Experience Sampling as a Method for Studying In Situ Organizational Communication

BENJAMIN LAUREN
Michigan State University

In many organizations, the flow of project communication has grown multidirectional, in part because of the influx of flatter management hierarchies and the near universal adoption of information communication technologies. As organizations work to establish healthy workflows, they need insight into how communication around projects exists in situ (i.e., as it happens in the moment). This article describes a method for studying in situ communication in the workplace called experience sampling. The goal for this article is to explain how experience sampling can be used to describe communicative events in the workplace by drawing from two datasets of empirical research conducted by the author. From the use of experience sampling depicted in these case studies, the article indicates lessons learned about using experience sampling to study communication events.

---

1 INTRODUCTION

In many organizations, the flow of communication has grown multidirectional, in part because of the influx of flatter team hierarchies. Agile software development teams, for example, tend to be less hierarchical because they are self-directed and self-organized. As a result, agile teams tend to choose tools and develop schedules uniquely for each project while working to establish an effective communication rhythm for the team and for stakeholders. Economic conditions are also influencing communication flows across organizations. Conditions of the labor force have motivated many companies to outsource labor (Spinuzzi, 2014). As well, many companies gain smaller teams through product acquisitions, directly affecting how people communicate with those who work outside of headquarters. In order for organizations and teams to communicate successfully, information must be effectively managed and communicated across organizational networks, including the mobile workspaces of contractors or the distributed offices of new acquisitions.

As organizations try to establish healthy communication workflows, teams need insight into how communication around projects exists in situ (i.e., as it happens on site and in the moment). Scholarship aimed at describing in situ communication has the potential for providing insight about project outcomes. As employees experience different events, settings, and ideologies, it becomes clear that communication plays an important role in meeting the intended outcomes of project work. As such, learning about the in situ communication practices of teams and individual employees remains an important consideration for organizational researchers. This article describes a method for studying in situ workplace communication called experience sampling. Experience sampling is useful for studying communicative events in the workplace by drawing from two datasets of empirical research conducted by the author.

Experience sampling can also be understood as a type of diary study. In this article, I use these terms interchangeably. A diary study is when a person is asked to track information at certain intervals (e.g., write down how you feel 20 minutes after each meal). Diary studies are used to study the workplace by a range of scholars—from disciplines such as psychology, anthropology, and professional and technical communication. Recent work by Bolger and Laurenceu (2013) refer to experience sampling as an intensive longitudinal method, which "allow[s] researchers to study the relationships within and between everyday behaviors, activities, and perceptions" (2013: 12). The emphasis on within and between is important in organizational communication because the focus of analysis can be individuals and/or groupings of people. There are several ways of designing experience sampling studies, such as computerized, event contingent, signal or interval contingent, ambulatory, and telemetric forms of monitoring.

Event-contingent recording (ECR) is an appropriate method for studying in situ communication in the workplace because "a common application of ECR has been in the study of social interaction" (Moskowitz and Sadikaj, 2012: 162). ECR can be used to understand or monitor predefined behaviors or emotions to identify trends and "directly observe processes of change" (Bolger and Laurenceau, 2013: 12). The emphasis on observing transformation is important in certain applications of ECR, particularly if researchers are interested in if/when certain symptoms arise or resolve (e.g., when an anxious person feels most anxious or most at peace). In organizational communication, for example, experience sampling has been used broadly to study moods at work and the emotions of employees (e.g., Oerlemans and Bakker, 2013), and to learn about the act of composing (Hart-Davidson, 2007). For scholars interested in a less intrusive method than contextual inquiry, ECR offers an alternative for learning about daily work happenings. It is important to note that "ECR designs are most appropriate for recording information about phenomena and the associated situational cues that occur in events with a well-articulated beginning and end" (Moskowitz and Sadikaj, 2012: 166). In the context of studying organizational communication, ECR opens opportunities for studying perception of communicative events and settings that have a defined beginning and end (e.g., a meeting, a scrum, or a check-in), and learning about within-person or between-people practices, strategies, and ideologies.

