Wireless Organizational Communication: A Framework for Communicative Informatics

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Abstract

As mobile communication becomes more pervasive, there is an increasing need to study the potential uses of wireless organizational communication. The difficulty in analyzing information and communication technology (ICT) in organizational communication is the unintentional split between information processes perspectives and human communication perspectives in the discussions of workplace technology. By merging two constructs, organizational informatics and organizational sensemaking, this paper develops a communicative organizational informatics (COI) framework, which provides a robust perspective on how people communicate through the uses of technology in organizational settings. This communicative informatics framework offers a powerful lens to study the meanings, understandings, uses and gratifications, and potentials of technology in organizations and how it can facilitate workplace communication. A COI analysis of a personal digital assistant (PDA), a Palm VII, with a live wireless connection to a company sales database is examined by applying a usability testing methodology.

Keywords: Wireless, Organizational Communication, Informatics, Meaning, Usability, Sensemaking, Uses and Gratifications

Introduction

As mobile communication becomes more pervasive and widespread, there is an increasing need to study and understand the potential uses of wireless organizational communication. By 2006, Jupiter Research estimates that 35 million business and mainstream consumers will own personal digital assistants (PDA). While the use of PDAs and wireless communication in the workplace increases, there are no communication studies on the use of mobile communication and organizational communication. Moreover, there is a scarcity of research on Internet technology in organizational communication. Although researchers are advocating the need for studying virtual organization (Ahuja & Carley, 1998), the theoretical approaches used in these past studies falls short of explaining the new technologies such as the Internet and wireless communication. New media in the form of Internet technologies and wireless communication are changing the workplace. "This new social form [the Internet and virtual communities] is biased toward people who have good computer skills, a willingness to accept redefined work processes, and the ability to address and reconcile social and physiological impacts (Agres, Edberg, & Igbaria, 1998)."

The difficulty in analyzing information and communication technology (ICT) in organizational communication is the unintentional split between information processes perspectives and human communication perspectives in the discussions of workplace technology. The strengths of the two should be combined in newer ways of viewing

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workplace communication technology. Most importantly, information should not be confused with communication. For instance, at the information processing level, data is transferred through technologies such as wireless networks and devices. In contrast, at a human communication processing level wireless communication can confer meaning through how people understand and use information. Technology can transfer data and information, but it does not transact communication. People transact communication through the interpreted of the data or information.

To advance the usefulness of technology as a medium for communication, a framework for understanding the complexities of communication bounded by new technologies and media is essential. By merging two constructs, organizational informatics and organizational sensemaking, this paper develops a communicative organizational informatics (COI) framework, which provides a robust perspective on how people communicate through the uses of technology in organizational settings. As a unit of analysis, we focus on the use of a wireless communication, which makes organizational communication mobile. We apply the proposed COI framework to the use of a live database driven PDA by a group of typical mobile workers, sale people, whose job demands a large amount of work outside of their organizational settings. As such, the purpose of this study is to develop and advance a COI framework.

There are several main sections in this paper. First, the section on COI will review relevant literature in communication including organizational sensemaking, uses and gratifications, organizational informatics, and elements of COI. The second major section applies the COI framework in a case study of COI wireless communication and mobile workers. Following the case study, the third section discusses the COI framework and its application.

Communicative Organizational Informatics

As a framework, communicative organizational informatics (COI) brings together organizational sensemaking, uses and gratifications, and organizational informatics.

Organizational sensemaking provides a process analysis for human action and communication within the organizational context. As a construct, uses and gratifications add a lens to understand how end users actively employ and enjoy technology products. Organizational informatics contributes to the knowledge base of how information and data is acquired through technology. The COI framework provides an analytical avenue for understanding how people, information, and technology interact to produce systems, which in turn can guide the creation of technologies and organizations.

Organization Sensemaking

Organizational members communicate with others using meaning rules that can be mediated through technological devices. Hence, sensemaking in human activities involves rules guiding communication. While these rules can be formal (e.g., laws, organizational policies, standards, etc…) and informal social rules (e.g., etiquette, customs, organizational norms, etc…), the rules can also be mediated through technology. As a result, technology end users must make sense of communication layered with user rules and limitations built into technological devices. Currently, sensemaking is starting to be applied in analyzing e-business applications and technology (see, Srinivasan et., al). The concepts of enactment, improvisation, and memory in organizational sensemaking can provide a means of understanding information and communication technology (ICT).

