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AVOIDING THE TRAP OF CONSTANT CONNECTIVITY: WHEN CONGRUENT FRAMES ALLOW FOR HETEROGENEOUS PRACTICES

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A three-year qualitative study of the use of mobile e-mail devices in a footwear manufacturer focused on the experience of two occupational functions. Evidence suggests that congruent frames of heterogeneous communication practices enabled one group to develop communication norms that circumvented the trap of constant connectivity, while assumptions of homogeneous communication practices in the other group led to expanded accessibility and erosion of personal time. This study examines how such alternate trajectories of use emerged and discusses the key dimensions of difference between groups—identity, materiality, vulnerability, and visibility—that help account for these differences. In introducing the distinction between homogeneous and heterogeneous trajectories of use and explicating how such trajectories emerge, this study offers several theoretical insights: it suggests that there is a distinction between the congruence of technological frames of reference and the content of these frames; it provides an explanation for why groups might enact mobile communication technologies in a manner that does not lead to constant connectivity; and it highlights how shared assumptions of heterogeneity relate to systems of social control.

> If they gave me a BlackBerry, they would want improved communication, which means that they want you to respond to messages quicker. . . . Honestly, I'm not interested.
>
> (Geoff, sales representative, before receiving a BlackBerry)

> People aren't asking for an answer immediately. Really, everyone is pretty reasonable. That's just kind of the way it's just fallen into place. We didn't have any formal discussion, no one ever said, "I don't want you e-mailing after 6:00 p.m. or anything." I remember being nervous when I was given the thing but it hasn't turned out that way. I don't really know why . . . but it has turned out to be extremely useful.
>
> (Geoff, three years later)

Asked what he thought about the introduction of mobile e-mail devices, Geoff, a sales representative at a midsized footwear and apparel manufacturer, initially expressed disdain, and a bit of fear. Such devices enable wireless and handheld access to e-mail, and Geoff believed that carrying one would force him and others to expand availability to work-related messages and be on call throughout days and evenings. Geoff's reactions are not surprising. It is often assumed, both in popular culture and scholarly research, that such technologies inspire people to develop expanded, intense, and seemingly constant patterns of communication (Middleton, 2007; Salemi, 2010; Stall, 2006; Wajcman & Rose, 2011). From the perspective of technologies in practice, the communication capacities provided by mobile e-mail devices (connectivity, portability, etc.) should not determine how mobile communication technologies are used and experienced. However, current research and popular understanding of the ramifications of such technologies are surprisingly one-sided, focusing on their "addictive" or "workaholic" implications (Porter & Kakabadse, 2006; Turel, Serenko, & Bontis, 2008).

In fact, Geoff's colleagues in his company's legal department did report such intensified connectivity, as the following attests:

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> I don't think that it was intended to be able to get to people all the time. But that's what it's become. . . . We're all just too type A and we work too hard and every person in our department has a work ethic that just kind of obscures other things that could go on in your life . . . giving a BlackBerry is like giving a person who has an eating issue a big chocolate cake. (Mary, staff attorney, one year after receiving a BlackBerry)

Geoff and Mary work for the same company. They were both given BlackBerry mobile e-mail devices by management. And over time they both began to access work-related e-mail at new times and places. However, they experienced the device quite differently. Geoff was initially hesitant about receiving a mobile e-mail device. Mary, on the other hand, was enthusiastic. Over time, Geoff appreciated the capacity for expanded access to e-mail, while Mary resented it. Geoff felt he had more free time; Mary believed that use of the device had eroded her free time and caused marital strife.

This article addresses the question of what happened between Geoff and his coworkers and Mary and hers. The answer to why initial expectations were inverted and Geoff experienced more freedom and Mary more constraint via the mobile device has two components: untangling the distinction between congruent technological frames of reference and the content of those frames; and outlining the process by which individually held frames lead to collective trajectories of use.

Research on the subset of cognitive frames focused on interpretations of new technologies (technological frames of reference) has long shown that shared interpretations of the nature, role, and potential applications of a technology within a "situated" context will influence how a device is used and experienced (Davidson, 2002, 2006; Leonardi, 2011; McGovern & Hicks, 2004; Mengesha, 2010; Menold, 2009; Orlikowski & Gash, 1994). This study supports the finding that technological frames of reference anchor initial understandings of and actions with a technology. Further, it upholds the argument that radically different patterns of technological implementation can arise when frames are incongruent between organizational groups. However, current work on technological frames of reference does not account for the possibility that within a group, people might develop a *shared* assumption of *heterogeneous* practice. In other words, frames of reference are congruent, but the content of these frames suggests that everyone will, and should, act differently in relation to a particular technology.

Throughout literature on frames of reference—both technological frames of reference and frames more broadly—an assumption prevails that congruent frames of reference align individual perspectives. In fact, a situation in which people have different interpretations of a scenario or a technology is considered highly unstable (Azad & Faraj, 2007; Kaplan, 2008; Payne, 2001). In contrast to previous research, this study suggests that it is possible for groups to develop a *heterogeneous trajectory of use*, by which I mean both a shared expectation that individuals in a group will develop differing interpretations of a technology and the emergence of heterogeneous practices within the group. In such a scenario, assumptions of heterogeneity become a provisionally stable norm that does not lead to framing contests or power struggles.

Further, heterogeneous trajectories of use are shown to support a dynamic rarely seen in current literature on the use of communication technologies in the workplace. Geoff and his colleagues did not develop shared expectations of constant connectivity. Rather, individuals engaged with the mobile e-mail device's capacity for connectivity in varying ways. Despite variability in use, individuals were strikingly similar in how they described their experience of the device over time—reporting increased individual effectiveness at work and increased personal time off from work-related communication.

How does this happen? As people use and experiment with a technology, individual assumptions and actions translate into congruent, or shared, frames around what the technology is good for, how it should be understood, and patterns of appropriate use. Congruent frames become norms that orient behavior, punish deviants, and influence social control. This research provides empirical insight into how this process evolved and how trajectories of use emerged along alternate courses. Drawing on longitudinal, qualitative data, this research supports work on how trajectories of use can subvert individual expectations and generate unexpected outcomes—either perversely negative or startlingly positive ones (Leonardi, 2009). While the importance of initial framing or anchoring is consistent with past work, this study moves beyond current perspectives by focusing attention on subsequent reframings of technology, outlining key dimensions that influence trajectories of use and

incorporating the concept of heterogeneity in interpretations and practices.

In summary, this study questions the assumption that differing interpretations of a technology or social scenario are inherently unstable, provides a process perspective for exploring the emergence of alternate trajectories of use, and suggests key dimensions that enable the emergence of heterogeneity in interpretations and practice. As such, it provides the groundwork for a more nuanced understanding of the theoretical construct of frames of reference. This research further suggests that exploration into the nature of heterogeneity and scenarios that might support heterogeneous practices will advance understanding about the relationships among frames of reference, communication practices, and experiences of coercive social control.

THEORETICAL BACKGROUND

Communication technologies provide new capacities for communication and opportunities for individuals to connect with other people. They are increasingly easy to use, and given both cellular and wireless networks, it is possible to be connected nearly everywhere in the world. Devices are portable; incoming messages are pushed to users' screens; and for many, it has become the norm to carry a "smartphone" every moment of the day. As such, communication technologies provide the possibility for near constant connectivity. When it is assumed that colleagues have access to e-mail in their pocket, the question of availability is not limited by technological access to incoming messages. When is it expected that an individual is "on?" How quickly should colleagues respond to incoming messages? Is it ever considered appropriate to be unavailable?

While technologies in and of themselves do not determine the answers to these questions, increasing capacities for connectivity enabled by new technologies force groups to renegotiate norms of availability. Previous research suggests that when technologies shift the capacity for constant connectivity, such renegotiation will lead to norms of intensified accessibility and responsiveness. This dynamic is apparent in prior studies of mobile e-mail devices (Mazmanian, Orlikowski, & Yates, 2005; Middleton & Cukier, 2006; Turel et al., 2008), desktop e-mail (Barley, Meyerson, & Grodal, 2011; Sarbaugh-Thompson & Feldman, 1998; Whittaker & Sidner, 1996), instant messaging (Grinter, Palen, & Eldridge, 2006; Isaacs, Walendowski, Whittaker, Schlano, & Kamm, 2002; Rennecker & Godwin, 2003), and cell phone use (Campbell & Park, 2008; Grandhi, Schuler, & Jones, 2009; Grant & Kiesler, 2001; Katz & Aakhus, 2002).

Potential long-term effects of engaging in near constant connectivity (with a variety of technologies) have been shown to include increased stress over time, burnout, inability to disconnect from work, family tension, marriage issues, and loss of time for in-depth analysis or reflection (Auslander, 2003; Chesley, 2005; Hassan, 2003; Murray & Rostis, 2007; Porter & Kakabadse, 2006). Studies suggest that shared expectations of constant accessibility and responsiveness to incoming messages are at the root of many of the negative ramifications associated with these technologies. Current literature, however, does little to explore scenarios in which use of new communication technologies do not universally increase practices of connectivity and responsiveness. Therefore, this article challenges the implicit assumption that constant connectivity is the unavoidable outcome of increased technological capacity for communication.

An enactment perspective on technologies in practice challenges the idea that communication technologies necessarily lead to increased connectivity and responsiveness. This stream of research emphasizes the emergent interweaving of material properties of technologies with evolving social norms and expectations. The language of enactment highlights the interplay between framing and using a tool. Rather than focusing on how users appropriate features or structures "inscribed" in a technology, Orlikowski (2000) suggested that theoretical traction could be gained by focusing on users and examining how emergent patterns are enacted in situated contexts. A long stream of research bolsters this perspective in revealing how groups engage with the same technology to create different patterns of use depending on social, organizational, political, and functional contexts (Barley, 1986; Barrett & Walsham, 1999; Edmondson, Bohmer, & Pisano, 2001; Heath, Knoblauch, & Luff, 2000; Orlikowski, 1992; Robey & Sahay, 1996; Walsham & Sahay, 1999).

