

ELECTRONIC MAIL AS SOCIAL INFLUENCE IN DOWNSIZED ORGANIZATIONS

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The potential to influence survivors of downsizing via electronic communication is empirically examined in an experimental setting. Individuals exposed to electronic mail messages perceived a significantly higher level of normative influence than those receiving no electronic mail messages. Implications for human resource managers include the ability to efficiently and effectively influence employees across geographic locations and organizational settings via electronic communication.

Introduction

Even as the principles of downsizing and reengineering have become widely accepted (Carey, 1995; Strandell, 1995; Band & Tustin, 1995; Hardy, 1996), the concern surrounding the emotional issues created by such organizational change is growing (Grossman, 1996; O'Neill & Lenn, 1995; Tang & Fuller, 1995). Downsizing efforts have led many workers to view such changes with trepidation (DeVries & Balazs, 1996). Despite the perceived value to the organization, downsizing often results in a perception of forcing fewer workers to do more work (DeVries & Balazs, 1996). Further, internal resistance, poor morale, and a declining culture create a dangerous environment for reengineering processes (Grossman, 1996; O'Neill & Lenn, 1995; Astrachan, 1995).

Although technology is often noted as a critical component in downsizing and reengineering efforts, the tendency is to focus on system changes rather than more simple and widely available technologies. One

such technology is electronic mail. Corporate networked electronic mail systems provide unlimited opportunities for social and business conversations and for information exchange. Given the concern for attitudes of those employees surviving layoffs, electronic mail may facilitate communication efforts. This study focused on establishing the potential for using electronic mail systems as methods of influencing survivors' attitudes.

Although little has been done to establish the role of normative influence in electronic communication, anecdotal evidence suggests that electronic communication holds this potential. For instance, Nocera (1996) cited a startling relationship among members of an on-line chat group. Nocera's report suggests that the communication of participants ultimately influences the movement of stockprices. The implication is that members can and do influence other members' behaviors via electronic communication.

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tronic mail potentially offers a tool for influencing the attitudes of survivors. Given the growth of electronic communication and anecdotal evidence such as Nocera's (1996) report, what are the implications for organizations? The following questions surface: (1) Can electronic mail and other forms of electronic communication serve as a medium for normative influence? and (2) If so, can electronic mail serve as a tool for human resource managers to encourage productive employee behavior in the face of negative situations such as layoffs?

The Use of Field Experimentation in Human Resource Studies

This study included a field experiment in which electronic mail messages were manipulated and the subsequent attitudinal and behavioral results were measured in an organizational setting. There are two main reasons for conducting such a field experiment, as opposed to performing another type of study. The first reason is a desire to improve the relevance of the results, while the second is a desire to make a stronger statement about the existence of relationships (Cook & Campbell, 1979). The experimental design permits additional control over extraneous influences that might contaminate the relationships. In addition, this particular field experiment offered advantages over laboratory experiments in that the subjects are real employees who are assuming roles to which they can readily relate. Thus, the field experiment maintains an acceptable level of internal validity, while at the same time increasing external validity.

It should be noted that some authors have questioned role-playing methods (Shamdasani & Sheth, 1995; Brown, 1994). They argued that role-playing behavior does not represent participants' true reactions to experimental situations. Instead, they contend that the real results from role-playing are participants' guesses as to how they would react in a given situation, their beliefs concerning certain courses of action, and the behavior demanded by the role-playing situation.

Our position regarding this study is that the realism of role-playing depends largely on how far out of character the participants have to step in performing their roles. In other

words, the more unfamiliar the role, the more difficult it will be for the participant to realistically play it. In addition, the researcher must emphasize the instructions to the participants that they are to "play it straight." As will be apparent in later sections of this article, the participants in this study did not have to step out of character in order to play their assigned roles, and the instructions were explicit. Therefore, the realism of the role-playing task and the clarity of instructions should enhance both the internal and external validity of the field experiment and permit stronger statements about the presence or absence of relationships.

Electronic Mail in the Organization

Rudy (1996) noted that while many research studies have focused on the general topic of electronic mail, little consensus has evolved as to how electronic discussions differ from face-to-face discussions and what are the psychological effects of e-mail. Reports of current events identify increased usage of electronic communication, privacy issues, and technological developments. Similarly, several research studies have focused on how individuals come to adopt and use electronic mail (Astebro, 1995; Markus, 1994; Rice, Grant, Schmitz, & Torobin, 1990), these studies leave one with little understanding of how electronic mail functions as a true communicative process.