As a key human activity, sensemaking has been a major area of organizational studies for more than 20 years (see, Weick, 2001; Weick, 1995). “Whenever an expectation is disconfirmed, some kind of ongoing activity is interrupted. Thus to understand sensemaking is also to understand how people cope with interruptions. The joint influence of expectations and interruption suggests that sensemaking will be more or less of an issue in organizations, depending on the adequacy of scripts, routines, and recipes already in place” (Weick, 1995, p. 5). In accordance with sensemaking, people commune with meaning

systems to formulate ways of understanding continuing activities which both disrupt and correspond to existing meaning systems based on rules of expectation. Organizations have particular meaning systems that people learn and use to communicate and accomplish job tasks.

The introduction and use of new technologies require end users to process information differently in order to communicate with other people. In work settings, in particular, organizational members must learn to use new technologies chosen by their company as part of job requirements. Along with the introduction of new technologies, organizational members' typical work patterns can be disrupted in order for them to learn how to use and interact with a new technology for accomplishment of job tasks. Besides learning how to use new technological devices and their interfaces, workers often must learn to use new versions of software and upgrades to existing technologies. The central process end users are engaging in is communication with other people, both internal and external to the work organization, and organizational databases. Understanding that technology-related disruptions necessitate a communicative sensemaking process provides a powerful means of exploring how technology end users in workplaces can best integrate technologies, information processing, and daily work tasks.

Enactment, improvisation, and memories

Enactment. Enactment occurs in the process of organizational sensemaking. In this proactive view, organizational members enact instead of react to their environment. They create organizational reality based on prior knowledge and rules. "Members act as if they have environments, create the appearance of environments, or simulate environments for the sake of getting on with their business. These organizing acts are acts of invention rather than discovery, they involve a superimposed order rather than underlying order…" (Weick, 2001, pp.188). Even though sensemaking is an ongoing interpretive process, it is enacted through an occurrence or need for action which call for people to "make sense" of action (Ashmos & Nathan, 2002). As organizational members enact environments, they are involved in the process of improvisation.

Improvisation. Improvisation can aptly deal with the unexpected (Weick, 2001, pp. 285), but prior understandings are needed. "While improvisation is affected by one's associations, past experiences, and current setting, it is also determined by the kernel that provides the pretext for assembling these elements in the first place. These pretexts are not neutral. They encourage some lines of development and exclude other ones." (Weick, 2001, pp. 289-290). Employees can change interpretations of the organizational structure to suit their own meaning systems (Bastien, et. el., 1995). Thus, organizational enactment and improvisation occurs within a bounded rationality of the organization, individual, ICT, and contextual situations.

Memories. In particular, sensemaking holds that enactment and improvisation need memories to occur. Memories used along with constructs such as "cause maps" and "cognitive map" as it is discussed in Weick's organizational sensemaking is entrenched in a cognitive perspective (see, Weick, 2001, pp. 231, 291, and 310). To better analyze the socio-cultural aspects of people, organizations and technology, a superior construct of structure and systems should be integrated into the socio-technical analysis of humans, organizational systems, and social structure. The process of communication needs to take a central role in analyzing digital information exchanges using technology in the workplace.

Mobile Workers and ICT

As mobile workers enact and improvise with wireless ICT, the technologies, which these employees use, must provide meaningful support for accomplishing their jobs. Whether a wireless ICT has an original intended use by its product designer or employees enact and improvise on the uses of the wireless ICT, wireless ICTs should provide uses and gratifications for organizational members.

Mobile workers using ICT can be located physically within or without of their organizations while still gaining communicative access to people and organizational information. While using technology, organizational members can enact and improvise in the process of creating organizational interactions. Through communication and interaction members can change organizational systems. As one of the most potentially powerful transforming agents of organizational communication, wireless communication and its devices can let their uses communicate with people or organizational databases from a context independent of the physical workplace. A fertile site for studying wireless organizational communication is with employees who conduct a large part of their work functions in "the field," a context independent vantage point. In particular, salespeople, working outside their physical organizations, provide a fruitful source of study for understanding wireless organizational communication.