This article describes experience sampling as a method for studying communicative events in organizational settings, with a focus on within-person analysis. To do so, I review two case studies where

experience sampling was used in conjunction with other methods to understand communication work-flows, behaviors, and personal philosophies of project managers and leaders who work in product and service development. The first case is of a team of information experience designers at a large multinational corporation. In this study, participants were asked to report four days of communicative events over a two-week sampling period. The reports were nested with participant observations and triangulated with interviews, professional social media accounts, and workplace artifacts (i.e., sticky notes). The second case is made up of a dataset of project managers and leaders working at different organizations. Participants were asked to report data related to communicative events defined by the researcher. There were four kinds of communicative events sampled: when participants practiced empathy, chose an appropriate setting, responded to organizational culture, and created or enforced social rules. Reports were used to stimulate recall through weekly interviews and were triangulated across professional social media accounts and websites. Additionally, participant-developed mind maps detailed communication strategies and how they were tied to different workplace settings were requested at the end of the sampling period. This article will draw from each case study to clarify best practices for using experience sampling, emphasizing ECR, for studying in situ communication in the workplace.

2 ARTICLE ORGANIZATION

To begin, the article will review literature on experience sampling, focusing on how it has been used to study in situ communication in the fields of organizational communication, business communication, and professional and technical communication. After the literature review, a section on the scope of the research is offered, including a brief epistemic discussion of central concepts organization, communication, and experience. Then, the article continues by detailing each case study and its methods for collecting, organizing, and analyzing the dataset. This section also describes methods of creating visual models of the data. Next, the article compares and contrasts the procedures for designing, collecting, sorting, and analyzing data across each case study, noting successes and failures of each approach. Last, the article suggests how other organizational communication researchers might build from the method used to study in situ communication in these case studies and implement experience sampling to research communicative events in other contexts.

2.1 Reviewing Experience Sampling Research and Methods

Experience sampling methods contain a range of approaches helpful for organizational researchers. Event contingent recording, signal contingent recording, and ambulatory assessment are useful methods for capturing a person's in situ experiences communicating and interacting with others at work. Event contingent recording (ECR) focuses on specific kinds of events with a well-defined beginning and end that can be predetermined by a researcher (e.g., submit a report each time a specific event happens). Meanwhile, signal contingent recording instructs participants to submit a report each time they receive a signal from a researcher (e.g., a text message signals the participant to submit a report within a set period of time). Ambulatory assessment can be used to track posture, physical activity, and location (e.g., where a specific kind of interaction tends to occur or how long someone sits at a desk). Since the research in this article focuses on using experience sampling to capture communicative events and interactions with a clear beginning and ending—even if improvised in the moment—I focus reviewing literature specifically on ECR. Definable events and interactions are best aligned with ECR as a method because it "has been found to be particularly suitable for data collection when the focal events are social interactions" (Moskowitz and Sadikaj, 2012: 160). In the following paragraphs, I review how ECR has been used to capture social interactions in the workplace, and explain how this body of research influenced the case studies that follow.

A foundational text in ECR comes out professional and technical communication, where the act of composing (i.e., rhetorical communication) is positioned as a tool-mediated activity. It is also important

to note that Hart-Davidson's (2007) definition of composing includes how communication, "unfolds in an improvisational way in response to a rhetorical situation, social and organizational setting, and immediate physical surroundings the writer finds herself within" (2007: 156). Composing, then, can also be understood as oral or written communication, or a combination of both (for a more detailed undertaking of such issues, see Ong, 2002). Hart-Davidson goes on to describe the usefulness of time-use diaries (i.e., experience sampling) as one method in a broader toolkit employed to study composing as an activity. Time-use diary studies, he explains, can fill a gap in knowledge about the composing process:

Among the aspects of composing we know little about are fairly significant details such as specific times and places, the combinations of technologies employed, and the types of social interactions that make composing a rich, technologically mediated, socially and culturally situated activity. (Hart-Davidson, 2007: 155)

In working to understand the rhetorical situation of a communicative event, researchers need access to multiple data points to understand the social, historical, and cultural influence over communication. Time-use diaries, Hart-Davidson (2007) argues, can help build knowledge in our understanding of communicative events, particularly as a way to establish "plausible accounts of lived experience" (Hart-Davidson, 2007: 165).