Markus (1994) attempted to explain e-mail usage by senior managers. She posited that a match or fit could be found between the use of e-mail and the amount of information processed and the existing communication channels. Results suggested, however, that the use of e-mail is more affected by socialization and encouragement from the organization. Astebro (1995) examined whether managers and peers could increase the rate at which the use of electronic mail is adopted within a company. He found a significant rate of growth when managers encouraged e-mail use. Likewise, Rice et al. (1990) found that individuals were more likely to adopt e-mail if others in their network also adopted its use. Fulk (1993) found that when an individual identifies with his/her work group, the individual will adopt the behaviors of the group in dealing with electronic mail. These studies all lend valuable information on how individuals

come to use and accept this technology but do not investigate possible effects on the user of the technology.

This lack of emphasis in research on attitudinal effects of e-mail in the organization may be explained by the many studies suggesting that e-mail lacks social presence, noting that e-mail cannot replicate the nonverbal cues present in face-to-face discussions. Rice (1984) rated e-mail as insensitive, cold, and impersonal. Sherblom (1988, p. 41) stated that this lack of social presence may affect the communication functions for which e-mail is used, and found that electronic mail was primarily used for sending and receiving information. Such studies have described the characteristics of e-mail, its uses, and its rate of adoption. The potential influence of e-mail communication, however, represents an underdeveloped area of research.

Robey (1979) stated that psychological reactions to communication technology cannot prudently be ignored, and this feeling is echoed in Rudy's (1996) critical review of electronic mail. Rudy called for a better understanding of e-mail effects on the organization and on the specific receiver of electronic mail. Additionally, Fulk (1993) encouraged an expansion of knowledge on communication technology and its underlying processes. By investigating the potential for communicating normative influence in electronic mail messages, this research begins to fill this gap.

Normative Influence

Although the trend in organizational research has been to view individuals as rational actors with an emphasis on economic factors, it is apparent that the idea of normative influence is not new. Researchers recognize that economic factors are embedded in social relationships, and that these relationships influence, constrain, and appropriate behavior (Granovetter, 1985; Neu, 1992; Fishbein & Ajzen, 1975).

Norms are shared expectations regarding sentiments and behavior by members of an exchange system and have the force of social obligation or pressure (Birenbaum & Sagarin, 1976; Axelrod, 1986; Bendor & Mookherjee, 1990; Thibaut, 1968). The evidence of normative influence on attitudes, perceptions, and

behaviors is substantial (Sherif, 1935; Festinger, 1954; Asch, 1965). Normative guidelines can exert an impact on an individual's assessment of a situation and subsequent behavior.

Similarly, social information processing (Salancik & Pfeffer, 1978) argues that people adopt attitudes and behaviors in light of information provided by others. Social cues offer suggestions in evaluating and choosing appropriate behaviors. Although employees receive informational cues from a wide variety of sources, Burkhardt (1994) found that attitudes and behaviors are more affected by structurally equivalent co-workers. Thomas and Griffin (1989, p. 66) suggested that managers recognize the probable impact of such information to identify potential sources of social influence.

Hypotheses

Can electronic mail serve as a medium for social influence? Many articles have focused on the acceptance or adoption of electronic mail as an appropriate form of communication in an organization (e.g., Astebro, 1995; Markus, 1994; Mantovani, 1994) and on the surface characteristics of electronic mail such as the use of all capital letters and symbols to denote feelings (Trevino, Lengel, & Daft, 1987). Yet, Rudy (1996) noted that little attention has been paid to the effects of electronic mail, particularly to individuals receiving messages. Further, Fulk (1993) called for a need to expand our knowledge of communication technology and its underlying social processes. Hypothesis One investigates whether individuals can detect normative influence in electronic mail messages. It states: *Perceptions of normative influence for participants exposed to e-mail messages will not differ significantly from the perceptions of normative influence for participants who are not exposed to e-mail messages.*

The alternate hypothesis is that perceptions of normative influence will differ between the treatment and control groups.

Although the idea of influencing individuals via electronic mail is somewhat new, empirical evidence on the effects of normative influence on individuals is not (Axelrod, 1986; Bendor & Mookherjee, 1990; Thibaut, 1968).

