Global Advances in Business and Communication Conference & Journal

Volume 3 | Issue 1 Article 5

2014

Managerial Use of Text Messaging in International Organizations

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Abstract

When organizational employees adopt and use various communication technologies in the workplace, the process of choosing such media has emerged as a complex one. Numerous variables impact the decisions of employees and managers when they implement these technologies. Our study adapted van den Hooff, Groot, & de Jonge's (2005) assessment instrument for email usage to text messaging in international companies. Our results reflected similar findings as van den Hooff, Groot, & de Jonge (2005) in most subscales of the instrument. Specifically, we investigated the extent to which managers had used and applied text messaging in organizational settings. We utilized a governmental database of registered businesses in manufacturing and services sectors which represented a broad range of enterprises. Results revealed that text messaging usage appeared nearly as ubiquitous as e-mail usage among the international managers who reported they integrated texting into work tasks and relationships. We discuss findings and implications for managers and employees.

KEY WORDS: social media, business text messaging, media richness, managerial technology

Today, e-mail seems to have "reached a stage of maturity almost comparable to that of the telephone" (van den Hooff, Groot, & de Jonge, 2005, p. 4.) and is viewed as a ubiquitous medium in modern organizations. Yet Jennings, Wilson, and Biss (2009) assert that while "Baby Boomers are still just discovering e-mail, many members of the younger generation have already written e-mail off as an antiquated communication method" (p. 1). Their study cites two sources from the Pew Internet and American Life Project that teens consider e-mail as an old-fashioned medium. Jennings, Wilson, and Biss' (2009) survey of over 1,000 secondary and post-secondary students in the U.S. suggests a trend that e-mail is out and text messaging is in use by the "millennial" generation (those currently aged 8 to 28 years old). Moreover, in a Wall Street Journal article that generated considerable comment online, Vascellaro (2009) commented,

> Email has had a good run as king of communications. But its reign is over. In its place, a new generation of services is starting to take hold – services like Twitter and Facebook and countless others vying for a piece of the new world. And just as email did more than a decade ago, this shift promises to profoundly rewrite the way we communicate – in ways we can only begin to imagine (1st paragraph)

As younger generations adopt these new technologies and become future employees, will these trends have anticipated or unanticipated effects on their employers?

Jackson (2007) addressed the issue of unanticipated impacts of technology in organizations and applied Sproull and Kiesler's model of first-level and second-level effects to business communication research. Her analysis provides an effective framework when addressing technological impacts. First-level effects refer to the obvious "changes in the scale and the scope of available data" from increased technology, resulting from the large "amount of online communication archived on Web sites and available publicly" (Jackson, 2007, p. 5). First-level effects are enhanced by the high penetration of Internet access into rural areas and wide adoption of broadband. These changes attract the attention of

media use researchers who now seek large amounts of data to mine, such as the message content of discussion threads in online discussion boards and blogs. First-level researchers may investigate preferences or behaviors of organizational members who use communication technologies, and investigate frequency of use of technology in organizations.

Second level effects refer to the way human communication itself is potentially transformed by information technologies (Jackson, 2007). New terms related to second-level effects have entered our vocabulary. We may refer to communicators as "multicommunicating" (Turner and Reinsch, 2007), for example, when a manager who is talking on the phone while sending an e-mail, suddenly begins talking face-to-face with someone who enters the office. This manager engages in multiple conversations at one time and has become a "multicommunicator". Turner and Reinsch (2007) observe another dynamic inherent in simultaneous conversations that occur when an individual develops an "attention queue" and must decide which conversation receives the most attention, becoming a "presence allocator". They note that "a communicator's choice of medium may allow him or her to allocate presence and attention to second or additional conversation partners" (Turner and Reinsch, 2007, p. 40). This observation describes a second-level effect of technology and may suggest a fundamental change in how humans communicate.

Naturally, these trends and changes raise many new questions for business communication researchers and managers making strategic decisions. Reinsch and Turner (2006) posit several such questions to consider when investigating impacts of communication technologies. They ask, for example, how are "humans using and adapting in response to new communication technologies" and how do "companies decide to adopt, deploy, and manage new technologies such as text messaging" (Reinsch and Turner, 2006, p. 351-352), leading researchers to investigate what technologies already have been deployed and with what effect. Our study will address similar questions and consider such strategic changes when managers consider using or adopting new technologies.