Additionally, Hart-Davidson makes important suggestions for ECR researchers. First, he suggests, "It is best to think of diaries not as an unobtrusive measure, but as a minimally intrusive means to facilitate dialogue between participants and the researcher" (Hart-Davidson, 2007: 163). Dialogue between the researcher and participants is useful for stimulating recall and adding context to reports that may be unclear at first glance. Additionally, he recommends employing usability methods with participants so that filing reports is an efficient process (in his work, 90 seconds to submit a report seemed most desirable), particularly so the design is intuitive not just for users, but for later data analysis (164-165). Finally, in designing the study, he suggests "time-use diaries require that your unit of analysis correspond well with event-based data collection" (164). That is, you cannot use ECR to study events that don't have a clear beginning and end. Perhaps a signal-contingent diary study (i.e., write an entry when signaled by the researcher) would likely be more appropriate for capturing less time-bound workplace experiences.

Hart-Davidson's (2007) work does an excellent job theorizing and making recommendations for designing ECR studies to learn about composing processes, while others offer advice to the support the study of psychological aspects of the workplace. For instance, Hektner, Schmidt, and Csikszentmihalyi (2007) describe their perceived benefits and drawbacks of using experience sampling. Of concern is the potential for disrupting employees' productivity (182), though the authors note the importance of the type of work in choosing a population to sample (e.g., heart surgeons are probably a poor choice for participants because their work is quite literally life or death). As well, the authors refer to the work of Beal and Weiss (2003) when suggesting the use of ECR, noting the importance of capturing enough data to study the unit of analysis and draw conclusions. Aside from the next paragraph, the issue of *enough* data is also discussed toward the end of this article in section 6.

The frequency of reporting concerns researchers who use experience sampling to build theories about a population of people or understand how behavior transforms over time. Building theory with an experience sampling method requires an appropriate sample size and number of reports to establish validity and reliability of findings statistically across a defined population. And, as Fisher and To (2012) explain, building theory requires a multi-level statistical analysis. But what counts as enough reporting? Shrout and Lane (2012) suggest at least three reports be filed daily because "redundancy of item content is needed to document the reliability of the reports" (303). When studying communicative events, however, reporting may not occur multiple times a day and so establishing validity and reliability requires a familiarity with the unit of analysis and the workplace that is discovered over time. Bolger and Laurenceau (2013) explain, "In general, phenomena that are slow moving or have little variability can be assessed less frequently and less densely, whereas those that are faster moving or have high variability should be assessed more frequently and more densely" (2013: 23). In other words, the unit of analysis and the context of the workplace, in part, determines how validity and reliability are defined. In sampling

periods where a participant is working alone for a period of time or if interactions tend to be longer, a smaller amount of reporting can occur and establish validity. In line with this thinking, Bolger and Laurenceau argue,

If your interest is in experiences that are momentary and ephemeral, then frequent real-time assessments throughout the course of the day are called for. If the experiences of interest can be easily remembered (did you have an argument at work today?), then assessments once or twice a day may be sufficient. (2013: 23)

Issues related to frequency of reporting also depend on the goal for utilizing experience sampling. In studies where the goal is to describe phenomena, validity and reliability may be achieved through alternative means.

While experience sampling is often used to construct theory by observing transformation or change, it is also effective for describing communication strategies and practices in situ. While participants might use the data collected to make changes in how they communicate with others, the goal for the method described here is not to monitor change, but to understand within-person practices. Within-person experience sampling focuses on individuals while between-people focuses on interactions among several people. For example, the mobile application I use to track exercise asks me to report how I feel after concluding a workout. Over a given period of time, these kinds of apps enable people to find trends (e.g., when I run before work I enjoy my workout more than if I run after work). Sampling individual experiences in such ways is indeed much like a diary study embedded into daily life, providing an avenue for people to understand their emotions, and supporting insight into behavior, attitude, and emotion. As Reis (2012) explains, "Daily life measures are also used to study variables about which people are unlikely to have access even when they occur (e.g., psychophysiological states), or to which people are unlikely to attend unless directed by researchers (e.g., ambient attributes of a physical environment" (5). Indeed, mobile apps like the one I use (called RunKeeper©), offer users the ability to reflect on emotional states and how they influence exercise activities. Users of such apps can study that data to make changes to exercise routines or observe their own health transformation over time, hopefully improving emotional and physical outcomes. That is, one value of experience sampling for participants is simply reflecting on situations that may be normally overlooked.