The potential influence of e-mail communication, however, represents an underdeveloped area of research.

Steers and Porter (1991) stated that a group can alter the direction of a motivational impact in either a positive or a negative direction. O'Reilly and Caldwell (1985) found support for the idea that strong, positive norms result in more favorable attitudes than do negative norms. If electronic mail can "deliver" such influence, individuals with negative behavioral intentions may change to more positive intentions.

Hypothesis Two states that: *Post-treatment behavioral intentions for participants exposed to e-mail messages will not differ significantly from the behavioral intentions for the participants in the control group who receive no e-mail messages.*

The alternate hypothesis is that behavioral intentions will differ for the treatment and control groups. Specifically, we expect the treatment group's behavioral intentions to shift from negative to positive, while we expect the control group's behavioral intentions to stay negative.

Methods

Overview

The current project addressed the questions, "Can electronic mail convey normative influence?" and, if so, "Can electronic communication influence individuals to change behavioral intentions?" The study asked respondents to play a role depicted in a scenario description, which was delivered via computer simulation. The scenario depicted a situation in which employees faced layoff, increased work hours, and salary freezes (see Appendix A). The treatment group was exposed to normative influence via electronic mail messages; the control group was not. The simulation contained a series of questions designed to assess (1) the effectiveness of the scenario, (2) the behavioral intentions of respondents at pre-test and post-test, and (3) the presence of normative influence. Appendix B illustrates each step in the experimental procedure.

Participants and Setting

Participants for the experiment were manufacturing, clerical, and managerial workers of a major frozen novelties (e.g., ice cream cakes, yogurt bars, ice cream candy bars) manufac-

turing facility in the southeastern United States. One hundred and four employees of the organization participated with 52 individuals in the control group and 52 individuals in the treatment group. Participants were assigned randomly to the treatment group or the control group. Participants were recruited by the plant manager of the facility. Each individual participated during his/her regular, paid working hours.

Demographic Description of Participants

Seventy-nine percent of the sample were between the ages of 26 and 45. More than half of the sample were male. African-Americans made up more than one-half of the sample. Caucasians represented 28% of the sample, and 13% of the sample were Asian. The majority of the sample were married, with 20% currently divorced or separated. Most of the participants graduated from high school but did not attend college. Those in manufacturing jobs represented 74% of the sample. Finally, more than half of the sample reported an income level between \$25,000 and \$34,999.

Instrument and Data Collection Methods

A computer program used to administer the scenario description and subsequent questions collected the data. The computer program captured the response to each question posed. The instrument designed to measure the variables in the study was a scenario description with a subsequent survey for scoring scenario effectiveness, behavioral intentions at pre-test and post-test, and the presence of normative influence.

Procedures

Experimental Design. The laboratory experiment provided for experimental control and enabled the deduction of causal inferences. The experiment was a pre-test/post-test control group design (Campbell & Stanley, 1963). Researchers have studied exchange relationships using a number of different simulation techniques ranging from organizational role playing (Scheer & Stern, 1992) to laboratory games and behavioral simulations (e.g.,

Gundlach, Achrol, & Mentzer, 1995; Stern, Sternthal, & Craig, 1975). These methods are especially useful because the researcher can observe the phenomenon of interest under controlled conditions.

Prior to conducting the experiment, the scenarios and e-mail messages were pre-tested using employees from the same organization (these employees were then excluded from participating in the experiment). Information gathered during the pre-test indicated that the organization frequently used temporary layoffs during slow periods of production. Thus, the scenario was revised based on this fact to include a more severe description of the layoffs involved. Without the increased severity of the description, employees may have interpreted the scenario as a short-term situation, unpleasant but not a permanent change. The revised scenario was pre-tested again, and participants indicated that it was both realistic and believable.

In the experiment, respondents reported to a training room located in the manufacturing facility. The room contained eight personal computers. Computers were spaced so that no participant could view the computer screen of another participant. The experiment was conducted over 13 sessions with 8 people participating each time (4 control, 4 treatment), lasting about 2 hours each. A computer program delivered the electronic mail manipulation within each trial, and the experimenter did not know who was exposed to which treatment. Where possible, manipulations, instructions, and measures were administered through the use of computer software.