Uses and Gratifications

The framework of uses and gratifications has been used to study people's involvement with mediated communication: why people use a particular media and what people do with media. Most of the early studies on uses and gratifications examined television, newspapers or other mass media (Katz & Lazarsfeld, 1956; Katz, Blumler, & Gurevitch, 1974; McQuail, 1987; & Lull, 1990). Denis McQuail offered a typology for media use that included information, personal identity, integration and social interaction, and entertainment (McQuail, 1987). Lull (1990), in his ethnographic research on TV, divided uses into two areas: structural and relational. Structural uses included environmental reasons such as background noise and regulative uses for the punctuation of time and activity. Four relational uses were found: communication facilitation; affiliation/avoidance; social learning and competence/dominance (Lull, 1990). Different groups of people use media differently depending on their social, psychological or economic needs, habits and expectations.

More recently, the uses and gratification approach has been used to study mediated areas such as the Internet (Angleman, 2000; Papacharissi & Rubin, 2000) and online interactive advertising (Roberts & Ko, 2001). The most important use of the Internet noted by Papacharissi and Rubin was information seeking that was characterized by utility, intention, selectivity and involvement (Papacharissi & Rubin, 2000). Ruggiero summarized some of the recent works by stating that the "individual's activity is now analyzed in a plethora of psychological and social contexts including media dependency, ritualization, instrumental, communication facilitation, affiliation or avoidance, social learning, and role reinforcement. Uses and gratification research continues to typologize motivations for media use in terms of diversion (i.e., as an escape from routines or for emotional release) social utility (i.e., to acquire information for conversations), personal identity (i.e., to reinforce attitudes, beliefs and values, and surveillance (i.e., to learn about one's community, events, and political affairs)" (Ruggiero, 2000, p.26). The uses and gratifications framework can be extended to the study of mobile workers task usage of wireless devices.

Wireless ICT Uses and Gratifications

The uses and gratifications framework can help researchers and developers understand mobile workers' needs and wants. More specifically, knowing how mobile workers use wireless devices can help develop initiatives and guidelines in figuring out what product feature gaps exist and how to best organize existing features for optimal usability by end users in a wireless organizational communication environment. For this study, uses and gratifications are defined in three categorizers: uses, needs, and gratifications. Uses are defined as end users using a particular product. Needs requires that the mediated product be used to accomplish a work or job task by the end user. Beyond finishing a task, gratifications necessitates that a task process satisfies the end user.

In considering the usability of a product, hardware and software designers should consider user-centered and experience design approaches (see, Branaghan, 2001; Damodaran, L. 2001). User task analysis has changed the product design of PDAs from associative task clustering to frequency of task usage cluster-

ing (Bergman, & Haitani, 2000). A user-centered approach in task design can produce better product interfaces that result in easier and quicker interaction experiences for users. Applying the approach of communicative informatics, information and product designers should try to understand how ICTs support and enhance human communication in multiple contexts.

Organizational Informatics

The study of informatics seeks to analyze how people access and use information gained through the use of technology. Social informatics has been defined as "the interdisciplinary study of the design, uses and consequences of information technologies that takes into account their interaction with institutions and cultural contexts" (Kling, 1999). Organizational informatics specifically looks at this problem in organizational settings (King, 1983; Orlikowski, 1993).

Organizational informatics, a subcategory of social informatics, is concerned with the ways people use technology to acquire, structure, and use information in an organizational context. Knowledge management practitioners also apply informatics to stimulate organizational learning and change. Informatics has been most heavily applied within the medical field to enhance patient care by providing a synthesis between medical knowledge, patient information, and technology (Baldwin et. al, 2002; Atkinson et el, 2002).

Medical informatics has four central themes: standards, terminology, usability, and demonstrated value (Hersh, 2002). While standardization across information systems and terminology makes aggregation and movement of data easier, the key challenge and basic goal of medical informatics is to develop easy-to-use systems and provide demonstrable benefits for individuals and organizations (Hersh, 2002). The basic definitive issue here feedbacks to the uses and gratification of technology products and how individuals and organizations make sense of and enact on information through the process of communication. Others further emphasize that developers in ICT in healthcare should create systems to provide ill patients with appropriate, timely, and accurate responses without sophistication (Baldwin, et, al 2002). Ease of use and benefits to the individual and organization become guiding principles.