The findings of this study support previous research that investigates the enactment of technologies from a practice perspective (in this case, a mobile e-mail device). The finding that different groups established different interpretations of mobile e-mail devices and created alternate trajectories of use aligns with prior works. However, this study diverges from current perspectives on tech-

nology in practice by highlighting the possibility that, within a user group, people may enact a technology differently. Empirical examples of people *within a group* developing heterogeneous interpretations and practice are missing from research examining technologies in practice.

Understanding the emergence of heterogeneous patterns of use at a collective level of analysis requires attention to how individuals enact a technology within a situated context. One theoretical perspective that provides a lens with which to analyze the link between individual interpretation of a tool and collective patterns of use is frames of reference. The cognitive perspective on how people make sense of various environments emerges from a long stream of research on cognitive framing. Frames have a history in sociology (Scheff, 2005), communications (Scheufele, 1999), strategy and management (George, Chattopadhyay, Sitkin, & Barden, 2006; Kaplan, 2008), and social movement literatures (Benford, 1997; Snow, Rochford, Worden, & Benford, 1986; see Dewulf et al. [2009] for a comprehensive review). Scholars who use the concept of frames to understand how people share and negotiate interpretations of the world often rely on Goffman's early insight that in "recognizing" an event people are, in fact, employing various "frameworks or schemata of interpretation [that] render what would otherwise be a meaningless aspect of the scene into something that is meaningful" (Goffman, 1974: 21). Throughout the literature is a general agreement that frames orient patterns of action and are the basis of assumptions about how others will act in various surroundings.

Orlikowski and Gash used the concept of cognitive frames to better understand interpretations and uses of new technologies in organization settings (Orlikowski & Gash, 1994).[1] This perspective allowed them to gain theoretical leverage on how and why user groups in an organization might develop different practices around a new technology. These authors outline how incongruent technological frames of reference can lead to conflict, political contests, and ineffective implementation. This perspective suggests that individuals who have similar expectations of and interactions with a technology develop congruent technological frames of reference that guide understanding and engagement along similar trajectories of use.

A rich stream of work builds on this observation. Research has focused on tracing the political contests that develop when technological frames play out in different organizational contexts (Davidson, 2002; Leonardi, 2009; McGovern & Hicks, 2004; Mengesha, 2010; Menold, 2009; Wainwright & Brooks, 2010). Davidson provides a thorough overview of this literature (Davidson, 2006). This study challenges two assumptions that often characterize research on technological frames of reference. First, it is taken for granted that the existence of a shared technological frame of reference is the same as a shared interpretation of what a particular technology is and how it should be used. Second, it is assumed that congruent frames of reference will align behavior and that individuals with a congruent frame will engage in similar practices with the technology. The possibility that congruent frames of reference might generate heterogeneous behavior is theoretically plausible but unexamined.

The recognition that research on technological frames of reference could benefit from closer empirical examination is not without precedent. Davidson noted a lack of attention to the ways in which frames evolve and influence behavior, asserting that to gain theoretical traction from a concept that is inherently grounded in experience, scholars must examine technological frames as an ongoing and interpretive process (Davidson, 2006). Further, while the concept of a technological frame of reference provides a theoretical link between individual experience and social context, current research has not fully explored the dimensions that shape initial frames or the process by which frames are reimagined and reshaped over time.

Research that does investigate the process of evolving frames has addressed how the content of frames comes into alignment. For example, Azad and Faraj (2007, 2008) focused on the process by which stakeholders negotiate frames into an aligned "truce frame" around a new technology. Similarly, though outside the arena of technology use, Kaplan (2008) looked at how framing contests influence emerging strategy perspectives within management teams. In examining the power dy-

[1] The term "technological frame of reference" was originally used by Pinch and Bijker (1984). However, the work of Orlikowski and Gash is more appropriate to this analysis as their work directs attention to framing within specific situated contexts in organizations. In contrast, Bijker wrote this: "A technological frame structures the interactions among the actors of a relevant social group. Thus it is not an individual's characteristic, nor a characteristic of systems or institutions; technical frames are located between actors, not in actors or above actors" (1995: 123).

namics and political strategies used by actors to align the frames of key individuals, these studies highlight the importance of a process perspective in understanding the evolution of frames of reference. The study presented here contributes to scholarship on frames by outlining a process that is distinct from frame alignment—the emergence of a collectively congruent frame of heterogeneity.

The assumption that shared technological frames of reference align behavior into similar patterns of use has implications for theories of social and organizational control. Theories of organizational control have moved toward examining how mutual bonds of expectation can be as, if not more, restrictive than traditional models of external control (Alvesson & Willmott, 2002; Anteby, 2008; Barker, 1993; Kunda, 2006; Martin, Knopoff, & Beckman, 1998). Within this scope of literature, the role of shared expectations and normative orientations toward appropriate behavior takes on increased weight. Such cognitive and identity control theories reveal the strength of shared expectations in directing behavior and shaping individual experience within the workplace. Yet again, these perspectives suggest that shared expectations narrow available courses of action. It is taken for granted that socialization will constrain behavior. Therefore, exploring shared expectations of heterogeneity from the perspective of social control suggests a potential reframing of the relationship between expectations and experienced control. This research elicits questions about how sanctioned differences in behavior play into the relationship between individual and organization.

RESEARCH SITE AND METHODS

These data are part of a three-year ethnographic field engagement, from June 2005 to November 2008, at Linden,[2] a midsized footwear and apparel company that operates internationally and has headquarters in the United States. This study focuses on two occupational groups at Linden, the in-house attorneys and the US mobile sales force, immediately before, during, and after the introduction of mobile e-mail devices.

Law

At the time of this research, the legal team consisted of seven lawyers; four women and three men. All were married and, by the end of my research, all but the general counsel had young children. Lawyers ranged in age from 35 to 60. While individual attorneys had different areas of expertise, they shared similar training and work histories. Lawyers tended to work one person per project but would occasionally join forces, either because an issue was large and complex or because it required expertise in specific law (acquisitions or labor, for example).

Regular communication with clients[3] was expected, and each lawyer described having a "client service" mentality. This orientation toward client service was described as typical of corporate lawyers more generally and part of these lawyers' shared background. Communication with clients entailed walking the halls at headquarters to make themselves available to respond to the random questions of potential in-house clients and communicating via face-to-face meetings, telephone calls, and e-mail with current clients. Linden attorneys regularly communicated with international clients by phone and e-mail but did not travel more than once or twice a year. According to both the general counsel and staff attorneys, lawyers were evaluated on such criteria as "work ethic," "dedication to client service," and "ability to juggle multiple projects."

Lawyers' e-mails consisted of ongoing banter between individual attorneys (often humorous and not directly related to work); updates on the status of a project sent to other lawyers; communication with clients that consisted of updates, advice, or "red-lined" documents such as contracts; and e-mails associated with various legal news associations. E-mails described as "urgent" were rare, constituting less than 10 percent of all messages.

Linden attorneys were colocated in the firm's headquarters. They generally worked with open doors and were regularly seen laughing and joking in the common areas. Individual lawyers popped into each other's offices and encouraged in-house clients to follow suit. Linden attorneys bridged work and personal relationships and remained close outside of the office. I heard of individuals running together, going out to dinner together, at-

[2] All proper names are pseudonyms, including the name of the firm and names of individuals.

[3] Linden attorneys use the term "clients" to denote all in-house colleagues who ask for their legal services.

tending each other's birthday parties, and sharing family events.

Sales

The US mobile sales force consisted of approximately 100 salespeople, of whom roughly 30 percent were women. At the onset of this study, the average tenure on the sales force was six and a half years—considered long for the industry. The salespeople ranged in age from 23 to 64 years. Many were married, and young children were common. Sales representatives shared similar training and employment histories.

Numerous sales representatives emphasized the "small world" nature of the business. Within Linden, it was common for a sales representative to shift between product lines and account types as he or she progressed through a career.[4] As such, sales representatives had the opportunity to meet and develop friendships with colleagues across the country. Most sales representatives described checking in with colleagues via their cell phone while driving between accounts or waiting in airport lounges. These conversations were an opportunity to share gossip, discuss how specific shoes were selling, or brainstorm tactics for dealing with a difficult boss or account.

In addition to phone conversations, sales representatives' e-mails consisted of jokes and banter among colleagues; requests (and responses) for "written" approval to accommodate customer requests; requests (and responses) for forecasting spreadsheets from other functions at headquarters; and confirmation e-mails sent to customers outlining sales orders. E-mails described as "urgent" were quite rare. The only e-mails that sales representatives interpreted as urgent were complaints from customers.

Everyone on the sales team traveled extensively. Most worked from their homes, though some had access to "offices" in product showrooms in major cities. The typical sales representative was on the road three to four days a week. Each year, all salespeople also attended at least three multiday shoe conventions, multiple product review meetings at headquarters, and three off-site Linden sales meetings. Friendships were strengthened during these meetings. Each off-site meeting incorporated a community service event that forced colleagues to work together in a new way. Further, the retreat mentality of sales meetings and shoe conventions was conducive to late night socializing. Therefore, while sales representatives were not working side by side daily, they saw each other relatively frequently and developed numerous norms about dress, attitude, and demeanor.

[4] A Linden sales representative might move to bigger accounts and different positions in the company's hierarchy, which include account executive, senior account executive, director, senior director, and manager. For the sake of parsimony, I refer to people at all levels of the hierarchy as "sales representatives" unless denoting a specific title.

Data Collection

In the ethnographic tradition (Becker, 1998; Lofland & Lofland, 1995; Spradley, 1979), I used multiple qualitative methods to explore the question of how mobile e-mail devices were enacted within and across occupational groups. Methods included semistructured interviews, structured e-mail review interviews, on-site observation, and open-ended e-mail surveys. I also gathered numerous documents throughout fieldwork, including merchandise presentations, sales and forecasting reports, and literature created to accompany the "rollout" of BlackBerrys.

I conducted semistructured interviews with 50 members of the US sales team and three spouses of sales representatives. I also conducted semistructured interviews with each of seven attorneys and spoke with six of seven spouses. I spoke with the majority of those I interviewed multiple times. This sample set accurately reflects gender and positional diversity in the sales team and full saturation of the in-house counsel. Generally lasting 60 minutes (ranging 30–120 minutes), interviews were open-ended conversations that covered a predefined though evolving set of questions.