The scenario description depicted a situation in which employees faced increased work hours and salary caps due to permanent layoffs in their organizations. The two normative influence levels were exposure to electronic mail messages or no exposure. Electronic mail messages contained statements of information exchange and recommendations for behavior.

Following the experiments, a debriefing session was held with each panel of participants. Participants noted without exception that the scenario was realistic and believable. Some participants even remarked that rumors had been spreading about an impending permanent layoff within the organization.

Electronic Mail Manipulation Method. Respondents in the treatment group received

a screen that reiterated the scenario described. While this screen was visible, a message appeared stating, "You have new e-mail." Immediately following this warning, an e-mail message appeared on the screen as though it were from a co-worker. Every respondent in the treatment group received the same messages. The first e-mail message stated: "This really hits home. It's just like management to cap salaries. At first I wanted to get back at them, but then I realized the result for my future if I slack off."

A second screen appeared with a similar e-mail message. "Maybe if we work really hard, the organization will see that the effort is worth higher pay. Or perhaps we should discuss some alternatives with the company that would provide more of a win-win for everyone. If we don't provide a good product to the firm, that will just show them we didn't deserve the money to begin with."

A final message appeared. "I agree. Going off, doing the bare minimum, taking extra breaks. It won't pay off for anyone. We're here to do a job. When there is a problem, we have to do what we can to work it out."

At this point, the treatment group received a reminder of the situation, and a post-test behavioral intention questionnaire was presented. Following the post-test intentions questionnaire, both the treatment group and control group answered a series of questions on the presence of normative influence. Demographic questions followed including age, gender, marital status, race, income level, and highest level of education completed.

Measures and Reliability Coefficients

Appendix C contains each scale and its items, as well as reliability coefficients. Reliability coefficients were calculated for the single measures, which were averaged to form the measure for each parameter using Cronbach's alpha. A single average measure of each construct was formed and used in the remaining analyses.

Behavioral Intentions. Behavioral intentions mediate the relationship between attitude and behavior (Ryan, 1976; Wilson, Matthews, & Harvey, 1975). In this study, intent to leave, intent to stay with positive implications, and intent to stay with negative

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implications are measured.

Normative Influence. Norms are defined as shared expectations by members of an exchange system, and they have the force of social obligation or pressure (Jackson, 1966; Axelrod, 1986; Bendor & Mookherjee, 1990; Thibaut, 1968). Electronic mail messages provided information on others' beliefs and information on recommendations. Unobtrusive, informational-exchange styled recommendations represented the format because (1) Boyle, Dwyer, Robicheaux, and Simpson (1992) suggested that information exchange and recommendations are more likely to lead to constructive responses than are threats and pleas; and (2) Salancik and Pfeffer (1978) suggested that overt statements are the most direct way to provide influence. Likert-type, multi-item scales were used in assessing the presence of normative influence (Boyle et al., 1992; Heide & John, 1992).

Results

Manipulation Checks

To ensure that the treatment group and the control group were identical prior to the manipulation of electronic mail messages, all pre-test intentions were compared using a paired t-test and an alpha level of .05. As expected, the results indicated that the control group and treatment group showed no significant differences on pre-test intentions.

Hypothesis One

Hypothesis One investigated the presence of normative influence in the experiment. Did the treatment group perceive a higher level of influence than the control group? Also, is it possible for underlying and unmeasured norms to exist and influence the control group. This hypothesis, therefore, looked to the viability of normative influence delivered via electronic mail and ensured that other unexplained norms were not operating during the experiment.

Four questions assessed whether the treatment group recognized the manipulation of normative influence. Because it was possible that the control group could operate under normative influences already present, it was

necessary to look for differences between the treatment and control groups on this normative index. As expected, the mean of the treatment group (5.08) was higher than the control group's mean (3.44). Group t-tests using an alpha level of .05 indicated a significant difference (.008) between the control group and treatment group with the treatment group showing a much higher recognition of normative influence. Thus, individuals exposed to electronic mail in the experiment reported higher recognition or influence.

Hypothesis Two

Hypothesis Two evaluated whether individuals exposed to electronic mail messages will change their behavioral intentions from negative to positive. Individuals read scenarios depicting layoffs, increased work hours, and salary freezes. Participant's reaction to the situation was assessed with a series of questions and found to be overwhelmingly negative in the pre-test. The treatment group then read electronic mail messages. The electronic mail messages relayed normative influence that encouraged positive responses through the norms of information exchange and recommendations.

