

Form and Function of Messages Sent Through a University's Email Distribution List

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A decade after its creation, an email list designed to facilitate administrative communication with and among mid-level managers came under scrutiny. Users perceived that the list was not being used for its intended purpose. Was their perception accurate? This research project was conducted to answer that question, to gather data about email messages transmitted through the list, and to determine how recipients processed these messages. Document analysis revealed the perception to be accurate. The majority of the messages distributed through the list did not relate to administrative policies, procedures, or reports. Differences were found in several characteristics of the email messages. Findings regarding user procedures showed that the majority of the email boxes (1) are managed by clerical support personnel, (2) are checked two to three times each day, and (3) have messages deleted after reading.

Computer-mediated communication (CMC) allows managers to reshape and redirect their most time-consuming activity—communication. Some have suggested, therefore, that CMC will have a greater impact on the user community, and ultimately the organization, than any other type of information technology (Adams, Todd & Nelson, 1993). CMC may be categorized into chatting (also called talk, phone messages, and computer conferencing); electronic bulletin boards; and electronic mail (McCormick & McCormick, 1992). Because electronic mail (email) makes it possible to disseminate information easily and quickly, it has become one of the most accepted and frequently used CMC activities in today's office environment.

Although they may be identified and described in different terms, it is generally agreed that email offers five essential advantages over traditional communication modes: an overall cost reduction, reduced paper handling, faster communication, improved communication effectiveness, and integration of data communication with records management (D'Souza, 1992). Network managers have identified email as a resource at their fingertips that "can help them meet their organizations' strategic goals" as they carry out their work in an

increasingly competitive business environment requiring increased efficiency and getting the most from existing resources (Rastellini, 1992).

While people recognize that the purchase and installation of technology have risen dramatically, accurate figures about the number of email users and messages are elusive. Estimates, however, are readily available.

In 1992, it was estimated that 20 million people across the United States were using email and that more than half of those users had gone on-line since 1991 (*Daily Labor Report*, 1993). Between 25 and 30 million workers were forecast to have an email password by the end of 1994

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(Gunther, 1994). By 2000, the number of Internet-based email boxes was estimated to be near 50 million, with that figure representing only about 20% of the total number of email boxes worldwide (Koha, 1996). Email was the most frequently used application for the majority of Intranet users as well (Computer Intelligence, 1998).

Gunther (1994) reports that *Wired* magazine estimated “business users sent 5 to 6 billion e-mail messages in 1993, the equivalent of 10,000 manuscripts the length of ‘War and Peace’ each day” (p. 9E). More broadly, *LAN Times* reported that email message volume exceeded 10 billion messages in 1993. It was estimated that the number of such messages would reach 18 billion in 1994 and 43 billion in 1996 (Creswell, 1994).

The continuing rapid expansion in the number of users and the number of messages sent by each user makes it clear that the number of email messages exceeded 50 billion in 1997. However, it is difficult to determine the volume much more accurately. As is true for the national debt and U.S. economic activity in general, the magnitude of the numbers associated with electronic mail is difficult for most people to comprehend. Nevertheless, people recognize that electronic messaging has become a backbone of organizational communication. With this recognition has come the attention of researchers.

Based on a study completed by Robert Kraut, a professor of social psychology and human-computer interaction at Carnegie Mellon University, email users are more in the loop regarding organizational activities even when the email network is not used for formal announcements in an organization (Baig, 1994). Other researchers have compared users’ opinions of email and other communication media. Sullivan (1995) surveyed email users among the staff of the Florida House of Representatives and found that email was the second most preferred communication channel. Face-to-face communication earned the highest ranking; telephone, memos, and letters ranked below email. From their survey of email users in a national organization, Schramm and James (1992) determined that email replaced memoranda more often than it replaced telephone

calls, face-to-face communication, or written reports.

While there was documented evidence that electronic mail was gaining widespread acceptance as a communication tool in business settings in the 1970s and 1980s, there was relatively little formal attention to or analysis of its use in the academic environment. Industry analysts, however, predicted a rapid growth in the acceptance and application of electronic mail in the academic community during the 1990s (D’Souza, 1992). Frand and Ng (1994) stated that “the use of electronic mail for business school communication is an ‘old,’ well established technology,” which was first introduced in the late 1960s and was actively used at 80% of the 352 schools responding to their 1994 UCLA survey of business school computer usage.