I supplemented these data from semistructured interviews with more detailed data on daily engagement with e-mail on a mobile handheld device. I conducted follow-up structured interviews with 12 sales executives and all seven attorneys. The structured interview involved reviewing a minimum of four days of e-mail activity on an individual's device. The interviewee described each e-mail sent and received on the device while I recorded characteristics of each message and the context in which it was sent or received.

In addition to semistructured and structured interviews, I conducted approximately 200 days of observation at company headquarters and with

salespeople on the road. I accompanied three sales executives in the Northeast as they visited different accounts. I traveled to New York, Boston, San Francisco, and San Diego to observe other representatives giving sales presentations, and I observed four week-long product review meetings at headquarters. I spent many days at headquarters, often eating lunch with lawyers and sales representatives, speaking to them in the halls, and observing in the common areas around their offices.

Finally, I sent three annual short e-mail surveys to every BlackBerry user in the company. The surveys asked open-ended questions and had a 67–85 percent response rate. Examples of questions are "How often do you use your BlackBerry?" "What, if anything, has changed about your everyday life as a consequence of using your BlackBerry?" "What have you found to be the most useful thing about the BlackBerry?" "What have you found to be the most frustrating thing about the BlackBerry?" and "Do you think that people have expectations as to how you should use the device?"

Semistructured interviews and open-ended surveys provided insight into the evolving experience of engaging with the BlackBerry from an individual perspective, and the structured interviews allowed for concrete insight into how mobile e-mail was incorporated into daily communication practices. Observational data were ideal for understanding the social structuring of BlackBerry use among colleagues and with customers and clients. Taken together, these sources of data provided the opportunity for understanding how individuals made sense of the capacity for expanded access to e-mail and how groups developed shared expectations and patterns of use. In the tradition of ethnographic case study research, this study provides compelling mechanisms to enrich conceptual insight (Siggelkow, 2007).

Data Analysis

I analyzed my data using the technique of grounded theory building (Charmaz, 2006; Strauss & Corbin, 1998). This work is well suited to the grounded theory strategy of process data analysis in that it analyzes a large number of individuals as they engaged with a new technology (Langley, 1999). This endeavor involved three stages of analysis.

Stage 1: Developing provisional codes and analyzing e-mail patterns. Initially I read all transcripts, field notes, and e-mail responses in search of dominant themes. Dominant categories and subthemes emerged through an open coding exercise of reading and rereading transcripts. During this stage, I also transcribed all of the structured interview e-mail data from handwritten notes into Excel spreadsheets.

Stage 2: Aggregating provisional codes and moving toward theoretical categories.. I worked from these initial categories and e-mail counts to develop potential explanations for the patterns of use observed. I noted that the lawyers' attitude about BlackBerrys was initially positive but became increasingly negative over time, while the sales representatives were more diverse in initial impressions but became increasingly positive. This observation led me to look at the degree to which attitudes and patterns of use were aligned within groups. I also noticed that, throughout the life of the study, sales representatives varied in how they described using the mobile e-mail device and asserted that everyone used the device differently. On the other hand, attorneys described similar patterns of communication with the device and held shared assumptions about how others were using it.

I began to theorize about the key dimensions of difference between the groups and recoded the data looking for theoretical categories that could account for the homogeneity in interpretations and use among the legal team and heterogeneity among the sales force. This endeavor uncovered four key dimensions of difference that proved robust as I reanalyzed the data. These dimensions emerged as relevant through a systemic and rigorous analysis of a substantial amount of qualitative data. I further honed in on key dimensions through iterative analysis of empirical observations and current research on identity, sociomateriality, and interdependencies in work process.

Stage 3: Unpacking theoretical categories to develop theoretical arguments. I interrogated the theoretical categories and explanatory mechanisms to expose inconsistencies or underdeveloped understanding. In other words, I asked questions of the data such as, Are individual patterns a product of hierarchal position? What are the power dynamics between communication partners? and What are the ramifications of different patterns of use for personal outcomes and how are these individual outcomes affected by collective trajectories of use? During this stage of analysis, I theorized about the link between individual engagement with a device and the emergence of shared expectations. Throughout this analysis I compared the reported

interpretations and patterns of use within and between occupational groups.

TWO TALES OF ENACTMENT: TRACING ALTERNATE TRAJECTORIES OF USE

The following sections provide a narrative that animates the process of emerging trajectories of use; how individuals in each occupational function initially made sense of their BlackBerry, used the tool, and eventually created shared expectations about appropriate communication practices with the device—particularly regarding accessibility to e-mail outside of business hours. These tales, told at a collective level of analysis, are the synthesis of individual patterns of use. Following the two tales, I present data on key dimensions of difference between the occupational functions. Because social context informs and shapes the framing process, these dimensions of difference help account for why individuals initially interpreted the tool in different ways and the alternative trajectories of use that emerged over time.

Growing to Resent the BlackBerry: Homogeneous Trajectory of Use

Linden attorneys approached mobile e-mail devices from their position as legal professionals. Each had witnessed friends and colleagues outside the company integrate the tool into daily life. Thus, they shared an attachment to the device as a symbol of professional status. Nonetheless, individuals voiced an initial desire to be conscientious and not fall into patterns of use that mimicked the stereotypical BlackBerry addict. Lawyers shared an assumption that the collaborative, supportive, and family-friendly environment of Linden would allow them to use the tool to enhance their standing as professionals while not becoming "crackberry addicts." For example, I asked Ken, shortly before he received his BlackBerry, whether or not he feared the addictive quality of the device that he described experiencing in his old job and was given the definite answer, "No. I just don't see it happening here. Linden just isn't like that."

Initially, the ability to be more available and responsive to work-related e-mail was viewed as positive by these attorneys. This sense was bolstered by the context in which they received the device, an off-site leadership retreat where 183 employees at a certain pay grade were given BlackBerrys. Senior officers took pains to describe conferring the device as a sign of trust and respect.

Not surprisingly given their positive orientation to the device, each attorney immediately integrated the tool into communication practices outside the workplace. Often within hours of receiving the device, individual attorneys were using it to access work-related e-mail. I witnessed this behavior at the retreat and shared in initial reactions about how "cool," "easy," and "helpful" the device was or was expected to be. Managers described receiving the BlackBerry as a sign that the company was treating them "as professionals" and recognizing their "value as leaders."

Initial framing of the device was positive, and people were vocal about their impressions of the device. Attorneys saw the tool as enabling client service in a manner that respected individual autonomy and flexibility. Overall, they expected that the BlackBerry would enhance their ability to do a job that already involved a fair amount of off-hours e-mail—often justified by a need to be available to international clients.

Attorneys also engaged in off-hours e-mailing with each other. Individual lawyers assumed that their colleagues held a similar attitude toward the device and used the tool in a manner similar to their own. Shortly after BlackBerrys were introduced, Devin outlined what he took to be collective practices:

> The pattern for almost everybody is that we don't use the BlackBerry when we are in the building. . . . If I'm out of the office, I'm using my BlackBerry. Most of us check it when we get up in the morning, and before we go to bed at night.

These patterns of use did not remain stable. Over time, individual lawyers sensed that they needed to be available via the BlackBerry for longer and longer time periods and check for incoming messages more often. Individuals reported that it was less appropriate to take time off from the BlackBerry to focus on family, go away for the weekend, et cetera. Approximately one year after receiving the device, each lawyer created and upheld an expectation of availability for 15 to 16 hours a day. Linden attorneys described continually intensifying usage patterns throughout the life of this study. After two years with the device, Monica noted:

> Despite protests by some management that expectations have not changed . . . they have. [General counsel] and others have an expectation (whether they will admit it or not) that we are religiously

> checking e-mail messages. If anything, it has become even more ingrained in our culture that messages are read when they are sent—and that a response should be forthcoming.

Over time Linden attorneys struggled with how to engage with their BlackBerry in a manner that satisfied personal desires while addressing evolving expectations. Interestingly, this struggle continued even in an environment of relatively equal power positions and among colleagues comfortable addressing issues. The legal team went on a retreat about a year after receiving their BlackBerrys and discussed their experience with the device. Individuals shared a sense that, due to BlackBerrys, expectations had shifted regarding availability and responsiveness. The group spoke directly about expectations, and each lawyer described trying to set boundaries to maintain a focus on family while staying connected to e-mail during off hours. Although they did not reach any solution to the issue, lawyers agreed that individuals needed to set boundaries and be aware of the expectations they were placing on each other.

Such explicit discussion may have lessened the extent to which the group created patterns of use that increased individual connectivity. Nevertheless, discussion and awareness were not sufficient. Surveyed approximately a year after the retreat, all seven lawyers felt that expectations had continued to increase after the retreat and attempts at conversation had ceased. Mary noted that the most frustrating thing about the device was

> Feeling like I have to—there's no excuse for not having seen something come in. When I didn't have it and I would still check my e-mail, I could justify to myself nobody expects me to sit around all day on a Sunday if nothing's going on. But now I check it in the morning; I'll check it before I go to bed. I always answer.

By the time I left Linden, six of the seven lawyers resented their BlackBerrys and several complained vociferously of increased expectations of off-hours availability and responsiveness. These attorneys reported that attention to the device created tension in personal relationships and limited their ability to enjoy personal time. For example, Mary described "never relaxing" and the concomitant strain on her family:

> Because it [BlackBerry] changes my mood. I remember driving up to the White Mountains on Labor Day weekend this year and I was checking something, and that e-mail had something that pissed me off and I just got all angry in the car, and I know Tom [husband] was like, "You're on vacation, you know?"

The female spouse of a different attorney expressed resignation at a similar dynamic in her family. "Obviously, there's times when, it's like, okay, personal life stops and we take a couple minutes, because work is here [on the BlackBerry]."

Ironically, the very factors that encouraged individual lawyers to initially welcome the device into their lives led to difficulty in meeting the expectations of others over the longer term. Key dimensions that influenced how individuals first made sense of the BlackBerry and informed emerging trajectories of use are outlined later in the article. First, I present a narrative of how individuals in the sales force enacted use of the BlackBerry.