Ease of use of technology product is related to the field of human factors and usability engineering. In general, during the past 20 years the field of human factors has lead the design of technology for ease of use by people in the workplace and leisure activities (Myers, et, al, 1996). The human factors field is based in cognitive perspectives of understanding human behavior and communication (see Damodaran, 2001). Thus, mental modeling of user product requirements is a predominate method in establishing product designs including interfaces and interaction patterns for ease of understating and use. The major problem with being entrenched in cognitive perspectives is the lack of contextual analysis at the group, organizational, and societal levels. Providing a communicative perspective to technology allows the symbolic levels of human understanding to be part of the design and consequently the use of technology. This can help information designers better understand users' views, which is essential for product success. The major reason for technology system product failures has been the lack of understanding user requirements and specifications from the users' point-of-view (Damodaran, 2001).

Communicative Organizational Informatics (COI) Elements

With a focus on continuous sensemaking arising in enactment and improvisation in response to environmental actions, plus an understanding that memories influence the process, COI is less a cognitive process than it is a structured symbolic process occurring at many different social levels. For instance, at the macro societal level structural principles provide symbolic understandings, cultural rules, values and norms, which a person adopts. At organizational and group levels, these macro structural principles mix to produce communicative systems in which people interact with each other and technology. When organizational members use technology to communicate, they are using mediated forms of communication, which have uses and gratifications. Organizational users of technology access information and data,

then make sense of it in relationship to their contexts and known structural principles. In this mediated communication, there are two important actors: producers and users.

COI producers and users

Producers. Technology creators and designers have numerous tools for designing useful technology products (see Mayhew, 1999; Nielsen, 1993). Besides having products, which are functional, the goal of product developers is to sell products. The ideal situation is to have products, which closely fit uses and gratifications of end users. To do this, technology producers have developed user centered design processes such as prototyping, field interviews, prototyping and participatory design groups.

Users. Users are the people and entities like organizations, which use technology to accomplish tasks, goals, and/or processes. Primarily end users must make sense of technology product interfaces and the interaction patterns. Being involved in this process, end users enact known structural properties learned in using other technology systems. In this semi-knowing state of improvising, end users use structural principles to interact with new technologies.

COI as communicative sensemaking framework provides a way to analyze technology in differing and changing contexts. It also brings to the surface the connection between the technology producers and users. Merging the fields of organizational communication and organizational informatics into IOC offers a powerful lens to study the meanings, understandings, uses and gratifications, and potentials of technology in organizations.

Case Study: Mobile Workers and Wireless COI

Using wireless communication as an example provides a specific unit of mediated organizational communication. Although the Internet and it spin-offs, Intranets and Extranets, share many similarities in structure and language, they have different communication uses, purposes and audiences. Specifically, wireless organizational communication has particular characteristics shaping the process of communication using Internet networks. Moreover, wireless organizational communication reshapes communication behaviors and processes by adding to new ways workers can communicate using wireless technology to accomplish job functions. Ultimately, there is a need for system usability or ease of use in order that people readily use technology (Damodaran, 2001). As such, this case study use established methods of data collection and analysis as used in usability engineering.

This case study of a live wireless PDA used by mobile workers provides an example of COI. A PDA was chosen instead of a wireless computer because PDAs are more readily accessible equipment, physically and financially, for people and organizations. Participants in the process of sensemaking enact and improvise their understandings of uses and gratifications of a wireless PDA connected to a live database. Specifically, salespeople, as typical mobile workers, experience and make sense of web-enabled software connected to a live company database in real-time on a Palm VII. The case study results depict how end users make sense of new devices by symbolic comparison and labeling due to the wireless devices' uses and gratifications for the participants. Technology, information, and individuals are bound together in a communicative enactment, which is improvised by participants.