Literature Review on Media Choice

When the Association for Business Communication published its first book on communication technology, e-mail was still new to universities (Williams, 1994). Articles of interest included, What is E-mail?, How Does E-mail Work?, and readers were advised that "While e-mail does not displace face-to-face communication, it may enrich face-to-face interactions by providing a channel through which minor details can be handled, thereby leaving more substantive issues for direct discussion" (Yates, 1994, p. 112). Text messaging and instant messaging were yet to emerge in the future, but these early writers' guidelines may still hold true today when we examine channel choices and impacts of technology.

Media Richness

The media richness model was first offered to explain the process by which organizational members make choices of communication media (Daft and Lengel, 1984; Trevino, Lengel, & Daft, 1987). Built on social presence theory (Short, Williams, & Christie, 1976), the media richness model refers to the number of verbal or nonverbal cues the communication medium carries, such as verbal feedback, vocal intonation, eye contact, gestures along with the message content itself. According to this model, the face-to-face interaction is the richest medium because it contains the greatest number of cues. Text messaging and e-mail are leaner mediums containing fewer cues. Some scholars even have ranked communication media according to the richness (Trevino, Lengel, & Daft, 1987) and suggested guidelines for media choice as a result (Alexander, Pendley, and Hernigan, 1991). These scholars suggest two important factors underlie media choice in the media richness model. First, the level of uncertainty or ambiguity (lack of information) of the message should match the level of richness of the medium. That is, a simple routine message communicating simple, clear information can be sent via text message or e-mail, but a complex message requires media richness. Second, the equivocality (Weick, 1995) or unpredictability of the information should match the choice of medium. Thus, highly equivocal messages, which have sufficient information, are complex and require greater media richness.

To refine the media richness model, researchers have investigated managers' media choices within particular organizations. Lee and Heath (1999) found oil and gas managers prefer to receive information through multiple media, a finding which contrasts with media richness theory. In their study, the managers believed the information they receive from multiple sources to be more comprehensive, credible and relevant, in contrast to information received from a single source. Other research findings also have added to the suppositions of the original media richness model. Timmerman (2003) addressed the issue of the media choices used during implementation of planned organizational change. He developed a predictive model to guide general patterns of media use during implementation. Sheer and Chin (2004) also modified media richness theory when finding that relational and self-presentational goals, rather than task efficiency alone related to the media, drive the manager's choice of media. Stephens, et al. (2008) expanded media richness theory by demonstrating in a cross-organizational setting that choice and use of information and communication technologies (ICTs) for persuasion is sequential, or process oriented, rather than discrete. Gordon and Stewart (2009) applied media richness theory to the performance appraisal interview and found support for media richness theory that a lean communication medium such as e-mail typically was ineffective for negotiating shared understandings in a multifaceted interview. In sum, the media richness model approaches channel choice and use of technology uniquely. This approach is identified theoretically as a contingency approach or prescriptive viewpoint that assumes organizational media "have inherent characteristics, task perceptions are presumed to be largely objective, and workers are seen primarily as autonomous, rational actors when assessing media and making media choice decisions" (Suchan, 2007, p. 248).

The Social Information Processing Model

Researchers who have critiqued media richness theory have identified alternative theoretical approaches regarding use and application of communication technologies in organizations. Critics identify limitations and factors other than the capability of the medium itself that influence media

choice. For instance, individual, task, and organizational factors (Yates, 1994), and social environment (Fulk, Steinfield, Schmitz, & Power, 1987; Fulk, Schmitz, & Steinfield, 1990) also affect media choice. These critics suggests media choice can be more fully explained by the social information processing model, which examines the social environment of the organization (Fulk, Steinfield, Schmitz, & Power, 1987) and contrasts with the rational approach of media richness theorists. The social information processing model suggests how organizational members relate socially, make recommendations about media channel use, and express preferences related to how messages should be communicated. Employees and employers may make media choices according to the influence of the *social environment* of the organization simply because the technologies are available to them in their particular workplace or are recommended by co-workers.

Dual Capacity Model

The dual-capacity model was offered as yet another alternative to the media richness model. Sitkin, Sutcliffe, and Barrios-Choplin (1992) believed organizational members must not only consider the data carrying capacity of the medium (similar to media richness), but they must also consider the symbol-carrying capacity. They assert that using a certain type of media may symbolize or represent the organization's true values and culture. A university, for instance, known for its technology may symbolically value technological media as its primary means of communication. An international organization known for its "family culture" may value family-like informal, face-to-face interaction as its primary means of communication. Thus, the symbolic nature of the medium in the organization itself influences how employees may make technological choices.