Growing to Appreciate the BlackBerry: Heterogeneous Trajectory of Use

The roll-out of BlackBerrys to the field-based sales force contrasted starkly to the fanfare accompanying the BlackBerry roll-out at the leadership retreat. Approximately four months after the leadership retreat, the sales force received a bulk e-mail announcement from a new employee in the information technology (IT) department that stated: "In an effort to improve your ability to manage work and communications while traveling, we're happy to announce that you will be receiving a new BlackBerry handheld soon." The device showed up on their doorsteps about a week later. The content and tone of this introduction was impersonal, and leadership's expectations were unspecified.

Therefore, sales representatives developed a range of impressions about why they were being given BlackBerrys and how the device would affect their ability to do their job. Of the 47 sales representatives who were interviewed prior to, or within two weeks of, receiving the device, 28 were either negative or ambivalent. Sam, a senior account executive, had an initial reaction shared by many:

> Just, oh crap. There goes my last escape. I'm never going to have any time to myself. Now, as I'm driving down the highway I'm supposed to be downloading stuff out of my BlackBerry, reading e-mails and keeping track—causing the sirens to come after me.

On the other end of the spectrum, Paul, also a senior account executive, responded to the news enthusiastically:

> I'm very excited. I've wanted one a long time. . . . So much of my business is done via e-mail that without it [BlackBerry], I just don't feel like I can really take advantage of what's going on out there.

Sam and Paul mark two data points on a wide range of initial impressions. Important for understanding the emergence and development of a heterogeneous trajectory of use in Linden's sales force is the fact that neither Sam nor Paul felt that his particular attitude was nonconformist. Both emphasized that, in their opinion, other sales reps had a wide variety of opinions about the device. It was common for individuals to distinguish their orientation toward the device from that of colleagues in statements such as "I love it [the BlackBerry] but [another salesperson] hates it and hasn't taken it out of the box for three months" or "It's not my thing, but I know guys who are on it day and night." These statements suggest that individuals in the sales force did not assume that any single interpretation of the BlackBerry or pattern of use was primary.

Differences in first impressions helped set the stage for heterogeneous actions across individuals. Those sales representatives who were initially positive integrated mobile e-mail into their communication practices without pause. Those who were initially ambivalent or negative approached the BlackBerry with care. Several described fearing the "suck" or "pull" of constant e-mail access and reported taking pains to create boundaries around when and where they engaged with the BlackBerry. Others blatantly did not use the device. Five sales representatives I spoke with reported not taking it out of the box for at least two months.

Such variability in initial impressions and engagement with the device allowed individuals to experiment with the tool in a manner that was relatively free from perceived social expectation. And after three years, individuals continued to enjoy diversity in how they engaged with e-mail on the BlackBerry. Most, in fact, asserted that carrying the device did not mean they were expected to be available to others at certain times and places. For example, asked by e-mail after a year if he sensed a shift in expectations regarding the BlackBerry, Matt, a senior account executive, wrote:

> Not really. I think most people use them if they help but others don't see a need for them. I don't feel any pressure or expectations to use it.

I repeatedly heard stories from sales representatives about how people engaged with the BlackBerry differently. I also learned that the impressions were often wrong and that individuals were misinformed about the tastes and habits of their colleagues. Such stories were often told in conjunction with general musings about different styles and sales tactics in the field. As Doug noted:

> Other than something that's a real problem, like drinking issues or what have you, they're gonna pretty much leave you alone, let you be the kind of rep you're good at being and put up with idiosyncrasies. No one's gonna get on you about the BlackBerry as long as you make your numbers.

This perspective suggests that different initial frames of reference held by individuals enabled a shared understanding that each sales representative would develop a unique relationship with the device. Throughout the life of the study I did not observe or learn of any single conversation regarding expectations of connectivity.

Although expectations did not converge about a specific pattern of use, sales representatives became increasingly positive about the device. By the end of data gathering it was extremely rare for a sales representative to express frustration with the BlackBerry. This was in contrast to the numerous occasions when the same people had expressed restraint, fear, and hesitation immediately before or after receiving the device. Ron, a senior account executive, represented the shifting attitude of many when he described his experience with the tool after three years:

> I felt like it [having a BlackBerry] was going to be bad. But honestly, it has not been that bad at all. I was afraid that they [management] had delusions of grandeur about what the BlackBerry would do for the business. My fear was the expectation. The expectation that the company bought this tool, spent millions of dollars, for you to sell shoes, and it wasn't going to help with actual selling. But that doesn't seem to be the case. People aren't watching over your back. It just hasn't happened.

Ron goes on to describe how the BlackBerry improved his sense of work-life balance:

> I used to come home and have to sit down in front of the computer for hours. Now I will pull into a gas station on my way home and stroll through messages. Then, I can address things on the phone the last part of the drive and I know exactly what I have in front of me. It's not at all like the dread I used to feel at the end of every day. I definitely have more time at home. At least three evenings a week I get into the driveway and I think, I don't need to pop

> the computer open. I'm just done. I can go throw the football, do some chores, enjoy the rest of the evening. It is the biggest relief at the end of the day, after driving 300 miles back, to pull into the driveway and be done.

Across hierarchical levels, product lines, and account types, Linden sales representatives asserted that using the BlackBerry reduced stress, enhanced individual efficiency, and enabled significantly more personal time. This sustained appreciation that engagement with e-mail through the device allowed *more* personal time was in striking contrast to the attorneys' accounts and their increasing bitterness that personal time was becoming more and more characterized by work-related communication.

Structured interviews revealed that those sales representatives who desired separation were able to maintain boundaries between BlackBerry use and time spent with friends and family. They reported keeping the device in the car overnight, stashed in a desk drawer over the weekend, and leaving it at home for family trips on weekends.

ACCOUNTING FOR ALTERNATIVE TRAJECTORIES OF USE

Lawyers and sales representatives both enjoy collegial relationships in a firm known for its "family friendly" policies. Although lawyers were colocated and salespeople distributed, both groups communicated extensively about personal and professional matters. Why did those who uniformly thought they would love the BlackBerry end up disliking it, while those who initially held various, often negative, expectations found themselves embracing the device? Initial expectations inverted as alternate trajectories of use shaped individual experience of the device.

Lawyers developed a homogeneous trajectory of use in which everyone in the communication network expected everyone else to be accessible and responsive to e-mail every waking hour. And they were. Such homogeneity was experienced as a form of social control, shaping individual actions and experience of BlackBerry use. Sales representatives developed a heterogeneous trajectory of use in which everyone assumed that everyone else was engaging with the BlackBerry differently. And, in fact, they were. This shared assumption of heterogeneity was experienced as a form of freedom as it was not considered deviant to establish unique communication patterns with the device. Rather, it was taken for granted by all sales representatives that some people would expand availability into the evening, some would increase responsiveness during work hours, and many would change their usage patterns daily, depending on travel schedules and customer demands. Assumed heterogeneity was thus experienced as enhancing freedom and flexibility while increasing time away from work concerns.

The process by which individually held technological frames of reference evolve into collective trajectories of use is outlined later in this article. Before the process is discussed, it is worth examining four key dimensions of difference between Linden lawyers and sales representatives. Formulated through an inductive process of data analysis, these key dimensions emerged out of a specific situated context. Nevertheless, they provide a compelling theoretical account of how and why trajectories of use emerged in alternate directions and should prove fruitful for future work in this area.

Data analysis revealed that *work identities*, interpretations of the *material aspects* of the technological artifact, *vulnerability* to social pressures, and *visibility* of communication practices each played a role in how individuals initially framed and used the device—and in the process by which shared expectations emerged over time. Tables 1 and 2 provide an overview of how key dimensions affected emerging trajectories of use.

Identity

Each Linden attorney had prior professional experience working for a large corporate law firm. This shared educational, background, and occupational identity was obvious to the attorneys themselves. Kathy associated the quality of the team with a shared background:

> Most of us came from big firms. [Describes where everyone worked before.] So, we all came from that environment, which is part of why we're a good conducive team and why we're very committed to our work and our responsiveness to clients and that's the way it is. It's like we work as big firm lawyers in-house.

However, these individuals each also made an employment decision that might be construed as threatening their occupational identity. Each gave up the prestige of a large law firm in a major city to work "in-house." Each lawyer (other than the general counsel) made it a point to emphasize that he

TABLE 1
Key Dimensions Experienced by the Legal Team during the First Three Years of Mobile E-mail Use[a]

	Initial Frames: Within One Week	Emergent Frames: After One to Two Years	Ongoing Reframing: After Two to Three Years
(A) *Summary*			
Attitudes	6 positive: 86% 1 ambivalent: 14% 0 negative: 0%	1 positive: 14% 4 ambivalent: 57% 2 negative: 29%	1 positive: 14% 2 ambivalent: 29% 4 negative: 57%
Use patterns	7 use regularly during off hours: 100%	7 use regularly during off hours: 100%	7 use regularly during off hours: 100%
	0 use regularly during business hours: 0%	0 use regularly during business hours: 0%	0 use regularly during business hours: 0%
(B) *Dimensions*			
Identity	High alignment between occupational identity as "client service professional" and sense of what use the BlackBerry would enable. *I think we tend to fall into patterns together. Again, I think we tended to come from a lot of the same kinds of backgrounds so we tend to work a lot in the same way. Which is being responsive to clients.*	Continued alignment with identity and use of the BlackBerry. Desire to signal dedication to clients in the firm. Signs of tension. *On the whole, it [the BlackBerry] makes my life a little less stressful. I know that most people can reach out to me even though I'm not here. So, in that sense it is less stressful. On the other hand, it is harder to be disengaged. But, I wasn't very good at being disengaged anyway.*	Some push-back as other salient identity roles were challenged by use of BlackBerry. *You've got to carve out time yourself. . . . We play this role, it's called trying to be a professional, don't want to be a wimp, da, da, da, da, da. But you've got to get away from that and just take time. I'm gonna take it to a next step which, you know, I don't really care what [CEO and other senior officers] would say 'cause, it's my time, it's my time. It's my time, dammit, and this is about setting limits and barriers.*
Materiality	Shared sense that physical and functional aspects of the BlackBerry will enhance work goals and practices. Symbolic aspects of tool aligned with identity. *I tend to find myself more on the spectrum of, "Hey, it is freeing." It frees me from being tethered to this laptop. I went to Connecticut this past weekend, and didn't bring my laptop, I had this [BlackBerry]. It was awesome.*	Ongoing sense that the BlackBerry is easy to use and allows flexibility for constant connectivity. Symbolic aspects of tool aligned with identity. *It's funny, you find yourself doing work in spots you never have before. Like, I just dropped off a car at the car dealers, and I had to wait 20 minutes. So I looked at it. Just, you know, the keyboard, the usability of the whole thing. It so easy to get the hang of it.*	Continued engagement with physical and functional aspects of the device leads to frustration over constant connectivity. *Can I ever escape it? We're off to the Caribbean next week and I have already checked to confirm that reception will be available. I don't plan to check regularly . . . but am sure that I will be turning it on periodically. Tough to cut the ties that bind . . .*
Vulnerability	Introduction inspired faith that company was dedicated to work-life balance and the "crackberry" phenomenon would not happen in this environment. *There's always going to be people who go a little crazy but I've always done a pretty good job of trying to keep work at bay, and there's a time and a place for it [BlackBerry e-mail].*	Power position in tension with professional status and reminder that position is a drain on the firm. *It's like, "Oh, I want to be the consummate professional, I want to be available online and responding until 9:30, 9:00 at night. And just to show my dedication, I'm going to be there every night. If somebody needs me, I'm going to respond."*	Frustration and defense of personal time. Sense that expectations of constant connectivity continue to increase. *You know, honestly, I bought it [COO presentation]. And I don't think that it [BlackBerry] was intended to be able to get at people all the time. But that's what it's become. Despite protests by some management that expectations have not changed, they have.*