Participants

Sales people, who work in outside sales, were selected for study since the profession can benefit form the use of mobile devices to communicate while in the field. All of the participants were male between the ages of 26 and 57. The time each person had been in a sales position ranged between 1.5 years to 18 years. All participants were experienced Internet users.

Research Questions

RQ1: How do mobile workers, in this case sales people, experience the uses and gratifications of a web-based Palm VII connected to a live company database to accomplish job tasks?

RQ2: How do mobile workers, in this case sales people, regard the uses and gratifications of a web-based Palm VII connected to a live company database to accomplish job tasks?

Methodology: Usability Testing

A usability test consisting of eight users was conducted in a traditional usability lab. Conventional usability tests typically use six to 12 participants with three to five participants being part of a representative user subgroup (Dumas & Redish, 1999, p.128). Furthermore, after several participants are observed performing usability tests both successfully and unsuccessfully, there is no need to continue to repeat testing that is yielding the same information. The analysis halting criteria of information redundancy (i.e., no more new information is emerging) is a basic tenant of qualitative research techniques (Lincoln & Guba, 1985 pp. 221-249). After redundancy has been reached, the data collection research phase is stopped leaving a valid set of participant observations and texts to analyze. Usability testing is essentially qualitative; thus, seeking to understand social and behavioral interaction is the primary goal. Statistical validity is not applicable to qualitative methodologies.

For this study, each participant was asked to perform the same four tasks (see Appendix A) using a Palm VII to access a company's customer and sales database. The Palm VII was running a company designed software program to access a live company database and its information. Participants were instructed to use the "thinking aloud" protocol, which is "probably the signature quality of a usability test" (Dumas, 2001, p.119). As participants performed tasks, they talked aloud about their thought process. After each task, the test administrator asked probing questions to gain understanding of how participants made sense of the wireless communication devices' use. The tests were video and audio taped with participants' written consent. The test administrator was in the room with the subject to provide guidance if needed. Subjects were pre-selected for their characteristics, which profiled them as typical salespeople whose work would involve using web application sales tools and wireless PDAs. Subjects were randomly chosen from companies in a major metropolitan area in the northeastern United States.

Data Analysis: Thematic Patterns

After developing each participant's test into a case study, the participants' sessions were analyzed for thematic patterns, which developed across each of the eight data sets. In particular, a search was done for data of indigenous and sensitizing concepts (Patton, 1990). Two themes, digital "Post-it-Notes" and also data pulling and interacting, emerged from the data. Each thematic pattern is described, represented by participant quotations, and analyzed.

Digital "Post-it-Notes." Participants describe the communicative uses of Palm VII as being quick and convenient which is in accord with their professional culture of sales. They describe their job environment as fast paced and want a quick mode of communicating.

Participant #2 – "The wireless device would be very useful in my job, because sales is instantaneous."

Participant #3 - "Sending email back and forth. Right now I have a Palm and a cell phone, which I have to use to do the emails back and forth. I would rather have one thing do both. But, having my email message sent over my phone I would rather have them sent over this [Palm VII]…I don't have a stylus on my cell phone like this [Palm VII] and it just better usability and easier of use for me."

Participant #4 - "This type of thing would be just really good for me to write scribble notes. Like call so and so at such and such a time. I use post-it notes and index cards all the time, so having the capability to jot down 'call John tomorrow about this'. That would be really helpful."

Participant #4 - "Certainly it would be helpful if leads were paged to me through a wireless device."

Participant #5 – "I think in a salesman position, it would be communication. You know sometimes in these days it [fast communication] can be nice, because everybody wants things immediately."

Participant #6 – "I like the message idea. Just being able to communicate with somebody is a terrific thing. If somebody could pick up their email off of this that would be a good thing."

Participant #6 – "[Interviewer – 'Would you like to send out sales lead on it?'] Not specifically. More for informational purposes like what is happening with a particular customer or with a particular lead."

Participant # 7 "For very pertinent information if you are looking up a contact for an account. For those types of things, contact information, tasks that you have to do on a certain day, a quick message. But, not much more than that, because the screen is very limited...so I really think that whatever information is going to be there would be something that is very quick hit. Almost like a post-it note, type information. That's the way I think of it like a post –it note type of thing. I don't write a paragraph on a post-it note. I just kind of put quick reminders and stick them up and then you remember. Be concise and strip it out."