A Meta-Analysis Model

Van den Hooff, Groot, & de Jonge (2005), in an effort to understand the complex and growing body of research on media choice, conducted a meta-analysis of recent studies addressing the use and effects of technologies in organizations. Their results led them to develop a complex model that

addresses the way many of these variables relate together. Their research insightfully synthesized the different approaches and theories concerning the use and application of communication technologies into one model and summarized previous theories. They succinctly critique contingency theory around its three key assumptions of objectivity, saliency, and the choice-making processes, and identify two key factors of the social environment that influence a user's choice of technology as 1) "overt statements about characteristics of media or tasks from coworkers, supervisors, or other members of social networks of which the individual is a part" and 2) "vicarious learning from observing the experiences of others and modeling behavior according to the consequences of certain choices by members of a user's environment" (van den Hooff, Groot, & de Jonge, 2005, p. 8). Contrasting the objectivity or rationality of contingency theory as the first theory, van den Hooff, Groot, & de Jonge (2005) named the second theory in the social information processing model as subjectivist theory. Subjectivist theory identifies the social influence of perceptions, attitudes, and intentions of employees in an organization over the objectivity of matching richness or leanness of a medium with a task.

Finally, van den Hooff, Groot, & de Jonge (2005) identified situational theory as the ability of technology to overcome organization constraints of geography, time and distance. That is, communication technology allows workers to work together despite dramatically different time zones and locations. They assert that the use and adaptation of technology may largely depend on the organizational situation and on the need to overcome these constraints or boundaries existing among employees or team members. Situational theory stresses the workers experience and expertise with the technology within the organizational environment. Thus, they theorize that organizational constraints and employees' knowledge and skill may override the social influence among employees in an organization and the objectivity of a medium's matching richness or leanness with a task. Specifically, "The opportunities offered by the technology, on the other hand, depend strongly on the user's

experience and expertise with it and the organizational and social context. As users' expertise in using e-mail grows, perceptions of its relative richness change" (van den Hooff, Groot, & de Jonge, 2005, p. 9).

Van den Hooff, Groot, & de Jonge's (2005) analysis received recognition as the outstanding article for the *Journal of Business* Communication and rightly points to the complexity of technology use in organizations. Their meta-analysis of 17 studies published in nine peer-reviewed journals in the areas of communication science, organization science, and management revealed 73 variables or relationships related to e-mail use in organizations. These variables crossed contingency, subjectivist, and situational theories. Understandably, when new employees make media choices, a range of factors determine the outcome. Certainly, an employee's choice of a medium of text messaging or e-mail does not reside solely on the rational choice of ambiguity or equivocality of the message.

Media Choice in International Contexts

Business communication research in multicultural contexts has focused primarily on Asian or European societies and rarely on issues in Latin America (Conaway and Wardrope, 2004). Moreover, such multicultural studies tend predominately to examine traits from Hofstede's (1983) cultural dimensions or Hall's (1976) high/low contexting model in business communication research, concepts later critiqued for their validity (Cardon, 2008). Few of these studies have examined use and application of technologies within the organizational context.

Finally, we must assume several outcomes or effects will exist when modern organizations widely adopt information technology (Conrad and Poole, 2005). First, technology opens up communication and increases accessibility of people in organizations. Thus, e-mail or text messaging would extend horizontal communication and increase personnel contacts compared to face-to-face communication, traditional written memoranda, and other vehicles. Second, technology increases spatial dispersion of organizations, enabling employees to work efficiently in significantly different time zones and locations across their country or the globe. Third, technology tends to foster inter-

organizational linkages, including joint ventures, alliances, and collaborative agreements with other organizations. These beneficial effects, of course, are countered by issues of employee privacy and security of organizational networks when technology is adopted widely. Miller (2006) emphasized "that technologies do not *determine* particular outcomes and that the effects of any communication technology will depend on the manner in which it is employed or appropriated by the users" (p. 296).

Research Questions

The preceding discussion of business communication literature concerning media choice highlights the complexity of employee use and application of new technologies in organizations. The following research questions were addressed in this study.

R1: To what extent do managers in international enterprises utilize texting technology within their organizations to accomplish work tasks and maintain relationships?

R2: How well does an adaptation of van den Hooff, Groot, & de Jonge's (2005) questionnaire explain complex media choice variables with managers in these enterprises?