Continued

TABLE 1
(Continued)

	Initial Frames: Within One Week	Emergent Frames: After One to Two Years	Ongoing Reframing: After Two to Three Years
Visibility	Immediate sense that power players in the company (i.e., clients) used during off hours. *It's the people typically who have BlackBerrys who tend to be the higher-level people and who tend to work longer hours and work sort of constantly through weekends. So I don't get sort of the lower level administrative things on my BlackBerry. I tend to get stuff from people at my level and above. If I'm getting up into the sort of the VP, CFO, COO, CFO level, I absolutely feel I need to respond.*	Visibility of others' messages because of practice of cc'ing messages even to those not engaged in interdependent work. *If I have something going on that is critical I'll tend to check things a lot more frequently. For instance Friday night there was a message from Devin, he was out of the office and asking to have a conference call set up for Sunday night. So, there was kind of a flurry of activity Friday to set up the call with the Taiwan counsel. Sunday night for us, at 9:00 p.m. [coordinating call from ski house].*	Continued cc'ing of messages and extensive back and forth with colleagues on nights and weekends. *The GC [general counsel], a lot of times you just need to just realize that he wants you, but he's not expecting anything. It's the expectation that you will respond when you can. But if he responds to you two hours later on a Saturday I can't deny the part of me might be thinking [sucks in breath], what is this going to be?*

[a] Time points are in reference to BlackBerry receipt. ″Initial frames,″ for instance, were captured within one week of a participant's receiving a BlackBerry. For all phases, $n = 7$.

or she had left a large salary and concomitant pressures to come to Linden. Lawyers projected a sense of ambivalence. Descriptions of the job would move between how much harder in-house was than those in large firms realized to assertions that they could never have had a family in their old job. From an identity perspective they were torn, on the one hand attached to an occupational identity of high-profile corporate attorney while on the other hoping to benefit from the lifestyle of in-house attorney.

BlackBerrys became an element in this identity negotiation as lawyers initially saw the device as aligned with their occupational identity as an "in-the-know" and "client-service-oriented" attorney while allowing them to reap the benefits of going in-house. Soon after receiving the BlackBerry, Ken said:

> I think it's a great tool to provide good client service. This is a service job. You want to be as responsive as you possibly can so that people will come to you with their issues, so you can be more proactive than reactive, and people know that you'll get back to them. They'll be more inclined to share with you, and you can usually head a lot of problems off at the pass if people get you involved early.

When asked to describe the qualities of good client service, various lawyers described being accessible for inquiries, proactive about potential issues, and responsive to client demands. E-mail was said to be the principal channel through which client service was accomplished, and the BlackBerry was therefore seen as enabling each of these aspects of client service in a manner that benefited the individual lawyers.

Even as they individually began to resent the ways in which personal time became characterized by increasing connectivity to work, these attorneys maintained a desire to be seen as "good" lawyers by themselves and others. This desire continued to figure into when, where, and how often they stayed connected to work via the BlackBerry and made it difficult for individuals to resist expectations or change behaviors to limit connectivity.

Such tension was apparent as attorneys continued to report feeling drawn to the device even as they began to react to how it was affecting their lives. According to Kathy:

> The BlackBerry is difficult because we're all working parents. You see the red light and are immediately curious who it is. It's like, I know I need to spend time with Lilly, she is going to bed and I don't get enough time with her as it is. And I know I don't really *need* to check. But you see that red light and you are tempted.

TABLE 2
Key Dimensions Experienced by the Sales Force during the First Three Years of Mobile E-mail Use[a]

	Initial Frames: Within One Week	Emergent Frames: After One to Two Years	Ongoing Reframing: After Two to Three Years
(A) *Summary*			
Attitudes	19 positive: 40% 10 ambivalent: 21% 18 negative: 39%	31 positive: 79% 8 ambivalent: 21% 0 negative: 0%	30 positive: 83% 4 ambivalent: 11% 2 negative: 6%
Use patterns	20 use regularly during off hours: 43% 43 use regularly during business hours: 91%	21 use regularly during off hours: 54% 39 use regularly during business hours: 100%	18 use regularly during off hours: 50% 36 use regularly during business hours: 100%
(B) *Dimensions*			
Identity	Lack of alignment between occupational identity as "autonomous" and sense of what the BlackBerry implied. *It's going to get you away from the element in which your product is sold, where a true salesman learns how to increase his business because he's able to dial in on that particular retailer's consumer's need.* *I always said I want it. I mean, I feel like if I have the email with me, then I'm completely connected.*	Realization that tool is useful. Establishment of distance between use of tool and identity with "BlackBerry user" for many. *You're not selling on the BlackBerry. You may be selling a point, or an issue, but you're not selling the shoe via either one [phone or e-mail]. You're selling it in person. So, that's not happening. If you were really trying to sell a point on something hard and we were having an issue. I can promise I'm doing that by phone, not by e-mail.*	Continued distance between sense of tool and sense of self. Recognition that use did not end up undermining identity. *Back in '05, I was concerned about the BlackBerry. But, it's been good. It's more positive than negative. It didn't change my autonomy and freedom. I suppose there's that potential but it didn't happen with me. It's a good tool. I certainly think it's a good tool. If I said less than that back in '05, well, I'm not the first guy to not embrace change.*
Materiality	Initial fear that physical and functional aspects of the tool would disrupt current work. Symbolic aspects of tool not aligned with identity. *I don't want one. The last thing I want is another thing strapped to my hip. And during the day when I'm traveling, the only time I could really use it is when I'm sitting in the airport. I'd rather just have a service for my laptop. Otherwise, I'm driving on the road. I can't do it then. Then I'm in an appointment. I'm rushing from here. I'm rushing from there.*	Embrace physical and functional aspects of tool. Attempt to distance self from symbolic aspects of materiality by disguising technology when worn on body. *It is totally easy to use. Let's say I'm at a customer and they ask, can these boxes be returned? I get the BlackBerry out and type a quick note to my CS [customer service representative], and she will either call or write me back while I'm in the store. The customers appreciate that.*	Continued appreciation of physical and functional aspects of tool. Continued resistance to "display" the device. *The BlackBerry has aided my external relationships—again efficiency has proven to be critically important. Everyone, EVERYONE, likes to get answers to their question in a simple, quick, straightforward manner. BlackBerry has aided that.*
Vulnerability	Initial hesitancy and resistance to sense that leadership might expect constant connectivity. *I guess it's a nice thing on their part [giving the BlackBerry]. But I really don't know that they will get the return on investment on it. Like I say, I wouldn't have time if I'm traveling to be dealing with e-mail all the time. . . . I don't think there's anything I can really work on [on the BlackBerry] that would make me more efficient or quicker than I am now.*	Power position in relation to revenue and concrete measure of success limits vulnerability to expectations regarding use. *I think I reply to people within a reasonable amount of time. And I don't think I need to change that. No one has told me I need to change that. So, you know, I've tried to keep a standard. I'm not looking to accelerate the standard because I have a BlackBerry.*	No experienced penalty for different patterns of use during off hours. Felt increase in personal time as e-mail is used on the road. *Because of the BlackBerry I have taken the dead time that I would have had, and I've turned it into productive time so I don't have to do it when I get home. It definitely gives me a lot more free time, I think, I've seen real gains, and it's not measured in minutes, it's measured in hours.*

Continued

TABLE 2
(Continued)

	Initial Frames: Within One Week	Emergent Frames: After One to Two Years	Ongoing Reframing: After Two to Three Years
Visibility	No immediate sense of colleagues' usage patterns and assumed heterogeneity in how others were using the device. *No, it's up to the individual to let the technology work for them. Just like a laptop, just like the wheel was an adjustment. Everything is an adjustment to people's lives and psyche. I think now it's up to the individuals to interpret and use it for them.*	Continued limited visibility of colleagues' communication practices. Assumed heterogeneity in how others were using the tool. *I only take the BlackBerry if I'm doing work-related things. So, it's not going to go with me anywhere on the weekends. Because I don't take personal emails or anything like that on it. I won't—even over the weekends. And it's got my work phone number on it and I don't want to be reached over the weekend.*	Continued lack of visibility of usage patterns of colleagues. Continued assumption of heterogeneous patterns of use. *Evenings and weekends are still off limits. . . . Most of my colleagues are family oriented, so weekends & evenings are usually occupied with family time. Yes, I do totally disconnect—often on the weekend. You need down time away from all the issues!*

[a] Time points are in reference to BlackBerry receipt. "Initial frames," for instance, were captured within one week of a participant's receiving a BlackBerry. For initial frames, $n = 47$; for emergent frames, $n = 39$; for ongoing reframing, $n = 36$.