Participants explain the communicative uses of Palm VII as being quick forms of intrapersonal and interpersonal communication within the context of their jobs and task functions. In an organizational communication context, intrapersonal communication uses include all information made by the worker for his or her own uses such as calendar entries of meeting times, call client notes, and other communiqué meant for his or her own use, especially to aid in memory recall. Interpersonal communication is used to maintain relationships through organizational task flow integration and social interaction. Email would be the most relevant interpersonal communication tool used on a Palm VII by these mobile workers. In both types of communication participants stressed the quickness, convenience, and helpfulness of communicating with a wireless device.

Data Pulling and Interacting. Participants like the feature task of being able to extract data rich information from company databases through the wireless Palm VII connection.

Participant #2 - "The best of the wireless device would be knowing which sales and which services I'm working on for each customer when I'm out in the field. I want to know as much information about a customer as possible through the device."

Participant #3 - "It's mobile. It's useful to be able to store some of the search criteria and relevant information for your clients…. Profiles are relevant information that I would like to keep in there. Contacts, numbers and everything I already have on the Palm is in there."

Participant #3 - "It's fairly user friendly. It stores more contact information than the Palm we have." [This participant's Palm product is not web-enabled, so cannot link to a database without a wired connection.]

Participant #8 - – "Well, if I'm traveling and don't have a link and I wanted to update something, I would like to have the flexibility with the Palm VII. It would be useful."

Sales people can connect to databases, which store background information on current and potential clients. In essence, sales people can "pull a client file" while in the field. Pulling files is a common organizational task for information workers like sales people. This stored information is vital to salespeople; especially, when they are out in the field traveling to meet with customers. Sales people in the field can update client and sales lead information while also gaining access to current client information input by other organizational team members. For example, one participant indicated that the live demo he was testing stored more information than his Palm product, which was not a wireless web-enabled device. Thus, he is limited to the information stored on his Palm device. In contrast, the Palm VII is acting as a

portal to rich information on clients and potential clients in the organization's databases. The difference the Palm VII provides over other communication tools is the ability to access, add, and change information in the database while still in the field selling products.

Discussion

This study shows that the participants made sense of the current technological PDA uses and gratifications in context of already known concepts and processes (i.e., structural properties). Sales people use the PDA like they would use physical post-it-notes. Using a technology product, in this case, a PDA, the communicative act is mediated in a different way, and the participants transformed the communicative act by enactment and improvisation. Instead of the communication materializing on a paper sticky note as a reminder, the communicative act was transformed into a digital post-it note. The sales people made the PDA fit their already established worldviews. Additionally, the participants "pulled and updated" client data like they would as if they had a physical file. Here, the sales people have quicker access to information, but the communicative act is basically the same -- pulling a physical client file to access information and update it. In this context, technology is not changing the content or act of basic communicative work processes but instead is speeding up the communicative work process.

For technology producers, a communicative informatics approach asks how the communicative act can be made richer not just faster. What would add to a post-it-note for personal reminders? What would enhance the accessing of client information? More than an impact analysis, communicative informatics focuses the scrutiny on enhancing meaning systems for improved understanding for organizational members so that work and task performance can be easier and improved.

Wireless technology can be used remotely to communication with other organizational members, clients, partners, and organizational networks and databases. From the wireless device, the end user improvises or constructs ways of understanding how the technology can support and facilitate organizational communication in connection to his or her job. In part, wireless technology can provide specific uses and gratifications for mobile workers. As seen in the case study, sale people can use wireless technology in the field to write a quick "scribble note" as a self-reminder. If they were in the physical office, they may leave an actually post-it-note on their desks or pull a client file while in their offices. Wireless organizational communication devices allow member workers to take basic communicative workplace acts on the road with them. Writing scribble note and connecting to database helps package the communicative office acts into a small handheld PDA.

The sales people studied showed that differing types of highly useful wireless organizational communication could occur through the Palm VII. Thus, wireless organizational communicative informatics can support multiple levels of organizational communication including: intrapersonal, interpersonal, and small group (i.e., team). The Palm VII was found to support all these levels of communication.