Trends in types of experience sampling research of the workplace appear to traverse many fields and interests, and narrowing them to specific themes would take much more real estate than a single paragraph. A useful starting point: Hektner, Schmidt, and Csikszentmihalyi (2007) discuss trends in experience sampling research, notably referencing Csikszentmihalyi's (1990) work with flow conditions, and other ideas like job satisfaction (Fisher 2000) and juggling work and life responsibilities (Williams, et al., 1991). Recently, Quinn and Bunderson (2016) used ECR methods with multiple participants of the same event to study how people "huddle" in the newsroom to support participant learning. In addition, Butts, et al. (2015) used interval contingent (i.e., reports are filed regularly at a predetermined frequency) to study electronic communication received during non-work hours. Their work relied on a within-person approach to learn about the fluctuations in people's daily emotions when receiving the communication. As noted previously, within-person studies can be contrasted with between-people studies. In the latter, experience sampling might be used with a group of people to study various perceptions of the same communicative event, such as a scrum.

Importantly, Hart-Davidson (2007) argues that experience sampling can be used in conjunction with other methods as a means for studying communication in the workplace, particularly as a means for stimulating recall of lived experiences. ECR, then, can be used as part of a range of methods to capture experience. Validity is thereby established through dialogue with the participant as they recall the event and reflect on their reporting of it. Stimulating recall is especially important to the design of each case study detailed in this article as a participants understanding of the experience may have evolved from when it was initially reported. Corroborating this argument, Tracy and Geist-Martin (2014) explain, many qualitative researchers interested in organizations appear to be "bricoleurs," (246), collecting multiple points of data and assembling them together to answer their research questions. One reason

for the bricoleur approach is a shift in how we define "organization." Doerfel and Gibbs (2014) recount this history as a shift away from thinking of "organizations as containers in which communication occurs" (223). As a result, the research methods in organizational communication have grown even more interdisciplinary as researchers attempt to assemble the in situ communicative events that occur in organizations. Before describing how the case studies in this article used ECR alongside other methods, it seems important to explain how I conceptualize organization, communication, and experience.

3   CONCEPTUALIZING ORGANIZATION, COMMUNICATION, AND EXPERIENCE

In this research I conceptualize organization as a kind of network in contrast to a container. Spinuzzi (2015) describes organizational networks operating as a kind of adhocracy supported, in part, by information communication technologies (ICTs). Additionally, he explains organizational networks are nonhierarchical, temporary, flexible, and as a result, adaptive. To illustrate, workers are not connected by bureaucracy, but by a nonhierarchical network of ties often maintained and sustained by ICTs. These workers temporarily come together around a project and then move on to others—sometimes rapidly—perhaps even before a project has completed. As a result, Spinuzzi explains these organizational networks are highly adaptive to both situation and staff. Ties between people can be managed through "mutual adjustment," or the ways in which "individuals coordinate their own work, by communicating informally with each other" (Mintzberg, 1980: 324). How mutual adjustment is coordinated, however, has shifted considerably with the near universal adoption of ICTs at different workplaces.

Central to Spinuzzi's description of organizational networks is the concept of networked individualism because it explains how mutual adjustment is acieved across organizational networks. Networked individualism is a "social operating system," which can be contrasted with "the longstanding operating system formed around large hierarchical bureaucracies and small, densely knit groups such as households, communities, and workgroups" (Rainie and Wellman, 2012: Chapter 1, Section 2, par. 2). The networked individual operates from the center of their own network that they maintain and sustain by multitasking and simultaneously communicating with multiple people across different conversations (Chapter 1, Section 2, par. 2). Networked individuals use ICTs to communicate with others and coordinate work in ways that supports mutual adjustment. For example, one participant in this study explained that his cubicle gave him access to all the ICTs and conversations he needed to access—that his desk was sort of a central command center where he could coordinate and share information with others as needed.

There is an art to effectively communicating across organizational networks to coordinate mutual adjustment. As Hofstede, Hofstede, and Minkov (2010) point out, "The world is full of confrontations between people, groups, and nations who think, feel, and act differently" (4). In other words, a reflective and highly situated read and respond approach to communicating is essential to participating in knowledge production. By "read" I mean analyze and by "respond" I mean compose some sort of appropriate action. Too, the activities of reading and responding are socially constructed. I agree with scholars like Ken Bruffee (1997) and many others, that knowledge is socially produced in conversation and reflection. It follows, then, the more multi-voiced knowledge production becomes, the better off project teams are at work. The epistemic viewpoint of this research is based on social constructivist thinking that the order of the working environment has much to do with social and cultural conditions we accept, but also with power structures that can interrupt ongoing conversations in unproductive ways.