Research leads the reasons for which business faculty use email, but teaching, service, and personal purposes are also gaining importance (Wilkins & Nantz, 1997). Even faculty who felt uncomfortable with technology took advantage of email because they perceived it to be useful (Kandies & Schmidt, 1995). Both frequent (daily) users and occasional (< once per week) users like the efficiency, convenience, and ease of learning associated with email (Komsky, 1991).

Unfortunately, the features that have made email popular have also created a problem for its users—information overload. Kunde (1997) cited the results of a Gallup survey that reported 71% of managers, professionals, and support staff felt overwhelmed by the volume of messages they received. Telephone and voice mail were identified as primary offenders, but email was also included as a culprit. Participants in Schramm and James’ study (1992) reported sending four and receiving seven messages a day. The disparity was attributed to email users sending messages to groups rather than to individuals.

A list of email addresses or users that has been technologically set up so all on the list receive the same message when it is sent to a single address is referred to by various names such as alias, distribution list, listserv, multiple-recipient list or another—perhaps localized—term.

To use a distribution list, an individual user keys a message and enters the single name for the list as the addressee. When the message is sent, it is automatically distributed to all the email addresses on the list. The ease with which messages can be sent to multiple receivers using these lists strengthens the concern that email is contributing to information overload and, more specifically, to requiring email users to spend time reading messages unrelated to their duties and responsibilities. This general concern, as well as others to be identified, was the impetus for this study.

Problem

A decade after its creation, an email distribution list developed and designed for the purpose of facilitating administrative communication with and among mid-level managers at a Midwestern public four-year university came under scrutiny. A growing number of users contended that more and more of the messages being distributed through the list were very general in nature and unrelated to administration of the campus or to their specific managerial responsibilities. They perceived that the list was not being used to achieve the purpose for which it was created and needlessly consumed their time.

Purpose

This study was conducted to investigate use of an email distribution list and determine whether the email distribution list was being used for its intended purpose of facilitating administrative communication among mid-level managers at a public four-year university. The study analyzed who used the distribution list, characteristics of the messages distributed on the list, and how list recipients processed the messages they received. More specifically, the research was completed to answer the following questions:

1. Do messages transmitted through an administrative distribution list meet the purpose for which the list was created?
2. What are the characteristics (e.g., when sent, length, format) of messages conveyed through a managerial email distribution list?

3. For an email distribution list intended to facilitate administrative communication, is there a statistically significant difference in
 - a. the frequency of use based on employee classification?
 - b. the number of messages sent related to various topics?
 - c. the number of messages sent at different times of the day?
4. What procedures do distribution list members follow when processing messages received via email?

Procedures

This study, undertaken with the endorsement of the campus Information Services Director, was completed in two phases. During Phase 1, researchers—two of whom, by virtue of their duties, had been distribution list members for five or more years—analyzed and coded all electronic mail messages distributed through the “ddd” (deans, directors, department heads) list during one calendar year. In Phase 2, those whose email addresses were included as part of the distribution list were surveyed to determine how they processed messages received through the list. The survey was pilot tested and revised before being distributed through the list. Receivers chose whether to return the survey electronically or to print and then complete/return a paper copy.

General Findings

All deans, directors, and department heads were included on the distribution list of 139 email addresses either as a unit or an individual addressee. There were also 17 individuals who were not deans, directors, or department heads included among the 139 recipients. Both a unit name and an individual name were included for some units; the number of addresses for a unit ranged from one to seven. The 716 messages sent by the 139 individuals included as part of the list were analyzed during Phase 1, and these individuals were the employees surveyed in Phase 2.

The email distribution list investigated in this study was developed and is technically maintained by members of the campus information services unit. General administration and coordination of the list membership was assigned to a clerical support staff person in the Chancellor's office. People were added to or deleted from the list at their request; only two conditions were applied: First, individuals had to be employees. Second, every unit had to have at least one address on the distribution list.

These findings lend credence to the perceptions of list users that this distribution list created to facilitate administrative communication with and among mid-level managers could easily be misused since access to the list was not controlled.

Findings and Discussion: Phase 1

The average number of messages sent during a day was 2.8; during a week, 13.8. These daily numbers are slightly lower than those reported by Schramm and James (1992), but these figures reflect only messages sent through the distribution list; messages sent through other sources were not analyzed.

Message activity was fairly stable during the week; the greatest number of messages was sent on Thursdays (152), and the smallest on Fridays (134). Nine messages were sent on weekends, and one was sent on an official University holiday. Message activity was greatest during the first two weeks of fall and spring quarters. One might expect that activity would be comparable at the start of all three academic quarters. One explanation for this apparent inconsistency is that the institution's winter term is split—three to four weeks of class are conducted before the holiday break; the remainder, after.