R3: What impact will increased use of text messaging have on new policies and strategies for managers in their organizations?

Methodology

The authors used a governmental database for analysis that represented all businesses registered in our city of one million in population. One author of our study had access to the non-public database and was given permission to contact the businesses. Approximately 507 different businesses were contacted and represented both manufacturing and services sectors, small and medium businesses, and large multinationals that had located a plant in our city. Each business listing contained contact information and email addresses which were used by the researchers to contact respondents. The cover letter in the online survey was endorsed by our School of Business and signed by our dean, and it

assured respondents of confidentiality with results. Furthermore, the university has good name recognition with local businesses and we believed managers would willingly participate in the survey.

A pre-notification message was sent to the database list indicating a survey would arrive in one week. The survey was sent and responses received and a follow-up request was sent to the same list. Online software allowed each respondent to receive the message individually and not as part of a group mailing. Over 300 directors, managers, and supervisors (60 percent) completed the survey after the two requests to participate. Only 102 questionnaires (20 percent) were fully answered and usable because of the survey length. Our analysis and results were based on the 102 questionnaires.

Questionnaire

The questions items were based primarily on an adaptation of van den Hooff, Groot, & de Jonge's (2005) instrument. Their study presented a composite of variables determining media choice, and reflected a meta-view of theoretical issues confronting today's managers. The first seven questions of our 60-item survey were demographic. Following the demographic questions, we strategically positioned a logic or directional question that asked respondents if they had used text messaging sometime in the last month. If respondents indicated yes, they continued the survey. If respondents indicated no, they were directed sent to the end of the survey to rank communication methods most used and to respond about frequency of use. This logic question allowed an "out" if text messaging was not used by the respondent.

Frequency and Use. Questions 8-10 were scaled as nominal variables and addressed frequency and reasons for using text messaging. These questions were adapted from Jennings, Wilson, and Biss' (2009) survey and included an assessment of text messaging use with family and current friends.

Range of tasks. Questions 11-20 addressed the range of tasks for which text messaging is perceived to be appropriate. These task-appropriate questions were adapted from van den Hooff, Groot, & de Jonge's (2005) survey on e-mail, and we assumed text messaging would be used for similar

tasks as e-mail. Respondents were asked to indicate on a 5-point frequency scale, 1= never to 5 = always, to what degree they used text messaging for certain tasks. The first five questions were identified by Hooff, Groot, & de Jonge (2005) as lean-medium communication tasks and the last five variables as rich-medium communication tasks. We expected our exploratory factor analysis to produce similar results along rich and lean dimensions.

Perceived usefulness and value. Questions 21-60 addressed the perceived usefulness and perceived value of text messaging for an individual's workplace. van den Hooff, Groot, & de Jonge (2005) noted an important finding from their meta-analysis of e-mail usage that "the perceived applicability of e-mail (in terms of the range of tasks for which it is perceived to be appropriate and its perceived usefulness for a user's tasks) is a central variable in explaining e-mail use" (p. 17). Similarly, we assumed perceived usefulness and value to be central variables in explaining text messaging use. Respondents were asked to indicate to what degree they agreed or disagreed with the statements on a 5-point scale, where 1= strongly disagree to 5 = strongly agree.

Communication methods most used. Finally, respondents were asked to rank 10 methods reflecting the way they communicate with people on a daily basis. The 10 items randomly appeared on each survey: home telephone line, cell phone (not Nextel), instant messenger (IM), video conferencing, Nextel international call, text messaging, e-mail, typed or handwritten note, Facebook or similar web site, or through Twitter, LinkedIn, or Plaxo. Second, respondents were asked to estimate how many times each of the 10 methods they used in an average week. They placed a number in a box to estimate frequency.

Results

Demographics

Thirty-seven percent (n = 38) of the respondents were female and 63 percent (n = 64) male. Analysis of the respondents' education levels showed most were educated with over 94 percent of the

indicating they had completed a university degree, a finding which suggests a positive correlation between level of education and text messaging use. Only 8 percent had high school education or lower. Overall, ages ranged from 25 to 50 years (83 percent), three respondents were under age 25, and 15 were over 50 years. Over three-fourths indicated they were positioned at the managerial or supervisory level while 15 percent listed their organizational level as employees. Other demographics showed all but eight were of Latino decent.