The mobile workers indicated that the device fulfills the needs for intrapersonal communication, which aids in memory recall of job related tasks such as meeting reminders. Intrapersonally, the task need for aiding in memory recall of meetings, call reminders, and "scribble notes" are accomplished by using the Palm VII even without wireless capability. Adding wireless connections to a PDA for mobile workers allows them to communicate to their organizational team members, clients, potential clients, and informational databases.

On an interpersonal level, mobile workers can accomplish quick essential communicative tasks in the field with out a wired connection. In interpersonal communication exchanges, the Palm VII facilitates the tasks of text messaging and email. This serves a salesperson's usage need to keep in close contact with organizational members, clients, and potential clients. The gratification for these mobile workers using the Palm VII is the quickness and convenience of performing certain tasks in the field through a

wireless connection. More specifically, the gratification these mobile workers experience and like is the “quick” and convenient nature of communicating on the Palm VII.

In regard to team communication, this wireless device facilitates interpersonal communication with managers, team members, clients and potential clients through email and other text messages such as lead updates. These task communications support both internal and external organizational communication.

With this Palm VII, sales people have a wireless connection to communicate with people inside and outside their organizations. More than communicating with people, mobile workers can interact with company databases to quickly access potentially important information about clients and potential clients. The participants like the data rich information on organizational databases that can be viewed and added to while “in the field.” Besides giving sales people important profile information on companies, sales people can accomplish tasks live while in the field. They can update client contact and profile information while on the road without a hard connection. In the wireless communicative organizational informatics context, the technology is enabling workers to perform job tasks more immediately in the field instead of requiring a worker having to remember and perform the updating task at a later time when a wired technological connection can be made to data bases.

Studying how mobile workers make sense of wireless organization communication can help product designers build more useful wireless communication devices, interfaces, software, websites and networks. This study’s findings such as PDA users’ desire for quick “post-it-note” communication can be applied to newer wireless technologies and devices such as handheld personal computers. Better-designed wireless communication products, which are more useful to workers, can help enhanced organizational communication and organizational informatics (i.e., organizational communicative informatics). In the context of COI, sensemaking is connected to uses and gratifications that enabled an analysis of everyday workplace interactions between people and technologies.

This study has both strengths and weaknesses. There are several strengths. A framework for understanding ICT is important is a world in which technology is becoming increasing vital to everyday life. COI situates the analysis of communication and technology within the workplace. Additionally, this study shows that wireless communication can be a tool to speed up the tasks of mobile workers when they are away from their organizations. This study adds to the body of knowledge in communication, information design by explicating how end users of products make sense of technology based on already known concepts and interaction patterns. In particular, this works gives insight into how wireless devices can be designed based on how particular categories of professional would use a product. Although, eight workers were interviewed and observed in a qualitatively designed study, a weakness of the study could be the narrow focus on one particular profession.

In the future, research should broaden the focus of wireless organizational communication to other professional groups. Investigating how workplace media technologies, especially wireless, pervade people’s lives provide insight into how work can through technology can cross into home and leisure time. "Media technologies extend our ability to communicate and make detaching from work more difficult, because continuous connection via computers, fax, cellular phone, and pager enables work to easily infiltrate the home to turn home into office" (Gumpert & Drucker, 1998)

Conclusion

The communicative organizational informatics (COI) framework provides a lens for communication and technology scholars and practitioners to come together for joint analysis. Furthermore, the wireless nature of communicating with organizational team members, clients, potential clients, and databases through technology are core uses and needs of sales people and other mobile workers. End users of technology devices make sense of how to use these devices in the context of already known processes to

accomplish their tasks. Communicative organizational informatics holds that technology must provide meaning in a user's world, while technology producers should focus on providing end user needs and gratifications. Through understanding the uses and gratifications technologies can provide end users, meaning is bestowed on technological devices that facilitate workplace communication.

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Appendix A

User Task Schedule for Palm VII Usability Testing

Task 1

Task: Check the lead status of Nicholson Investors.

Task 2

Task: Find the contact for the Satellite Investor lead.

Task 3

Task: Check your profile. (You are logged in as Daniel Smith)

Task 4

Task: You need help to change your address in your profile. Send a medium priority help message requesting how to make the change.