This hypothesis required several steps of evaluation. First, if the electronic mail messages have an effect, the behavioral intentions following exposure to the electronic mail message (post-test) should be different from the pre-test intentions for the treatment group. Second, those differences should reflect a trend moving from negative to positive intentions. Third, the post-test intentions should differ between treatment and control groups because the control group was not exposed to electronic mail.

To determine the effect of electronic mail on the treatment group, means and significance levels of each pair of pre- and post-behavioral intention measures were evaluated. Using a paired t-test and an alpha level of .05, significant differences were found: (1) pre-test negative intent mean (6.10) was significantly higher than the post-test negative intent mean (1.91) at the .001 level; (2) pre-test intent to leave mean (1.67) showed no significant differences from the post-test intent to leave mean (1.57). The pre-test positive mean (1.94)

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was significantly lower than the post-test positive mean (5.00) at the .001 level. Thus, participants' intentions toward future behaviors did change after exposure to the electronic mail messages. Further, their intentions changed from negative behaviors, such as absenteeism, to positive behaviors like discussing the organization's needs and working harder to make a difference.

Post-test behavioral intention means are examined to determine differences between treatment and control groups. Group t-tests using an alpha level of .05 investigated differences between the control group and the treatment group on indexes of post-test behavioral intention. For negative post-test intentions, there was a significant difference between the control group and the treatment group (.001). On constructive post-test intentions, the treatment group was higher than the control group (.001). The results support the directional change in behavioral intentions for the treatment group, as well as the lack of change for the control group.

Discussion of Findings

The hypotheses tested represent a logical extension of previous research and theory based on social influence and its potential presence in e-mail. These results represent a promising first step in additional research that will expand knowledge about the usefulness of e-mail as an influence medium. The discussion highlights the implications of the results, describes ethical implications and recommendations for human resource managers, and provides future directions for research.

Hypothesis One

As expected, participants exposed to electronic mail messages indicated a significantly higher recognition of normative influence than those participants who were not exposed to electronic mail messages. This discovery represents a significant advancement in understanding the underlying psychological processes of technologically based communication. While past research has emphasized the nonsocial aspects of e-mail (Smeltzer, 1986), this study presents evidence that e-mail can

serve as an effective medium for social influence. Specifically, electronic communication holds the potential to be used not only as a quick and inexpensive method of forwarding and routing information, but also as a method of dealing with the negative attitudes of downsized survivors.

Hypothesis Two

As postulated, individuals exposed to the treatment of electronic mail messages changed their behavioral intentions from negative to positive. The control group exhibited stronger negative intentions than did the treatment group, while the treatment group exhibited stronger positive intentions than did the control group.

Normative influence transferred via electronic mail messages appears to have the capacity to influence predetermined behavioral intentions. Thus, the results indicate that not only can e-mail serve as a medium for communicating social influence, but that that social influence remained strong enough to significantly influence behavioral intentions. More important is the nature of the change. In this study, individuals with negative behavioral intentions responded with the intent to solve problems in a positive manner.

The detrimental effects of downsizing on its survivors are frequently documented. As layoffs become increasingly common in the workforce, the psychological effects are still painful to those affected. Downsizing can result, at a minimum, in feelings of guilt, regret, sympathy toward those let go, and feelings of betrayal toward the organization. Some have noted the potential for more severe reactions from survivors including tardiness, increased absenteeism, increased error rates, low productivity rates, employee theft, and other forms of delinquent behavior (Valot & Bujold, 1995; O'Neill and Lenn, 1995). The results of this study are encouraging in that electronic mail represents an efficient method of communication that can possibly minimize or prevent such negative attitudes and feelings.

These results, however, also present the possibility of another implication. Co-workers from any networked location would also have the ability to send influential messages. If, as this study suggests, electronic mail can de-

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liver messages containing normative influence, employees could become targets of influence attempts opposing organizational goals. In other words, normative influences encouraging negative attitudes and responses could just as likely be delivered via electronic mail. For example, Burkhardt (1994) found evidence that an individual's attitudes and behaviors are more affected by influence attempts from structurally equivalent co-workers.