Who uses the distribution list? Individuals who held positions with the titles chancellor, vice chancellor, assistant/associate vice chancellor, dean, assistant/associate dean, or director were classified as *administrators*. Because the state's Public Employee Relations Act specifies that academic department heads are not administrators, they and others who teach were classified as *faculty*. All other employees were

classified as *support staff*. As shown in Table 1, the majority of messages conveyed through the distribution list were sent by staff members.

Table 1: Electronic Mail Message Sources (N= 716)

Group	Frequency	Percent	Cumulative Percent
Administrators	186	26.0	26.0
Faculty	59	8.2	34.2
Staff	403	56.3	90.5
Other*	68	9.5	100.0

* Messages sent by departments, colleges, student workers, and unaffiliated staff.

Data indicate that administrators were not using email for frequent communication to members of the campus community. The relatively low use by administrators (26%) suggests that other methods of communication were employed to convey messages to mid-level managers. Experience on the campus indicated that face-to-face meetings were the most frequently used administrative communication method. This practice parallels the preferences cited by subjects in research by Sullivan (1995) and findings reported by Schramm and James (1992). While individuals may have established personal email distribution lists to use when communicating with their peers, no campus-wide lists existed for deans, directors, or department heads as separate groups.

What types of messages are sent through the distribution list? The ten topic categories identified for messages analyzed in this study are shown in Table 2. Most messages fell into the "General Information" classification; these messages accounted for nearly 40% of the total. Included in this category were messages such as updates on a faculty member who received a heart transplant, progress reports on a staff member's 150-mile run to raise money for scholarships, listserv opportunities, grant funding opportunities, an April Fool's prank memo and

Table 2: Message Topics (N= 716)

Topic	Frequency	Percent	Cumulative Percent
General Information	278	38.8	38.8
Event Announcement	204	28.5	67.3
Requests	79	11.0	78.3
Sales/ Reassignments	63	8.8	87.1
Minutes	33	4.6	91.7
Procedures (or related)	24	3.4	95.1
Closures/ Cancellations	16	2.2	97.3
Policies	9	1.3	98.6
Other	7	1.0	99.6
Reports	3	.4	100.0

responses/reactions to it, and notices of who had been appointed to administrative review committees.

As data contained in Table 2 are reviewed, it should be recalled that the purpose of the distribution list under investigation was understood to be to facilitate administrative communication with and among mid-level managers. However, no written statement of the list purpose or definition of administrative communication could be located. Thus, for the purpose of this study, administrative communication is defined to be messages related to campus or University *policies, procedures, or reports*. As reported in Table 2, these three categories account for only 5% of the total messages sent. Again, although there was no formal written purpose statement, user perceptions about the distribution list not being used for its generally understood intended purpose appear to be confirmed.

With this in mind, one policy-related message deserves mention. Somewhat ironically, this message reminded list members that using the campus email system to solicit renters or buyers for individually owned real estate

(Sales/Reassignments) was a violation of University policy.

When are messages sent through the distribution list? Regular hours for the campus are 8:00 a.m. to 4:30 p.m. Monday through Friday. Table 3 illustrates the time distribution of the messages.

As might be expected, the majority (88%) of the messages were sent during regular work hours. It is interesting to note, however, that nearly 57% of the messages sent before 8:00 a.m. or after 4:30 p.m. were sent by individuals classified as "staff." Only 10 messages were sent during non-work days—5 on Saturday, 4 on Sunday, and 1 on an official University holiday. Those with administrative titles (chancellor, dean, director) sent non-workday messages more than twice as often as others (7:3).

How long are distribution list messages?

Message length for documents examined in this study ranged from 0 to 509 lines. Eighteen messages (3%) arrived with only heading data, no text. The mean length of all messages was 19 lines; the median, 8 lines. The majority (60%) of the messages contained 10 or fewer lines. Messages relating to policies, procedures, or reports had a mean of 33.4 lines; messages from other categories had a mean of 18.3.

Although no analyses were performed to determine the average length of other message types, it was observed that minutes of meetings and two types of announcements (grant funding opportunities and computer purchase options through the bookstore) were typically longer than other messages.