To understand the practice of communicating across organizational networks, I refer to the rhetorical situation (i.e., interplay between audience, message, and) while emphasizing the importance of kairos (i.e., the opportune moment and appropriate venue). In other words, networked individuals must "read" who they are communicating with, why they are communicating with this person, and what the goal is for communicating. Meanwhile, communicators must also make a decision about when and where an interaction should occur to be effective. This approach is obviously aligned to Burke's (1949) concept of the dramatistic pentad. The dramatistic pentad offers an analytical approach for understanding motivation in a communication situation. By using Burke's concepts of agent (who), agency (how),

scene (where), act (what), and purpose (why) as an analytical tool, I am also arguing that communication is an intentional, culturally-situated activity. That is, the social and cultural aspects of communicating are generally established through implicit and explicit means across different organizational networks.

Finally, since communication is a reflection of social and cultural factors, reflecting on experiences in a workplace context is essential to improving outcomes. The research and analytical methods discussed in this article suggest that experiences communicating at work are socially constructed by interactions across organizational networks. Participation in these networks is both essential to creating knowledge and performing knowledge-work. In an organization, these networked interactions are essentially touch-points, or the formal and informal interactions between and among individuals and their workplace as a project is completed. This research assumes experience is also socially constructed. In section 6 of this article, I more fully explain how these ideas influenced analytical techniques. The two sets of data detailed in the next sections of this article help to understand the recursive in situ practices, strategies, and philosophies that influence communication in the workplace. To do so, I detail how I used, like a bricoleur, multiple data points alongside ECR methods to observe in situ communication.

4   CASE STUDY 1

As noted earlier, the first case study focused on a team of information experience designers at a multinational software development company. There were 6 participants enrolled in the study. Three of the participants were middle managers in the organization and while the other three were not managers in title, though they each had responsibilities as project leaders (which meant people reported to them and they to a degree, managed people and projects). The organization was being reorganized, and some substantial changes were afoot, particularly in team communication and workflow. Of these changes, the most substantial seemed to be a shift in philosophy about what information design would look like and how it would be distributed. The reorganization challenged existing ways of thinking about product documentation, and used concepts like design thinking to inspire fresh approaches in delivery of information. My goal for studying the company was to learn about how the team worked and managed their creative work using agile methods, particularly as they worked with others distributed across other offices located in different time zones.

Once my study was approved by the appropriate Institutional Review Board (IRB), I began to collect data. I began with a survey that asked about individual background and goals. The survey ended with a request to privately opt in or out of the research study. After keeping the survey open for a week, I set up appointments to observe participants for one work day. At the end of that work day I interviewed them about what I saw happening. After that interview, I tasked each participant with submitting four "activities reports," which was a term I used instead of experience sample reports[1]. The instructions for the activities reports from the original IRB were as follows "Each activities report will detail the tools and practices used to communicate with others at work during a single work day." Figure 1 illustrates the template I used for each activity report. After the activities reports were submitted, I analyzed the data and set up a second interview with participants. Drawing heavily from Spinuzzi's (2013) approach, I also collected workplace artifacts, and professional social media profiles like LinkedIn. One the data collection was complete, I used all of the information to assemble a thick description of working at the organization during the sampling period (for more information about the study, see Lauren, 2014). The activities reports were essential to this study because they helped me further extend participant-observations beyond what I could arrange access to at the time. I used the activities reports also to show me where work was taking place, combining both ambulatory and ECR.

For the first case, I developed my activities report (see Table 1) from the template provided by Hart-Davidson (2007) and used it in conjunction with Spinuzzi's (2013) methods of studying organizations (see Figure 2). In addition, I was interested in studying the location of work, so I added an ambulatory

---

[1] My rationale in the study was that I was doing an activity analysis of communication, so I wanted the names to align appropriately.

Activities Report

Participant: _____

Directions: List any communication event that influences work on a project.