Reasons for Text Messaging

Descriptive statistics were computed on Questions 8-10 concerning typical use and reasons for text messaging. Of the 102 respondents who completed the survey, 96 respondents used text messaging. Over 40 percent text messaged more than 10 times a day, 22 percent more than five times a day, and 13 percent more than twice a day. The remaining fifth indicated less frequency of use. Concerning *reasons* for text messaging, over 31 percent of the respondents indicated their primary reason to text was to connect with family and friends, an interesting finding for management that employees are using technology nearly one-third of the time for communication for personal reasons. We assumed respondents were referring to their text messaging during work hours. Similarly, while 77 respondents (78 percent) indicated their second most important reason for using text messaging was "work related issues," nearly half used texting to connect with family and friends (47 percent).

Reliability Tests

Cronbach's α was computed on each subscale in the questionnaire and all subscales revealed high reliability coefficients. Questions 11-15, which measured the range of "richness" in certain communication tasks when text messaging, resulted in Cronbach's $\alpha = .806$. Questions 16-20 addressed "lean" tasks and resulted in $\alpha = .837$. Additionally, questions 21-30 showed $\alpha = .864$ and, likewise, questions 31-60 resulted in $\alpha = .864$.

Factor Analysis

Factor Analysis was conducted on different sets of the survey items. The 10 questions related to richness and leanness of media were analyzed to ascertain if the two underlying dimensions of leanness and richness appeared in our study. Principal components extraction with Varimax rotation resulted in three factors that emerged with an eigenvalue above 1 and accounted for 73 percent of the variance. However, only one question loaded significantly on the third factor, which accounted for 11 percent of the variance. The other two factors revealed clear distinctions between richness and leanness mediums. Thus, the findings generally supported van den Hooff, Groot, & de Jonge's (2005) assertions on rich and lean media use that were adapted in our study. Those survey items, for example, related to decision making, communicating confidential information, resolving conflict, and communication in negotiations loaded highly on the richness factor. Other items, such as asking questions, exchanging opinions, and staying in touch loaded highly on the leanness factor.

Factor analysis was also conducted on the 10 items related to personal use of text messaging. The questions concerned reaching important contacts, doing more in less time, communicating efficiently, and use of the text message application itself. Principal components extraction with Varimax rotation reduced the questions to two significant factors and each was very clear. We labeled Factor 1 "Communicating Efficiently" and Factor 2 "Skill in Texting." Together, the two factors accounted for 64 percent of the variance. Survey items loading significantly on the second factor, for instance, asked "I know how my text messaging application works" and "I can solve regular problems in the text messaging application myself." One general question included in this set asked respondents to indicate if they considered themselves a skilled computer user. Overall, we believe analysis of this set of data showed how respondents used texting and their abilities with technology and solving problems related to technology.

Finally, factor analysis was conducted on the remaining 30 items to determine underlying dimensions. These items addressed use of work-related text messaging within the organization, texting

with supervisors, and texting with colleagues. In this analysis, five dimensions emerged accounting for 69 percent of the variance. Eight of the 20 items loaded significantly on the first dimension and accounted for 35 percent of the variance, and we labeled the factor "organizational texting." Table 1 represents the item name, factor loadings on the item, means, and Chronbach's alpha for the eight items. Results from this organizational texting dimension show respondents utilized texting because their coworkers and supervisors used it, indicated texting was an important medium in their organization, and specified that texting sped up the communication process and enabled immediate responses from supervisors and associates. Speed of the text medium seemed to dominate the loadings.

Table 1
Organizational Dimension

Text Messaging in Organizations	Cronbach's α = .907	
Survey Item	Factor Loadings	Means
Q39 The majority of my colleagues use text messaging.	0.628	3.49
Q40 The majority of my superiors use text messaging.	0.554	3.36
Q41 Text messaging is an important medium in our organization.	0.680	3.39
Q42 Thanks to text messaging, I can communicate fast.	0.866	3.75
Q43 With text messaging, I get immediate responses.	0.780	3.30
Q44 Text messaging enables me to speed up the communication process.	0.859	3.56
Q45 Text messaging enables me to easily contact people in other locations.	0.792	3.97
Q46 Text messaging enables me to easily contact people in other locations.	0.640	3.54

The second factor emerging from the analysis of the 30 items accounted for 12 percent of the variance and we labeled it "coworker opinions". This factor displayed significant loadings from 3 survey items, each related to tasks with coworkers and importance of coworkers opinions of text messaging. Factors 4, 5, and 6 accounted for approximately 20 percent of the remaining variance and were related to texting over distances and time pressures at work. This examination of underlying dimensions in the 30 remaining items of our questionnaire seemed to reveal that texting had become a core communication medium in organizations and was central to a manager's ability to accomplish work tasks and maintain relationships with coworkers.