Sales representatives, on the other hand, did not equate accessibility and responsiveness to being a good salesperson. In contrast, freedom, self-discipline, and personal relationships with accounts were regularly brought up as characterizing what it was to be in sales or why individuals chose the job. Ron, an independent account executive selling to numerous accounts, made his case for freedom:

> Freedom has always been the main thing for me and I would imagine you'd get 10 out of 10, a perfect score, if you asked everyone—it's part of the allure and part of what makes or doesn't make someone successful in this type of job.

The emphasis on "freedom" and "flexibility" was often paired with a need to be self-motivated and driven. In the words of Donald, an account executive:

> One of the beauties is it's a very flexible existence, and that's nice. But when you're in the field you have to be disciplined. Distractions are plenty, and if you're ever gonna get anything accomplished you need to apply yourself.

Lastly, sales representatives emphasized the ability to create a connection with customers as fundamental to doing the job well. This was often described as a personality trait rather than a skill or technique. For example, Doug saw himself as a salesman and questioned the role of "technology" in how he conducted himself:

> It's all about building relationships, number one. No amount of technology will replace the relationship between the rep and the customer. I have a lot of integrity and honesty and I've built up my relationships over the years. And I'm gonna make a guy sincerely like me. I'm not slick, I'm not phony. . . . I build the relationships, and if they trust you, you're gonna get the sales.

Sales representatives saw themselves as independent agents in control of an individual "island." They were often self-deprecating, referring to themselves as "just a sales guy," commenting that "this isn't rocket science," "there's no such thing as a shoe emergency," or "I can't let myself go crazy over a size 12." Nevertheless, claims of freedom, autonomy, and fostering relationships were universally held up as reasons why the job was fulfilling. Therefore, it makes sense that first impressions of the BlackBerry were colored by assumptions that the device would detract from these core identity traits.

For many, the BlackBerry initially represented a limit on their freedom (because of a sense that superiors or colleagues in other functions would expect increased responsiveness), a distraction from their focus on selling (as e-mail often relayed

requests from other divisions such as marketing and forecasting), and a barrier to their ability to build meaningful relationships (either because they would be forced to be on e-mail more with their customers, or because the distraction of e-mail would impede their ability to be focused on customers when visiting accounts). Ron captured these concerns in comments made before he knew he was slated to receive a BlackBerry:

> The stress level would go up higher for me [if given a BlackBerry] because it's this thing telling me that I've got more work coming in. Also, it's not useful if you don't have it on you and I wouldn't have it on me. I'd leave it in my car and I wouldn't look at it until I'm ready. I wouldn't change that no matter what. Because I know that if I'm not able to dedicate 100 percent of my focus on where I'm actually at [focusing on the customer], then I'm not going to yield results.

Making a sale is considered to be an individual endeavor, and sales representatives assumed that colleagues had distinct styles and techniques. Reputations and jokes highlighted these distinctions as people referred to themselves and others as "this" or "that" "kind of rep." Such assumed variability affected expectations regarding what was understood to be normal communication practice. So, even though many sales representatives were close friends and communicated regularly, their occupational identity limited shared expectations of accessibility. In assuming that to be a good rep a person had to be independent, autonomous, and distinctive, sales representatives felt that colleagues would decide for themselves how to engage the BlackBerry.

Materiality[5]

Linden attorneys initially embraced the physical, functional, and symbolic aspects of the BlackBerry. These early assumptions were bolstered by the experience of using the device. The work of an attorney involves fielding internal requests, directing external counsel, and appearing responsive and knowledgeable to clients around the globe. Lawyers initially framed the material aspects of the BlackBerry as helping them deal with the high volume of communication in an efficient and flexible manner. One attorney asserted that the BlackBerry was going to make it easier for her to go to her ski cabin on weekends, and another discussed the ability to keep an eye on international communication in the evenings without distracting him from time with family.

Structured interviews revealed that lawyers were taking advantage of the size and flexibility of the device—checking and responding to e-mail in the line at the grocery store, at the doctor's office, in the car wash, on family vacations, and while out to dinner. Soon after receiving the device, Tony emphasized how these physical and functional properties of the BlackBerry allowed for a beneficial new form of connectivity:

> Before I wouldn't plug in at night, really, almost never, . . . But with the BlackBerry I do. For that 1 or 2 percent of the time you can be there for someone when it really matters, in a way that is just quick and easy, this thing is good. I don't have to take too much time from the family. I don't have to log into this damned thing, make a production out of it you know. It's easy.

Aside from ease of use and functionality, attorneys resonated with the symbolic materiality of the device. This became apparent when I noticed how they displayed the tool. After about a year I asked James to review his morning with the BlackBerry:

> I'm up and out. It's literally, helping kids with cereal, put my wallet and keys in my pocket, grab my BlackBerry. I put it on my belt loop, don't put it in my bag; I wear it on my body. It's funny, I was thinking of this in advance of our meeting, why do I bring it here [to the office]? I don't really need it, but I bring it anyway.

Pressed to come up with a reason why he brings the BlackBerry to work, James hesitated.

> Um. Habit? It's so easy on the belt; it's easy enough that I don't really notice it. I wouldn't look at it all day, unless you were here [interviewer asking about the device]. I rarely look at it. God, when would I ever need it?

This display of the BlackBerry reveals the extent to which James identified with the symbolic aspects of the device and wanted to project himself as available and on call to the potential clients he ran into at the office. And James was not alone. I

[5] I use the term "materiality" to include the device's functional aspects (asynchronous, text-based, push communication), physical aspects (size, weight, button size), and symbolic aspects (cultural narratives of how the technology acts as a prop or symbolic marker). Symbolic aspects of materiality draw on anthropological studies focusing on the material culture of digital goods (e.g., Miller, 2005).

did not observe attorneys glancing at their BlackBerrys in headquarters (walking through the building, eating lunch, interacting socially in shared spaces, or conducting an interview with me). However, all displayed their BlackBerrys on their persons. Women often carried their BlackBerrys on a stack of folders or left it sitting next to their meal at lunch. Men wore it clipped on their belt throughout their day at the office; their standard dress of tan pants and a tucked-in button-down shirt emphasized the device.

Sales representatives displayed the tool quite differently. It became clear through observation that the typical "uniform" for a Linden sales representative was jeans or tan pants and an untucked button-down shirt that fell below the BlackBerry device attached to the belt. I cannot say whether or not this was standard dress prior to people's receiving the device. However, informal comments revealed that sales people were purposely hiding the tool. While many wore the device on their belt, sales representatives would joke when someone pulled the BlackBerry out of its "holster" and took a derisive tone toward those who exposed the device. In the words of Ron, "I don't flash it on my belt like you, dorko." Steve, a regional manager, described his desire to conceal the BlackBerry:

> I know I'm not a doctor or a brain surgeon or anything. And when I see them [the BlackBerry] on people I'm like, "I don't want to be that, or perceived that way." So, everything I wear is untucked. I just don't take myself that seriously. It's funny, because fortunately we're a loose enough company that you can do that. Otherwise I would probably wear a lot more sweaters.

Such comments suggest that these individuals rejected the symbolic aspects of a device that they felt represented a "24/7" orientation to communication partners.

While representatives were in general alignment about the symbolic aspects of the BlackBerry, attitudes initially varied widely as to whether or not the physical and functional aspects of the device would benefit individual work practices. As noted above, many worried that enhanced accessibility to e-mail would hurt their ability to do their jobs. Illustrative of this attitude are comments by Donald, a senior account executive, who explicitly contrasted "communicating" (with colleagues) with "selling" (to customers):

> So, what do we want to do? Do we want to communicate all day or do we want to be sales driven? You know, I've got peers in the organization who want A, B, and C, and it needs to be done in the next 24 hours, so you can become very e-mail-driven. I try to be respectful about those requests and get those executed by the end of the day. But then I've gotten their work done, not mine. At the end of the day, I'm in sales; if I don't sell more, we got a problem.

However, their impression of the BlackBerry shifted dramatically after having the device for a few months. As they began to use the BlackBerry to access e-mail while on the road, the majority of sales representatives became increasingly positive about the physical and functional aspects of the tool. Physically, its size allowed them to leave their computers at home and decrease the weight they were lugging around (often 20–30 pairs of sample shoes). Functionally, they could use the BlackBerry to get necessary approval for transactions while with an account. For example, Dan, an account executive initially negative about the BlackBerry, described the functional benefits of being able to communicate by e-mail with his superior:

> So, he's [the superior] on the road all the time. Let's say he's on the road and I'm on the road and I need to get in touch with him. I can leave him a voice mail, but I've noticed if I send him an e-mail he might peek down at his BlackBerry and write me back. And, a lot of times the response I need has to be e-mailed because I need his approval for something and it's his written approval or e-mail approval. He approves it and it's taken care of. It's fantastic. Really fantastic.

Even those individuals initially resistant to the BlackBerry discovered that the device was helpful in addressing customer needs while on site with an account. A message to a customer service representative at headquarters could answer questions that came up during sales visits—ship dates, the progress of orders, issues with specific shoe styles, and so forth. An e-mail to one's manager could also provide on-site written approval to buy back shoes that weren't selling, offer promotional deals to accounts, or guarantee a ship date. Numerous sales representatives described how these communication acts enabled them to appear particularly competent and efficient in the eyes of customers, and I witnessed this behavior during sales visits.

Vulnerability

As described above, Linden attorneys initially assumed that while the BlackBerry could be addic-

tive for some, their collegial team would not develop norms of expanded accessibility and responsiveness. However, structural position in the organization contributed to undermining this initial impression and left the attorneys vulnerable to internal and external pressures. As in-house legal counsel, Linden attorneys were aware that they were a constant drain on the revenues of the firm. Tony expressed this fact when he noted that, even as the company increased in size and complexity, there was little talk about expanding the legal team:

> We're an overhead function, we're F&A [finance and administration], so we're always going to want to work effectively without increasing overhead and operating expenses.