Date/Time	Type of Event	Title/Topic	Location	Direct/Indirect Influence?
7/15/13; 3PM	Email	Request for updated design	Desk	Direct, influenced documentation
7/15/13; 8AM	Hallway Conversation	Discussing project	Kitchen	Indirect, influenced ideas about project parameter

Figure 1: Activities Report Template

element to my activities report template to learn about where certain kinds of work had taken place in more depth. Formatting the activities report in this way enabled me to statistically analyze where work most often occurred and compare the results across levels to what I witnessed in participant observations (in the case of this team, work most often took place at their cubicles). It also made it easy for me to tie certain kinds of composing activities to specific places in the organization. For example, it showed me how and when certain settings, like a design studio, were used by members of the team to support work and communication. In this way, the formatting of the activity report was meant to establish frequency, type of communication, and location.

Participants were also asked to keep track of each project-related communication—even if it did not have a direct influence on the project. The direct versus indirect influence initially seemed to be defined differently by each participant, so I prompted them to explain their application of the term in their exit interview. Because I asked for each participant to keep track of every communication, the dataset was quite large, but also, varied. Some participants reported approximately 80 communications over the course of a single day, whereas others reported 6. One participant, a manager, did not submit complete activity reports due to unexpected circumstances, and two were unable to participate in their exit interview. Black et al. (2012) discuss how to model data when the dataset is incomplete, which is a frequent issue with self-reported studies. Of note, the authors suggest researchers use several approaches from deleting the data (345) to what boils down to statistically modeling the missing data based on estimating values (346). In the research, I estimated findings of missing or incomplete reports by triangulating across the activities reports of other managers and initial observations. Through this work, I was able to formulate plausible accounts of their work.

The first case provided a larger dataset of activities reports, which made it easier to identify trends across the participants in the organization. On the other hand, the data also lacked the depth of detail provided by the second case study because activities reports requested far less information. Much of the research on ECR suggests that larger datasets are required to establish generalizable trends and to build theories about a population of people. While I do not purport to disagree, the goal of Case 1 was not to build theory, but to describe a phenomenon in depth as the groundwork for future research. The limitations of the dataset (e.g., incomplete reports) were explicitly accounted for and did not invalidate my findings. As Black et al. argue, "Missing data are not inherently problematic" (2012: 340). Instead, the ECR was used as one method that was part of a larger framework. Figure 2 demonstrates that larger

Figure 2: Methods and Analysis Bricolage for Studying Team in Case Study 1

framework by showing how each data point interacted with others to establish an in situ understanding of communication across the team in the organization. Given the amount of data points, the missing or incomplete experience reports caused fewer issues because estimating the likelihood of activities could be established from other sources.

5   CASE STUDY 2

The second case was comprised of three phases of data collection to study the communication practices of project managers and leaders in different contexts. Table 1 demonstrates how each phase fit together, and how ECR experience sampling was used as part of a methods toolkit as with Case 1. For the first phase, after receiving IRB approval, I included interview data from 14 project managers and leaders about their communication strategies, practices, and philosophies. After coding the data, I discovered several themes that were used to design the ECR protocol. The most prominent themes appeared to be a focus on choosing an appropriate setting for communication, the influence of company culture on communication, practicing empathy, and enforcing, creating, or honoring implied or stated social rules.

To extend my findings from the ECR data, I returned to the data about the team detailed in Case 1. In this way, Case 1 and Case 2 were synthesized to glean deeper understanding of in situ communication strategies, practices, and philosophies of project managers and leaders. For the ECR protocol, rather than target a team, as discussed in the first case, I recruited participants who were working as project managers or leaders. My goal was to learn about the within-person in situ experience of communicating as my participants managed projects and people. Once again, approval by my institution's IRB, I recruited two participants and worked with them over a period of four weeks using an ECR approach. Purposefully, I was not looking to recruit a large group of participants, because I had designed a within-person study to better understand interpersonal communication strategies, practices, and philosophies.

To begin the reporting period, participants were given a coaching script (for additional examples, see Moskowitz and Sadikaj, 2012, p. 173-175) that defined each reporting event in depth (see Table 2). Each

Table 1: Data Assembled for Case 2

Research	Data Collected	Sample Size	Duration
Phase 1	Semi-structured interviews	14 participants	Approx. 1-2 hours
Phase 2	ECR experience sampling	2 participants	Approx. 4-5 weeks
Phase 3	Survey, Semi-structured interviews, naturalistic observations, social media analysis, ECR reporting	6 participants	Approx. 3-4 months

participant was also asked to fill out a report immediately the defined event occurred. The report (see Appendix A) that was used was initially piloted by each participant with a goal of being able to fill out and submit the report in approximately 90 seconds (which follows Hart-Davidson's 2007 advice). The experience sampling for Phase 2 looked very different than it did in the first case study. In the first case study the activities reports were used to triangulate findings from several other data points. In the second case, I used the experience sampling to study findings uncovered through interviews. In this instance, the experience sample reports took the place of participant-observations. Using this method was appropriate because I was studying a very specific phenomenon that had already been identified by participants in previous interviews.