Ethical Implications for Researchers and Managers

Without doubt, there are many ethical implications of using e-mail in such a manner. First, from a research perspective, emotions surrounding a downsizing situation combined with the potential to influence actions toward that situation required careful consideration. Brown (1994) stated that role-playing provides an ethical alternative to manipulating potentially harmful variables in a true experiment. It is for this reason that role-playing was chosen in the experimental design.

Second, from an applied perspective, there are implications with regard to how employees choose to use e-mail, the organizational climate surrounding the use of e-mail, and what managers choose to communicate via e-mail. Rice and Case (1983) found in a study of university administrators and computer services staff, individuals used e-mail for exchanging information and opinions and for asking questions. They also indicated that they use e-mail less frequently to exchange confidential information, to resolve disagreements, and to get to know someone. Thus, employees may not be willing to exchange e-mail messages about dissatisfaction with job practices and layoffs.

Their willingness to communicate electronically about such sensitive matters may in part be related to their perceptions of how secure their e-mail messages are. In other words, if employees felt that e-mail messages were monitored, they may be less willing to communicate in that manner. If monitoring of electronic communication is anticipated in the organization, this climate will almost assuredly impact the use of e-mail. While it is frustrating to recognize that employees may be influenced by e-mail messages they receive,

managers must weigh heavily the temptation to monitor employee e-mail.

Finally, this study suggests that managers can themselves influence employees through messages communicated via e-mail. Is it ethically responsible for a manager to influence employees in such a manner? Normative influences from many sources affect employee attitudes and behaviors; thus, the use of e-mail to communicate feelings, opinions, and emotions is not unlike any other form of communication. At the same time, sending electronic mail messages to employees holding negative attitudes with the intent of manipulating behavior represents an ethical dilemma that may become increasingly common.

Recommendations for HR Managers

Electronic mail messages constituted the form of influence in the study. The potential to use electronic mail as a method of influence is exciting in that it provides an inexpensive path to send widespread or highly tailored, personal messages to any target. Thus, managers may be able to deliver information and effective recommendations from any location to any location. For human resource managers, the results suggest that electronic communication can be used as an efficient and effective tool. Human resource managers should recognize the opportunity to communicate not only information, but also opinions, beliefs, and feelings via electronic mail. Such information may provide some of the positive influence discussed in this study, as well as provide a basis for trust and disclosure between management and workers.

At the same time, managers should be aware of the potential effects of negative or manipulative messages that employees may receive from other sources, but should refrain from monitoring employee communication as such actions could be considered by employees as an invasion of privacy. Such an invasion could result in the reduced use of electronic mail and in negative attitudes and intentions toward the organization.

Directions for Future Research

While the adoption and characteristics of electronic mail have been the focus of research for some time now, electronic mail as social

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influence suggests a rich area for future research. For instance, electronic mail makes communication across time and geographic boundaries fast and easy. At the same time, does dispersion (actual distance or hierarchical) act as a moderating variable in how employees interpret electronic communication? For example, would employees place the same weight and importance on an electronic mail message originating from their own building as they would an e-mail originating from an office in another state or country? Further, employees may have predetermined individuals and groups by whom they are more likely to be influenced.

Information overload, particularly via e-mail, may be another moderating variable. For example, a large number of e-mail messages received in a day may significantly lower the amount of influence each may have on the recipient. Employees receiving only a few e-mail messages may give greater credence to those messages than someone receiving many e-mail messages in a day.

The effects of downsizing at other locations of an organization represent another topic. Considering the communication lines available to employees in various divisions and

locations, influence attempts from structurally equivalent co-workers could give new meaning to the old grapevine. It is possible that employees in a division experiencing layoffs could communicate negative social influence to employees at a location that is not experiencing layoffs. Would these employees then feel the same feelings as the survivors at the affected site? What effects would result from such communication?¹

Conclusions

This study investigated the ability of e-mail messages to communicate social influence. Employees receiving positive e-mail messages changed from holding negative attitudes toward a downsizing organization to having positive attitudes. These findings indicate that e-mail can be used successfully to communicate attitudes, feelings, and beliefs as well as the traditional exchange of information. Further, as organizations continue to utilize downsizing as an operational strategy, the potential to communicate positive messages to survivors within the organization through an effective and efficient medium represents a valuable tool for managers.