Attorneys reported feeling pressure to justify their presence (to each other and internal clients) and related this feeling to a desire to appear "on top" of incoming e-mails as a signal of good client service. This expectation that they should make every client feel like a top priority existed prior to the introduction of BlackBerrys. However, lawyers saw the tool as exacerbating social pressure from clients and colleagues to be responsive. For example, after two years Mary complained:

> To me it's this passive/aggressive way that people get access to you . . . . I think they will sometimes e-mail you knowing that if you see it [the message], you'll feel obligated to do something about it. But, they would never pick up the phone and call you about it. So, if [international vice president] e-mails me on the weekend, I wonder, "I guess he needs me or he wouldn't be e-mailing me," but I know he sure as hell wouldn't call me.

An additional factor increasing vulnerability was the need to coordinate work across the globe. Lawyers are the point people for international issues and parcel out work to outside international legal counsel, which requires regular communication between distant time zones. Asked to account for much of the off-hours e-mailing, Devin specified:

> I think that BlackBerrys come in as most helpful for us because we have such big international business and because of time zones. We do so much by e-mail. Late at night and early in the morning are critical. I mean, one of the reasons I have to look at my BlackBerry when I get up in the morning is that if I'm looking at my BlackBerry at 5:30 in the morning it's already almost noon in Europe.

In actuality, only a small percentage of e-mail involved international communication. Structured interviews revealed that less than 10 percent of the messages sent or received on the BlackBerry during off hours involved an international interlocutor. Nevertheless, the possibility opened the floodgates. Attorneys reported checking the device in case an international issue arose, and many ended up responding to less-time-sensitive missives.

Because attorneys initially sensed that they would not be subject to social pressures, they were willing to engage in off-hours e-mail immediately after receiving the device. However, one could argue that structural position in the firm as a "revenue drain" and work practices related to international communication conspired to make these individuals feel more and more indebted to the expectations of others over time.

In contrast, the sales representatives felt secure in their position as revenue drivers who were on the front lines making money for the company, and this structural position limited their vulnerability to social pressures. This attitude was revealed through assertions that a sales representative should be left alone by superiors as long as he/she was "making their numbers." This awareness that sales representatives were on the front lines of keeping the company robust generated significant pressure for individuals, but it was also used as an excuse or justification for rejecting communication expectations from colleagues who desired their connectivity. Dan illuminated this perspective:

> It's like, this one [referring to a specific e-mail message], they're screaming really loud. They [forecasting at headquarters] really want this information from me. They want me to do this report. They need it this afternoon. But, for me, I'm not gonna lose any orders even if I don't get it done in time. So it goes second.

Sales planning, marketing, and forecasting often e-mailed sales reps with specific questions, and I heard several complaints from these parties about the difficulties of getting in touch with sales representatives.

It is important to note that many people emphasized that their customers were not expecting communication beyond traditional business hours. Retail stores close in the evening, and buyers rarely work or send e-mails outside of business hours. Therefore, customers did not become a factor in whether or not sales representatives were going to send and receive e-mails during personal time. Structured interviews confirmed this observation. Very few e-mails were sent to or from accounts

during off hours. Only 7 percent of all off-hours e-mails included an account, and these were often messages from the sales representative to the customer confirming an order placed that day. Not once did a customer respond to an off-hours message. In general, after hours e-mailing was composed of messages from a superior to his or her sales team, announcements from headquarters, banter between colleagues, and personal messages from friends and family.

When sales representatives did receive off-hours e-mails from superiors, they generally did not believe that such missives required an off-hours response. For example, during an e-mail review interview with David, a senior account executive, I noted an e-mail coming in from his superior at 2:30 in the morning. Asked whether he felt pressure to respond to such late-night messages from his superior, David laughed incredulously: "Are you kidding? That's them, not me." So, while some in the sales force (at both junior and senior levels) did choose to send off-hours e-mails, this activity did not appear to translate into a shared expectation that everyone *should* be available.

Visibility

David's comment above underscores the role of visibility in expectations of connectivity. The visibility of e-mail practices provides users with a concrete sense of what others are doing. Although David was able to distance himself from the communication practices of others, the fact that he knew his superiors were online and sending messages throughout the night forced him to explicitly separate his activities from theirs. Although participants in this study did not often explicitly discuss the visibility of communication practices, one can assume that such information figures into how individuals chose to engage with the device.

While David was aware of the e-mail practices of his bosses, he was not privy to the ways in which his colleagues communicated with their customers. In contrast, structured interviews suggested that over 20 percent of the off-hours BlackBerry messages sent and received by Linden attorneys were messages to clients (internal or external, local or international) on which multiple attorneys were "copied" ("cc-d").

When I asked about this practice, lawyers said that they copied colleagues on messages to "cover their bases" or keep colleagues "up to speed" on the evolution of large projects. In addition to a reported increase in total e-mail volume, regular "cc-ing" of messages created a shared awareness about when, where, and how quickly colleagues were responding to messages. Lawyers often described the habits of their immediate colleagues, including how often certain people stayed online in the evening or how difficult it seemed for some to know when to "turn off" at the end of the day. Such awareness forced individuals to assess their own behavior in terms of others and likely contributed to expectations that there was an appropriate way to conduct off-hours communications.

Sales representatives, on the other hand, generally engaged in point-to-point communication with customers or buyers (occasionally copying their direct superior or customer service representative). Regional directors would send announcements to all of their "direct reports," and individuals would respond either directly to their boss or engage in a teamwide discussion. These discussions were described as using a sales team to brainstorm about a problem or issue. While it was quite common for sales representatives to turn to each other to coordinate sales strategy, seek advice, or engage in gossip, structured interview data did not reveal any examples of a sales representative copying another sales representative on communication with accounts. The lack of visibility of these key missives allowed individuals to shield their individual communication practices and likely limited people's assumptions about appropriate or expected patterns of BlackBerry use.

Table 3 provides a brief overview of each of the key dimensions of difference and highlights how Linden attorneys and sales representatives approached the BlackBerry from different identity stances, with different senses of the tool's symbolic, functional, and physical value, at different positions in the firm's structure, and with different degrees of insight into how others were engaging with the device.

THE PROCESS OF EMERGING TRAJECTORIES OF USE

This research provides empirical insight into how individuals, within occupational communities, approach and engage a new communication technology. In keeping with prior work, this study suggests that individual interpretations of a new tool emerge from the intertwining of social interaction and experience of using a material device (Leonardi, 2009; Leonardi & Barley, 2008). The

TABLE 3
Summary of Key Dimensions of Differences between Law and Sales

Group	Identity	Materiality	Vulnerability	Visibility
Law	Assumption shared by all that occupational identity of "client service professional" will be enhanced by capacity for connectivity.	All embraced physical, functional and symbolic properties associated with the device. All displayed device on body, even when it was not in use.	All saw themselves as "drain on the bottom line" of the company. All felt a need to prove worth to clients.	Regular practice of copying colleagues on all e-mails, including those sent to clients. All aware of communication patterns of peers and superiors.
Sales	Assumption shared by many that occupational identity of "autonomous sales representative" will be undermined by capacity for connectivity.	Some initially suspicious of physical, functional, and symbolic properties associated with the device. All soon embraced. All hid device under clothing, even when it was in use.	All saw themselves as revenue drivers who impact firm solvency. All felt a power to be autonomous as long as they were "making their numbers" (sales goals).	Unusual to copy colleagues on e-mails. Never copy colleagues on e-mails to accounts. All aware of patterns of direct superiors but often not aware of those of peers.

study presented here contributes to this line of scholarship by outlining key dimensions that influence trajectories of use.

In Figure 1, I show the process by which key dimensions affect individual patterns of use and the relationship between individual actions and collective assumptions. Initial technological frames of reference influence the first actions potential users take when introduced to a communication technology. These initial episodes of use are influenced by notions as to whether the technology aligns with their sense of self in terms of the core values in their profession (*occupational identity*) and ideas about how the device works and what displaying it symbolizes to others (*materiality*).

Initial episodes of use become the basis of shared assumptions as users within an occupational group observe and make sense of the actions and expressed attitudes of each other. Actually using a device also serves to alter impressions of what the tool is good for and may inspire users to reassess whether or not it supports or disrupts work practices.

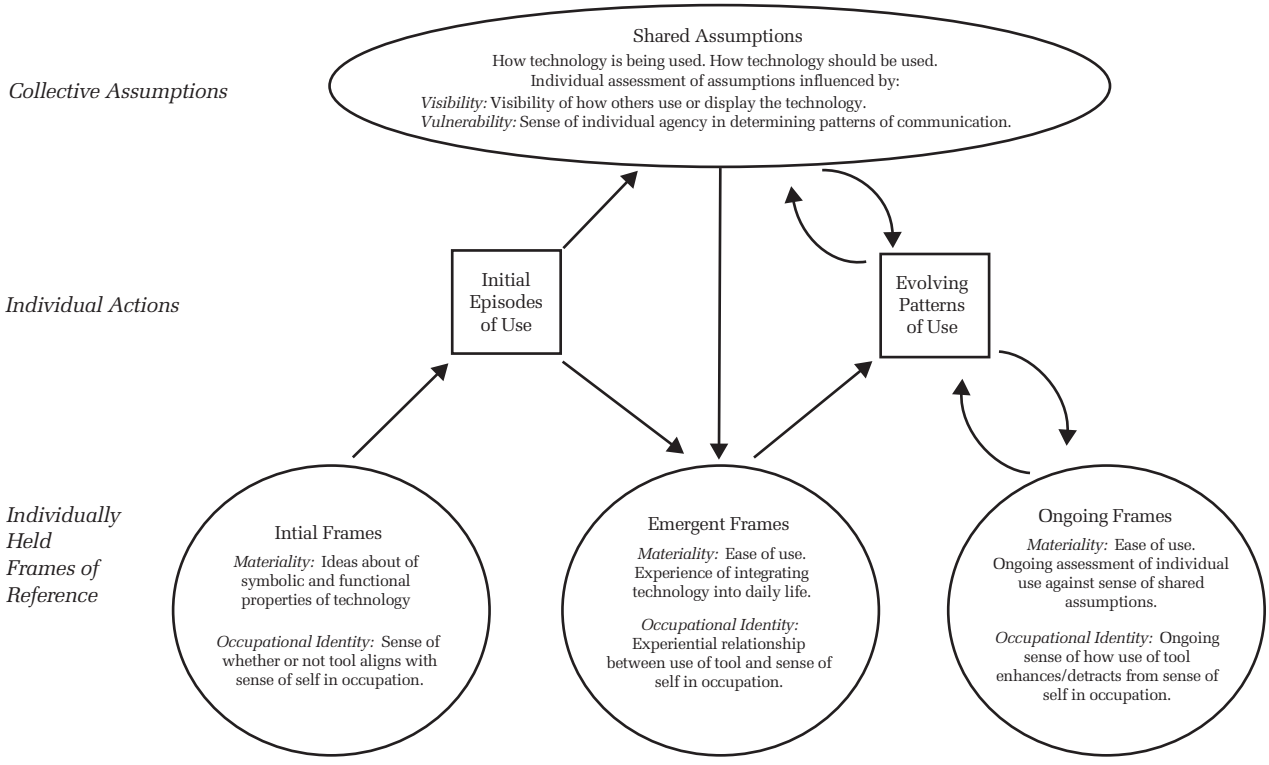
As numerous people start engaging with the device, they begin to form collective assumptions about how they should act in a particular social and organizational context. To a greater or lesser extent, individuals begin to feel the pressure to align individual behavior with the actions of others (*vulnerability to social pressure*) and note how others are using and experiencing the device (*visibility of communication acts*).