Before the reporting period commenced, I spoke with both participants about the process. We talked over the reporting form (Appendix A), but also, discussed piloting the form. After piloting the form for one day, I followed up with participants to learn if there were any issues. Following up on the process of submitting the reporting form became a regular part of weekly interactions with participants. For instance, both participants noted at one point feeling bad because they had not done a thorough job of sampling that week. We were able to discuss the missing data in our weekly interviews, stimulating recall from the missing events and documenting them through an interview. A final note: as previously explained, the second case ends with the data described in Case 1. In studying the team, experience sampling was used to triangulate other data points. However, Case 2 was designed to extend findings from interviews and test findings from Case 1. The goal was to track trends across a large dataset to better understand the communication strategies, practices, and philosophies of project managers and leaders at different workplaces.

6 ANALYZING ECR DATA

In analyzing the data for diary studies where the goal is to elicit recall, it is appropriate to choose analytical models that are descriptive rather than prescriptive. While quite rigorous and insightful, some available techniques of analyzing diary studies often rely on establishing statistical relevance as a means for creating a predictive theory that can be applied across a population (when X occurs, Y is likely to also occur) (e.g., Card, 2012). In contrast, descriptive analytic models are more appropriate for the case studies in this article because the goal of the research is to describe a phenomenon in a way that provides foundation for future study. In the context of case study research, Yin (2009) points out several useful analytic approaches. Importantly, I do not mean to suggest that case study research is not interested in building theory or hypotheses. Instead, I mean to suggest that at root, the case studies in this article focus on describing and assembling phenomenon that is not necessarily generalizable across every organization. As a result, using a diary study method as part of a descriptive case study requires utilizing descriptive models of data analysis. Descriptive methods of analyzing data must continue to be rigorous, but also seek to capture the qualitative nuances emerging from the data.