What format did distribution list messages follow? Since email systems typically contain an imbedded memo format, the answer to this question should be obvious. Indeed, over half the

Table 3: Times at Which Messages are Sent (N= 716)

Times	Frequency	Percent	Cumulative Percent
Before 8:00 a.m.	28	3.9	3.9
8:00 a.m. - 12:00 p.m.	333	46.5	50.4
12:00 p.m. - 4:30 p.m.	297	41.5	91.9
After 4:30 p.m.	58	8.1	100.0

Table 4: Chi-square Results

Factors	Chi Square	Degrees of Freedom	Significance
Email Users	429.8659	3	.0001
Message Types	638.4999	9	.0001
Message Send Time	413.3185	2	.0001

messages (60%) used only the imbedded headings. The remaining 288 messages repeated some or all of the heading information. Rekeying this information reduces the convenience and efficiency otherwise achieved by using electronic mail.

Another format oddity was found in the use of the copy notation. Email software typically allows users to copy messages to secondary receivers. If the purpose of the distribution list were being upheld, one would expect few, if any, copy notations. The results did not mesh with this expectation. Nearly half (48%) of the messages used a copy notation. A more detailed analysis revealed that nearly three-fourths (71%) of the messages containing the copy notation were copied to the sender. This finding signals that users may have mistrusted the electronic mail system and used the copy feature to verify that messages had been delivered.

The only enhancement feature used in this data set, signature line, appeared in just 62 (9%) of the messages. The feature allows users to include a block of information (e.g., quotation or name/address/phone number/fax number, etc.) on every message she/he sends without having to key it each time. A majority (86%) of the messages containing this feature were generated by administrators and staff members. The signature lines contained name, address, phone, and fax numbers; no quotations were included.

Although no structured attempt was made to judge the formality of messages, researchers observed that complete sentences were customary, that spelling/typographical errors were infrequent, and that no emoticons were used in the messages analyzed for this study. These observations suggest that users treated email messages as business correspondence.

Statistical Findings. Chi-square analyses were performed to determine whether statistically significant differences existed (a) for frequency of use of the list based on the groups identified in Table 1, (b) for different message topics based on the categories identified in Table 2, and (c) for times at which messages were sent as identified in

Table 3. As shown in Table 4, in all cases, statistically significant values ($p < .001$) resulted.

Findings and Discussion: Phase II

Over half (58%) of the 139 distribution list members responded to the survey regarding the procedures they followed when processing email. Findings are presented in Table 5 and discussed in the following paragraphs.

About two-thirds (64%) of the respondents checked their email three or more times each work day. At one extreme, 5% checked their mailboxes less than once each work day; and at the other, 16% checked more than five times each work day. The relatively high number of times for checking may be influenced by the fact that while users were logged onto the system, they saw an on-screen prompt indicating that new mail had arrived.

As expected, most respondents checked for email between 8:00 a.m. and 12:00 p.m. (87%) and between 12:00 p.m. and 4:30 p.m. (86%)—normal business hours for the campus and, as noted earlier, times during which most messages were sent. A relatively high percentage (44%) of respondents checked for electronic mail before 8:00 a.m. while fewer checked after 4:30 p.m. (25%), before 7:00 a.m. and after 6:00 p.m. (25%), or on weekends (30%). Note that while 30% of the respondents reported checking for messages during the weekend, message analysis showed that only nine messages were sent on weekend days. Users may have read messages on non-work days, but they seldom wrote them for distribution through the list.

The majority (68%) of the mailboxes were accessed only from on-campus. This number nearly matches the number of clerical support personnel responding to the survey, personnel

Table 5: Summary of Responses (N= 81)

User Classification	Clerical Support	67.2%
	Administration	16.4%
	Faculty	11.5%
	Other	4.9%
How Many Times Email is Checked Each Work Day	< 1	4.9%
	1	3.3%
	2	27.9%
	3	23.0%
	4	18.0%
	5	6.5%
When Email is Checked Each Work Day	> 5	16.4%
	Before 8:00 a.m.	44.3%
	Between 8:00 a.m. – 12:00 p.m.	86.9%
	Between 12:00 p.m. - 4:30 p.m.	85.3%
	After 4:30 p.m.	24.6%
Mailbox Checked From	Before 7:00 a.m. or After 6:00 p.m.	24.6%
	Weekends	29.5%
Actions Taken with Messages (multiple responses permitted)	On-Campus Only	67.2%
	On- and Off- Campus	32.8%
Most Frequent Action (single response required)	Delete	83.6%
	Print & Post	49.2%
	Print & Circulate	45.9%
	Print Multiple Copies & Distribute	19.7%
	Forward to Individual(s)	67.2%
Most Frequent Action (single response required)	Forward to another List	44.3%
	Delete	55.7%
	Forward to Individual(s)	34.4%

who typically have an 8:00-4:30, Monday through Friday, work week.

