay attention to the possibility that e-mail and other forms of CMC could drive out other activities that are important to the efficacy of the organization.

It is also clear that many employees are not able to manage their e-mail effectively. Mackay (1988) did a study of a research laboratory within a major corporation and found different categories of e-mail users. One category she labels as "prioritizers" as exemplified by one scientist who organizes her e-mail so that she only sees and reads what is important to her by reading her e-mail only once a day (*Mackay, 1988*). Moreover, she was willing to miss messages that could be important to her once in a while with the assumption that people will contact her by phone if it is really important. By way of contrast, the "archivers" organize their life around their e-mail that they view as essential. One archiver had over 600 messages in his inbox and over 40 mail folders. Mackay (1988, p.

388) notes that people differ greatly in their "feelings of control over" e-mail. Prioritizers don't read all of their mail, limit the number of times they read it, stay or get off e-mail lists, and keep few messages in their inbox. Archivers read most or all of their mail and belong to many lists but have difficulty finding their mail that they have put into folders (*Mackay, 1988, p. 393*). To summarize, it appears that the management of e-mail and the amount of time spent on e-mail is a potentially important issue that deserves attention in many public organizations. Employees need to be taught how to manage their e-mail more effectively.

Conclusion

E-mail is a valuable and essential communication tool within and between public organizations. There is indication that e-mail communication is converging with FTF and voice mail and many of the patterns of use and cautions that apply to them also hold for e-mail. Kettinger & Grover (1997) found that interorganizational e-mail allowed e-mailers to capitalize on the experience and knowledge of dozens of fellow e-mailers across the world and argues that organizations need to develop strategies to take advantage of these insights and should endorse projects that take advantage of external information gained through e-mail. It is possible that increased experience with e-mail will eventually solve some problems that we have described above as people become familiar with laws and ethical norms regarding its use. Indeed, Kettinger & Grover (1997) found that more experienced users of interorganizational e-mail concentrated on task rather than social use of e-mail. Certainly, the constructive uses of e-mail can greatly increase the productivity of organizational members.

But there remain differences between e-mail and FTF that are very important and deserve managerial attention. Looming largest of all is that everyday e-mail creates a detailed, digital record of communication unlike normal FTF and phone conversations and that this difference has important implications. We spent little time focusing on external relationships with citizens such as through e-government but use of e-mail for such purposes may be both more potentially valuable and dangerous. For example, Schopler (1998) has written that use of CMC for use in delivering human services requires that therapists need "rules of interaction" and also concerning confidentiality and ways to communicate emotion in using e-mail. The special nature of e-mail means that management needs to think clearly and communicate with their employees about the degree to which they will be afforded privacy and be allowed to use e-mail for personal purposes – more so than for phone or FTF. Some key problems may be alleviated by use of technology itself such as filtering out SPAM and other sources of information not relevant to tasks (e.g., chain letters).

But the most interesting and difficult issues to deal with are the strategic uses of e-mail. It is inevitable that e-mail should be used these ways and it is not feasible to eliminate them. Management may want to think about developing e-mail policies that govern etiquette such as outlawing "blind copies." Managers and employees need to discuss the use of e-mail for strategic purposes in communicating with others inside and outside the organization. Table 1 provides some tentative suggestions as to what steps might be taken to manage e-mail

more effectively. We realize that these steps are hypotheses rather than established principles because of the lack of research on the use and impact of e-mail. For public organizations, we have found a void of such information – the only existing public studies so far simply concern primarily what formal policies have been established by public organizations for e-mail but whether these policies are effective or even implemented is not at all clear. Secondly, e-mail has become so prevalent and second nature that we doubt that many policies would even work such as those banning the use of e-mail for personal purposes even if they were desirable (which we doubt). We conclude by answering the question in our title: Yes, it is desirable to manage e-mail but the more subtle uses will be difficult if not impossible to manage.

Table 1:
Summary of E-mail Characteristics and Managerial Strategies

E-mail Characteristics	Advantages of E-mail	Disadvantages of E-mail	Possible Management Strategies
Asynchronous	Fit workers' schedules better–does not interrupt work. Especially helpful to coordinating work between shifts, in ad hoc groups, and in remote locations.	Not as immediate a response and thus less rich.	Policy on what kinds of messages are inappropriate for e-mail.
Breadth of Dissemination	Obtain feedback from persons otherwise would not take place, both inside & outside organization.	Spread potentially embarrassing & damaging messages that could be used against organization.	Policy and education of managers & employees on the legal and organizational impacts of e-mail. Monitor for inappropriate messages

Anonymity and/or lack of physical presence of those to whom sending the messages	More honest and accurate feedback. Greater participation of those lower in the hierarchy.	Flaming or extreme responses due to less sense of personal communication.	Etiquette policy for e-mail. Encourage use of FTF and/or Phone to personalize communications. Decide on legality & desirability of use by employees for increased participation.
Creates written record & not legally protected	Text allows more precise examination and preserves documentation of problems that may serve the organization. May open up policy heretofore-secret discussions to more public involvement.	Over-documentation by employees. May open the organization to damage if e-mails are inappropriate or poorly thought out. E-mail may violate FOIA and other statutes such as sunshine laws.	Policy on what types of communications should not be communicated via e-mail at all. Etiquette and/or rules on strategic uses of e-mail. Teach and remind employees about FOIA, sunshine, & other laws that affect e-mail. Establish a publicly available record to which such exchanges are automatically copied.

Volume of Communication	Allows much greater amount and variety of communication with diverse sources that can improve organizational productivity	Information overload & much of it not relevant to tasks. Employees don't delete and/or save messages into folders & are not able to make effective use of e-mail. Employees spend too much time on e-mail relative to other important activities.	Filtering of spam and other irrelevant information that may degrade server. Set policy on situations where sending/forwarding of e-mail may disrupt server. Teach and remind employees on how to manage e-mail loads by saving important messages into folders & deletion of others. Emphasize importance of not allowing e-mail to divert employees from other important activities.

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