Cross-tabulation Results

When the independent variable, age, was cross-tabulated with the dependent variable, "I have used text messaging sometime in the last month," results showed no significance for Pearson Chi-Square. Moreover, age did not appear to be a factor in organizational use of texting. Of those who texted, nearly half (46 percent) were between 25 – 35 years of age, 36 percent between 36 – 49, and 16 percent were 50 years of age or over. These percentages reflected the same percentages in the sample as a whole. Likewise, gender revealed no significant differences nor did level of education. However, the respondent's time with the company reflected some differences with text messaging use. Pearson's Chi-Square revealed < .082 for those employees with 1 -4 years on the job. Thus, newer employees (4 years or less with the company) appeared to use text messaging less than those who were employed longer. Table 2 displays means, standard deviations, and Cronbach's alpha for the richness and leanness questions.

TABLE 2 Range of Tasks Items:
Means, SDs, and Reliability Coefficients for Each Subscale

Item	M	SD	Cronbach's Alpha
Range of tasks (rich)			0.751
Exchanging information	3.34	1.287	
Time-sensitive information	3.42	1.065	
Asking questions	3.41	0.913	
Exchanging opinions	2.90	1.251	
Staying in touch	3.45	1.132	
Range of tasks (lean)			0.846
Decision making	2.78	1.271	
Confidential information	2.23	1.248	
Resolving conflict	2.36	1.235	
Getting to know someone	1.42	0.765	
Negotiations	2.43	1.344	

Table 3 shows 26 questionnaire items (Questions 21-48) which addressed the perceived usefulness and perceived value of text messaging for an individual's work. Means, Standard Deviations, and reliability tests (Cronbach's α) for each subscale are indicated in the columns on the right.

TABLE 3: Perceived usefulness and value of Text Messaging Means, SDs, and Reliability Coefficients for Each Subscale			
N=102			
Item	M	SD	Cronbach's α
Perceived usefulness			0.900
Through text messaging, I can reach important contacts.	3.20	1.298	
Thanks to text messaging, I can communicate efficiently.	3.45	1.157	
Thanks to text messaging, I can do more in less time.	3.51	1.192	
If text messaging is unavailable, my work is seriously hampered.	2.67	1.352	
Thanks to text messaging, I can react adequately in my work.	3.02	1.251	
User: expertise and skill			0.809
I know how my text messaging application works.	3.91	0.935	
I use most of the functionalities of my text messaging application.	3.28	1.009	
I use text messaging outside of work as well.	3.74	1.107	
I am a skilled computer user.	3.32	0.987	
I can solve regular problems in the text messaging application myself.	3.25	1.085	
Task: geographical distance			0.660
My work involves cooperation with people in other locations.	4.15	1.033	
My work regularly involves communicating over distance.	4.12	1.089	
Task: time pressure			0.506
Time is an important factor in my work.	4.49	0.657	
I don't always have sufficient time to do my work.	3.21	1.152	
Task: equivocality			0.678
There is no clear task description for my work.	2.41	1.230	
My work strongly differs from day to day.	3.27	1.170	

Social environment: coworker evaluations			0.776
My coworkers' opinions of text messaging are important to me.	2.67	1.180	
Social environment: coworker use	2.88	1.171	
I use text messaging for the same tasks as my coworkers.	3.49	1.069	
Social environment: critical mass			0.869
The majority of my colleagues use text messaging.	3.36	1.296	
The majority of my superiors use text messaging.	3.39	1.408	
Text messaging is an important medium in our organization.	3.75	1.149	
Medium: speed			0.874
Thanks to text messaging, I can communicate fast.	3.30	1.150	
With text messaging, I get immediate response.	3.59	1.060	
Text messaging enables me to speed up the communication process.	3.97	1.009	
Medium: geographic reach			0.652
Text messaging enables me to easily contact people in other locations.	3.54	1.302	
Text messaging obviates the feeling of distance.	3.49	1.124	
Thanks to text messaging, a communication partner's location becomes irrelevant.	3.73	0.987	

Discussion and Conclusions

When organizational employees adopt and use various communication technologies in the workplace, the process of choosing such media has emerged as a complex one. Numerous variables impact the decisions of employees and managers when they adopt and use new technologies. Van den Hooff, Groot, & de Jonge's (2005) study effectively summarized these variables into a model that is useful for international business communication researchers. Our results reflected similar findings in most subscales of the instrument when we adapted their assessment instrument from email to text messaging within Latin American contexts.