Respondents did a variety of things with the electronic messages they received. As anticipated, more respondents deleted messages (84%) than they did any of the other actions identified in Table 5. However, over 40% of them performed all of the other actions except printing and distributing multiple copies. Although printing and distributing copies was done less frequently than other actions, it is somewhat disheartening that users reverted to traditional methods when all faculty/students/staff at the institution have access to electronic messaging. Such action may, however, reflect the fact that access to electronic messaging does not guarantee use.

When asked to identify the *one* action they performed most often, over half (56%) of the respondents indicated “delete.” Without tracking the action taken on specific types of messages, it is difficult to know which, if any, messages

distributed through the list were among those deleted.

Conclusions

The findings of this study are the result of analysis of a relatively small number of electronic mail messages representing only one calendar year and a unique mailing list from only one university.

Therefore, the findings may not be generalizable to any other specific academic setting or to the general population. However, based on an analysis of 716 messages and the findings reported in the previous sections, the authors offer the following conclusions:

1. It does not appear that the distribution list was being used exclusively for the purpose for which it was initially developed and intended. The relatively low use by administrators (26%) compared to that of others (74%) and the very low (5%) use for communicating policy/procedure/report items indicate that other means are being used much more frequently for administrative communication to mid-level managers.
2. The strong presence of event-oriented messages (speakers, concerts, banquets, etc.) and non-business, general messages may signal the need for a separate distribution list for such messages. Such a separation might encourage greater use of the distribution list for administrative communication while allowing those wishing to reach a larger campus audience for other purposes a separate electronic method by which to do so. Since so many of the current “ddd” list users reported that *delete* was the action they take most frequently, announcements distributed through the existing list may be reaching a substantially smaller audience than the senders intended.

3. Membership or inclusion on the administrative email distribution list was not being controlled or monitored satisfactorily. Each department/unit should have been allowed only one representative. That individual should have been entrusted with the authority and responsibility for forwarding messages to additional unit members as appropriate.
4. Availability of electronic mail technology did not result in a high rate of message initiation by distribution list members outside of regular (8:00-4:30, Monday-Friday) work hours. Only 12% of the messages in this study were initiated outside of regular work hours; fewer than 1% were generated on non-work days.
5. Distribution list members were diligent about checking for email messages. Over 80% checked their mailboxes at least twice each work day, typically once each morning and once each afternoon; over 30% checked email from both on- and off-campus locations.
6. Messages were generally brief and written in correspondence-like style. Efficiency could be improved if users refrained from repeating items contained in the imbedded memo heading and if messages were forwarded to others in individual units electronically rather than via paper.

Research Recommendations

The results of this study suggest the following opportunities for further research about administrative use of email:

1. A project could be completed to determine whether other academic institutions have developed distribution lists similar to the one used in this study and for what purposes such lists were developed. Data could also be collected to determine the number and characteristics of electronic messages sent through such lists. Comparisons could be made among lists, and more generalizable conclusions and recommendations would result.
2. A project could be completed to determine whether industry use of a managerial email distribution list parallels academic use of such lists.
3. A project could be completed to compare messages sent through email with those sent through the traditional (paper) methods. Such a project would help to answer the question "Does availability of email technology increase the number of messages distributed?"

Instructional Recommendations

Based on the results of this study, the following suggestions are offered for those teaching business courses:

1. Students enrolled in computer-use classes should gain experience in creating and sending messages via electronic mail distribution lists.
2. Students enrolled in managerial-level information systems classes might be asked to develop policies and procedures for creating and maintaining electronic mail distribution lists; a similar assignment might be given in business writing courses.
3. Students in business communication classes could benefit from discussing the pros/cons of using electronic mail as a means for transmitting policy/procedure messages. Where computer equipment and appropriate software are available, students could be asked to create and transmit through an electronic mail distribution list not only general correspondence but also policy/procedure messages.

Epilogue

Findings from this study were shared with the Information Services Director and her staff. Based on these findings, access to the "ddd" email distribution list has been restricted to one address per unit. The institution has also created a separate email distribution list called "business announce," a list intended for more general use and communication on campus. Initially, all

campus email account holders were included in the list. Those who did not wish to receive messages through the new distribution list were encouraged to request that their name be removed from it. In addition, guidelines were prepared to help users determine what types of message content are appropriate for the new "business announce" distribution list.

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