In this study, assumptions about how others were using the focal communication technology began to develop within days of the device being rolled out. While initial technological frames of reference influenced early actions with the tool, the experience of using the device and the social process of assessing colleagues' assumptions served to reframe technological frames of reference. This interplay between individual frames of reference, use of the tool in practice, assessment of social expectations, and ongoing reframing of the tool continued throughout the life of this study.

The experience of Linden sales representatives suggests that if sense of self (*occupational identity*) is not aligned with cultural narratives suggesting what a device can "do" and "whom" it is for (*materiality*), individuals will assess the technology from an experiential rather than symbolic perspective. In this case, engaging with the device enhanced work practice and individual sense of freedom in determining when and where to work and how to achieve more personal time. Clear metrics of evaluation (*low vulnerability to social pressure*) and relative ignorance of how others were engaging with the tool (*low visibility*) further supported heterogeneous practices. Under these conditions, expectations of heterogeneity emerged that supported internal variance in patterns of use while upholding a sense that such differences were normal and acceptable.

Although alternate trajectories of use between law and sales continued throughout the life of this study, I do not suggest that these trajectories of use are stable or irreversible. One could imagine that if metrics of evaluation were shifted or explicit policies put into place about when it was or was not

FIGURE 1
Key Dimensions Influencing Individual Patterns of Use



appropriate to contact colleagues, such trajectories might change course. Occupational identities and materiality are fairly stable. Therefore, the most likely lever to actively shift trajectories of use would be altering perceived vulnerability to social pressure (through explicit rewards or censures for certain behaviors) and visibility (through behavior modeling of superiors or rules/norms regarding communication practices). One could also imagine that the experience of sales representatives might shift, and vulnerability increase, if customers demanded greater accessibility and expanded connectivity were seen as necessary to making one's numbers.

DISCUSSION AND CONCLUSION

This research explores the theoretical possibility that frames of reference might align in such a way as to promote a shared expectation of difference, or heterogeneity, within a user group (in this case, also an occupational community). It further outlines key social and structural dimensions (occupational *identity*, functional, physical and symbolic *materiality*, *vulnerability* to social pressure, and *visibility* of communication acts) that help account for the differences in how groups engaged with a new capacity for communication. Studying an anomalous case of heterogeneous patterns of use is an important step in tracing the relationship between communication technologies, individual perspectives, individual practices, and collective dynamics.

This empirical example of how a technology with the capacity to increase connectivity was enacted differently in two occupational communities in the same organization highlights the theoretical validity of the enactment perspective on technologies-in-use. In providing an example of how an occupational function avoided the cliché that BlackBerrys are inherently addictive, these findings suggest an alternate perspective than that of "appropriation" of technology, as put forth in adaptive structuration theory. Rather than assuming that the functional capabilities of a technology embody a certain "spirit" or "general intent with regard to

values and goals underlying a given set of structural features" (DeSanctis & Poole, 1994: 126), this example reaffirms the "interpretative flexibility" of information technologies at early stages of framing and use (Orlikowski, 1992; Pinch & Bijker, 1984).

In fact, the BlackBerry is a particularly striking empirical example of such flexibility. Rarely has a communication technology been so completely associated (in the popular press and academic research) with a specific outcome of expanded availability and responsiveness to e-mail—often with the suggestion of addiction and intense desire to maintain connectivity (Knight, 2010; Locher, 2007; Mazo, Michaluk, & Trautschold, 2008; Middleton, 2007; Montagne, 2006; Pfeiffer, 2005; Reuters, 2006; Rosato, 2003; Salemi, 2010; Sandberg, 2004; Stall, 2006; Turel et al., 2008). Thus, this study serves as a reminder that the functional and physical capacities of technologies are enacted and that the user experience of such enactment is shaped by the situated context of use.

In accounting for alternate trajectories of use, this study contributes to research on technological frames of reference in two ways. First, it provides a process perspective that emphasizes the importance of taking a longitudinal view of ongoing reframings and emerging trajectories of use. As I traced the trajectories of use at Linden, it became clear that while initial technological frames of reference anchored how each occupational community enacted BlackBerrys, the process was more complex than it initially appeared. Attention to the framing/use/collective assumption/reframing process was necessary to see how attitudes shifted over time and initial frames were inverted. In fact, the complete inversion in attitudes about the device found in these data evocatively illustrates how technological frames of reference evolve, and it calls for greater attention to the framing process over time.

Second, this study provides theoretical insight into the possibility that congruent frames of heterogeneity can exist without leading to framing contests or attempts to align individual actions. Practically, this finding is significant for individuals and organizations struggling with trajectories of use that are experienced as unproductive and unsustainable—the numerous recent attempts by firms to limit e-mail suggests an increased recognition that such practices can become a serious impediment to organizational functioning (Allen, 2011; Horng, 2007; Potter, 2011). This study shows that in certain scenarios it is possible for individuals to develop socially stable heterogeneous patterns of communication that benefit them without having received a top-down mandate, such as a "no e-mail Friday." It appears that technologies of connectivity can be used to enhance effectiveness at work without creating individual pressure to expand accessibility and responsiveness.

Theoretically, these findings set the stage for a more nuanced understanding of the construct of technological frames of reference. In providing an analytical distinction between the existence of a congruent, or shared, frame and the content of that frame, this study provides the groundwork for a new stream of research. The current investigation suggests that future work on technological frames of reference would profit by exploring other scenarios in which shared frames of reference do not align behavior. By delineating empirical contexts where heterogeneous patterns exist and by understanding the enablers of heterogeneity, scholarship could begin to theorize about when and how to foster heterogeneity. Future work might also explore the costs and benefits to individuals and organizations of social environments that expect homogeneous patterns of connectivity and those that enable heterogeneity. Continued articulation of the social dynamics that produce heterogeneity and the dynamics it engenders would be a valuable contribution to organizational research on frames, norms, and social control.

The possibility that heterogeneous actions can be perceived as normal rather than deviant also contributes to current work on cognitive and identity control theories. This study shifts current conversations by suggesting a potential avenue of resistance to coercive social control. Work on social control highlights the multiple systems that act on individuals to regulate behavior. Concertive control (Barker, 1993), feminist control (Martin et al., 1998), identity control (Anteby, 2008; Burke, 2004), and normative control (Alvesson & Robertson, 2006) all describe social forces that act on individuals, shaping available courses of action into predictable patterns of behavior. Regardless of the specific origin of social control, these systems rely on disaggregated and self-maintaining forces that assure stability, predictability, and coordination of action. While stability, predictability, and coordination are all valuable to organizational functioning, the individual cost of operating in high-control systems can be considerable. In describing how one occupational community resisted this outcome, I begin to theorize about scenarios where stability,

predictability, and coordination occur without constant connectivity and immediate responsiveness to e-mail.

The focus on occupational communities emerged as relevant in this study. It became clear in data gathering that occupational boundaries were relevant to how communication and identity played out at Linden. However, occupations are not necessarily the only way to conceptualize where cohesive trajectories of use might emerge. Further work is needed to establish whether ongoing communication practices are sufficient to engender a collective trajectory of use or whether shared identity, structural similarities in organizational position, or similar work practices also need to be aligned.

As with all inductive qualitative research, this study is not designed to support direct transfer of findings. The dimensions that emerged as key differences in this context are not suggested to be exhaustive or generalizable in the classic sense. Regardless, the depth of data and ontological orientation inherent in ethnographic research provides insight into the complex relationship between occupational identity, cultural narratives, organization structure, and communication practices that figure into the use of a new communication technology. Such insights suggest new research directions and provide interesting, obvious, connected, believable, beautiful, and real accounts for social processes that are argued to be criteria for "good" theory in organizational research (Weick, 1989).

While initial technological frames of reference anchor and influence evolving trajectories of use, such trajectories are neither linear nor one-dimensional. This study suggests that future research could benefit by taking further steps to formalize the processes and investigate shifts in use over time. This article does not focus explicitly on how trajectories of use emerge in colocated versus distributed teams. However, given the interest in distributed teams, it would be valuable for future work to investigate how they establish congruent frames and what role distance plays in the emergence of homogeneous or heterogeneous trajectories of technology use.

This study serves as a springboard from which to theorize on the nature of communication practices and social dynamics in the context of increasing numbers of technologies of communication. Empirical examples of how social groupings might manage the capacity for extended accessibility and develop shared expectations that enable a diversity of individual practices are rare. In fact, much of the conversation on time management (Powers, 2010; Whitney-Reiter, 2008), technological addiction (Turel et al., 2008), and workaholicism (Porter & Kakabadse, 2006) take an individualistic perspective on what is inherently a relational dynamic. In contrast, this research suggests that taking a collective perspective is crucial for understanding how individual experience of a communication technology emerges and shifts over time. An individual cannot simply turn off his or her mobile e-mail device and not respond to e-mails if he/she is committed to succeeding in a social environment that expects accessibility. Therefore, understanding the social origins and potential social solutions to traps of connectivity is a valuable contribution to organizational research and individual well-being in an increasingly connected world.

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