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Appendix A. Scenario Description

You are working as a middle manager in a frozen goods manufacturing facility. The company, Arctic Treats, is considered successful on a national level. Like many other organizations, Arctic Treats has begun to lower costs through layoffs and other changes. Arctic Treats recently decided to layoff hundreds of employees. This layoff is permanent. No employees will be rehired. Remaining employees will become responsible for the additional workload on a permanent basis.

As one of the employees able to remain with the company, you will now have additional work to complete each day. Despite the additional work, you will not receive extra pay. In fact, to cut costs further, your company has frozen all salaries. No one will receive a raise until the cap is lifted. These changes affect all employees remaining in middle-management and manufacturing. The result to you directly is a permanent work schedule of 60 hours per week at the same salary you made before the layoffs.

You feel extreme dissatisfaction with your position and the company due to these changes, and you think of quitting. However, you work in a highly specialized industry, and it is difficult to find comparable work elsewhere. Positions with other companies will not pay as well as Arctic Treats. Although the work is often frustrating and repetitive, money is important to you. You have not worked for Arctic Treats for long—only a few months, so you have not invested much time in the company and you have not yet acquired benefits like retirement money.

Appendix B. Experimental Procedures

1. Introduction to project and use of computer.
2. Scenario description of work environment: layoffs, increased work load, salary freezes.
3. Questions assessing Scenario Effectiveness.
4. Behavioral Intention Questionnaire (Pre-test).
5. **Communication of norm through e-mail message.**
6. **Second e-mail message delivered.**
7. **Third e-mail message delivered.**
8. Reminder of the scenario.
9. Behavioral Intention Questionnaire (Post-test).
10. Questionnaire assessing Normative Influence.
11. Demographic questionnaire.

In the outline depicted above, bold typeface indicates screens to which only the treatment group will be exposed. The control group viewed all other screens.

Appendix C. Measures and Reliability (Cronbach's Alpha) Scores

Measures	Cronbach's Alpha
<i>Scenario Effectiveness</i>	
Overall Satisfaction	.84
How happy are you with your job?	
To what extent do you feel satisfied with your job?	
Are your work responsibilities and new level of pay satisfactory to you?	
<i>Behavioral Intention Questionnaire (Alphas reflect pre-test)</i>	
Intent to Stay with Negative Perceptions	.79
I would show up late because I wasn't in the mood for work.	
I would put less effort into my job.	
I would take a lot of breaks or not work as hard.	
Intent to Leave	.67
I would accept an alternative job offer.	
I would quit my current job.	
I would give notice that I intend to quit.	
Intent to Stay with Positive Perceptions	.74
I would go to my immediate supervisor to discuss the problems.	
I would talk to my manager about how I felt about the situation.	
I would try to solve the problem by suggesting changes in the way	
work was delegated.	
<i>Normative Influence</i>	.83
Others attempt to change my perspective by looking	
at how my decision affects the big picture.	
Others make it clear that by following their recommendations,	
the organization will benefit.	
Others ask for my cooperation without mentioning rewards for	
complying or punishments for refusing.	
Others exchange information with me frequently and informally.	

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ENDNOTES

1. There are limitations to the field experiment used in this study. First, while all employees had access to computers and e-mail, some employees accessed their accounts in a computer lab as opposed to a personal computer within arm's reach of their workstation. It is possible that one's proximity to a computer may affect his/her response to the scenario and e-mail messages, although, this situation is much like students using e-mail in university computer labs.

An additional limitation to the experimental design arose from the length of time between trials. It was possible for participants in an earlier trial to discuss the experiment with other participants, creating a confounding effect.

With regard to the manipulation used, a potential limitation exists in that the manipulation was not balanced between the control group and the treatment group. The treatment group received the manipulation of electronic mail messages containing normative influence. Thus, the treatment group was exposed to an interruption, an electronic mail message, and the normative content. A fully balanced manipulation would have provided the control group with an interruption and an electronic mail message, but no normative content. This limitation was considered prior to implementation; however, the potential for the control group to perceive a normative message in the electronic mail was uncontrollable. The design thus eliminated the potential by exposing only the treatment group to electronic mail. In addition, the design only provided positive social influence to the treatment group. The effects of negative social influence were not investigated.

Finally, the static nature of the experiment represents a limitation. The project investigated a process at only one point in time. A dynamic design that captures the full social process underlying electronic communication would provide for a richer interpretation.