Specifically, we investigated the extent to which directors, managers, and supervisors in multinational manufacturing and service organizations had adopted and used text messaging. Our study revealed that text messaging usage for tasks and relationships appeared ubiquitous in the respondents'

organizations. Speed of the medium and opinions about text messaging by supervisors and coworkers appeared to drive the widespread adoption and usage. The survey items that loaded highly on the primary factor of organizational text messaging included such phrases as “I can communicate efficiently,” “I can do more in less time,” “I can communicate fast,” and “Text messaging enables me to speed up the communication process.” Moreover, most respondents thought “Text messaging is an important medium in our organization” and “My coworkers’ opinions of text messaging are important to me.” These findings supported a key factor of van den Hooff, Groot, & de Jonge (2005) that “overt statements about characteristics of media or tasks from coworkers, supervisors, or other members of social networks of which the individual is a part.”

One policy decision confronting managers is the use of texting technology on the job for non-work purposes. Our finding that text messaging is being used to interact with family and friends most likely reflects the same pattern occurring in almost any workplace. When our respondents responded to the question about their primary reason for using text messaging, nearly half (45 percent) reported using texting to connect with family and current friends. When asked for the second most important reason, 30 percent used texting to communicate with family and current friends. If we assume respondents answered this question in the context of work rather than after-shift hours, then a portion of work time is being used for personal reasons. Such time will negatively affect the economic bottom line depending on the extent employees communicate personally. Thus, supervisors must determine how company polices will allow personal communication on the job. For instance, the British Broadcast Corporation (BBC) reported Volkswagen attempted to prevent work and home lives from becoming "blurred" and to ensure respect for employee's private time. (BBC News, December 2011). The company instructed its mobile email provider Blackberry to stop email servers after work hours, preventing employees from receiving work-related emails in their personal time. The restriction applied only to the country of

Germany and did not apply to text messages. Yet the action raised the issue of Volkswagen's concern for the blurring line between personal and work-related technology use.

Furthermore, we wondered how management felt about the non-work use of technology on company time, although we did not specifically address this research question in this study. In informal interviews with several other owners of manufacturing companies, we heard a range of responses about the personal usage (communication with family and friends) of technology in the workplace. On one end of the continuum of opinion, an owner expressed strong concern against such usage and indicated he would take direct measures to totally restrict that type of communication. Another owner at the opposite end of the continuum expressed no concern and said that he wanted his employees to have freedom with those decisions as long as they got the job done. He felt his workers and managers would be more loyal to the company without a policy against technology in place. If employees wished to "phone home" or text home during work time, he was happy with it. Happy employees were productive employees. Yet a third owner had adopted a balance between these two opinions by enacting policies restricting only some technologies. Interestingly, one manager sent us an email to say that her large multinational company had already put into place some policies restricting internet usage (Facebook, E-Bay, Twitter, and others) and limiting personal phone calls and texting during work time. In whatever stand owners and policy makers in companies may take, they must critically assess this issue, review the changing role of communication technology in their unique circumstances, and make important decisions regarding its usage.

No significant relationship was revealed between gender and messaging. However, a growing body of literature has investigated "remote mothering," a communication process involving women who use cell phones and texting to manage their responsibilities for home and children (Rakow & Navarro, 1993). Rakow (2007) suggested "these devices are fascinating and our lives are different with them, but we must be careful not to pass along industry's buzz but rather stop to examine it" (p. 406). In our study,

our analysis revealed no significant relationship between gender and Q8, "What is the main reason you use text messaging?" Further analysis showed that no significant differences existed between the primary reason male and females use text messaging. Both extensively used text messaging to communicate with friends and family. Apparently, remote mothering was not a dynamic in this company.

In summary, we would re-phrase Vascellaro's (2009) quote cited at the beginning of this manuscript: "Email has had a good run as king of communications..." and it seems to still be holding its own within manufacturing and service organizations internationally. We agree with Vascellaro that the shift to new technologies in organizations "promises to profoundly rewrite the way we communicate – in ways we can only begin to imagine." We must take on the challenge as business communication researchers and remain on the cutting edge with our research.

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