Table 2: Demographics, approach and co-creation of companies

Week	Coaching Prompt
1	In your interview, you talked a lot about the importance of creating and enforcing ground rules as a way to ensure teams operated in equitable ways, especially during collaborative activities like ideation sessions or retrospective meetings. In the research, I explain this as creating appropriate communication boundaries in the workplace. For the first week I'd like you to fill out a form every time you are creating, participating in, and enforcing social rules as a way to instill appropriate communication boundaries in the workplace. This could manifest itself in several ways, perhaps as microaggressions you recognize and react to. Or, maybe a colleague makes a comment you find crosses appropriate boundaries and you respond to it. Perhaps, as you noted in your interview, this person or people do not follow (what you feel are) established social rules that support equitable participation, and so you talk to your personal network about what you experienced and how you might proceed. After five days of sampling these experiences, I will analyze the data. I will follow-up this analysis with an interview to learn more about the information you submitted to me. Feel free to email me if you run into any snags or have any questions.
2	For the second week, I'd like you to think about environment, setting, or what we can think of as place. In your interview you talked about the importance of place, setting, or environment when communicating with people. In the research, I think of choosing the appropriate setting or creating a safe space for communication as an important strategy of how project managers/leaders and teams of people communicate. Just as with the first prompt, setting might manifest in many ways. For instance, you might think, "I don't want to send this message in this setting" or "I need to manage that conflict face-to-face rather than over email." Additionally, you might realize the importance of a specific room or space to supporting a type of collaboration. For the second week, please send in a report for every communication where you think about the importance of setting or place and how it will influence communication. After five days of sampling these experiences, I will analyze the data. I will follow-up this analysis with an interview to learn more about the information you submitted to me. Feel free to email me if you run into any snags or have any questions.
3	For the third week, I'd like you to sample your experiences practicing empathy. Indi Young (2015) defines empathy as "It's about understanding how another person thinks—what's going on inside her head and heart. And most importantly, it's about acknowledging her reasoning and emotions as valid, even if they differ from your own understanding" (vii). You might practice empathy in a range of ways, such as listening to understand, using a "Yes, and" approach, or being supportive in visible (e.g., speaking out on behalf of a person at a meeting) or less visible (e.g., including someone on an email) ways. You might also practice empathy with people in power, working to understand the needs and goals of upper or executive management, while also practicing empathy with someone who seemingly has less power in the company. You might also work to have an open mind to different ways of working, thinking, and solving problems. After five days of sampling these experiences, I will analyze the data. I will follow-up this analysis with an interview to learn more about the information you submitted to me. Feel free to email me if you run into any snags or have any questions.
4	For the fourth week, I'd like you to sample your experiences responding to the culture of the workplace/team. Culture is a loaded term, or course, but think of it as containing histories or legacies that promote and sustain the values of a company. People might say to you, "Well, this is how we always have done it" or "In the past we…" You might also hear certain buzzwords or key terms used to communicate cultural values, such as "agile" or "lean," and these terms may be used as a way to establish a broader context of mission (e.g., MSU is a Land Grant University). Additionally, think of culture as a company's "sense of community" (Mintzberg, 2013, p. 51), especially when people work to belong to that community or seem to resist the implications of belonging to the community. Finally, Mintzberg (2013) uses another quote that helps to understand culture in the workplace: "In contrast to decision making as a form of controlling, culture is decision shaping as a form of leading" (p. 50). After five days of sampling these experiences, I will analyze the data. I will follow-up this analysis with an interview to learn more about the information you submitted to me. Feel free to email me if you run into any snags or have any questions.
5	In preparation of our final meeting, please draw a mind-map of your communication strategies, reflecting on the above coaching prompts. In the mind map, note the kinds of communication spaces you use to support communicating in the workplace. You can draw the map by hand or use software, like Sketch, to map out your ideas.

As a starting point for data analysis, Yin offers several example methods of analyzing data that can apply to diary studies, arguing case study researchers must consider "rival explanations" (2009: Chapter 1, Section 1, para. 2). In general, Chapter 5 of Case Study Research: Design and Methods is a worthwhile place for many to begin with descriptive analytic procedures. In the book, Yin (2009) accounts for several useful analytical models that align with the approaches described here. To broadly overview, Chapter 5 describes analytical methods such as "Pattern Matching," "Explanation Building," "Time-series Analysis," "Logic Models," and "Cross-case Synthesis." In descriptive case studies, patterns are usually defined before data is collected by the researcher (Yin, 2009: Chapter 5, Section 3.1, para. 2). In Explanation Building, the researcher analyzes data to explain what Yin calls "causal links" (2009: Chapter 5, Section 3.2, para. 3). Time-series Analysis is used to understand temporal patterns of the data (Yin, 2009: Chapter 5, Section 3.3, para. 1) while "the logic model deliberately stipulates a complex chain of events over an extended period of time" (Yin, 2009: Chapter 5, Section 3.4, para. 1). Finally, Cross-case Synthesis is used to analyze trends across cases (Yin, 2009: Chapter 5, Section 3.5, para. 1). Each analytic method is useful given the research questions and dataset, and must be aligned to each rigorously and appropriately. Too, Yin insists on the importance of choosing analytical techniques before collecting data as a means for establishing validity and ensuring a rigorous analysis (Yin, 2009: Chapter 5, Section 1, para. 1). While it is not my goal to describe each analytical model in depth, the next paragraphs explain how I analyzed the data from Case 1 and Case 2, emphasizing my goal to build descriptions of practices, strategies, and philosophies of communicating.

6.1 Analyzing the first case study

For Case 1, I assembled several methods of data collection and my goal was to describe what disruptions occurred as a team worked to collaborate with others distributed across the world at other offices. To do so, I used methods described by Spinuzzi (2013), Hart-Davidson (2007), Yin (2009), and Corbin and Strauss (2008). I began by assembling interview data alongside participant-observation notes and coded it according to predefined starter codes such as "project management" or "tools." Over time these codes were revised as I familiarized myself with the data. After coding interview and observations, I turned to the activities reports and coded the data using the same codes, treating the activities reports as nested (i.e., as a subset) of the participant-observation data to establish validity. Also nested in the participant observation reports were drawings completed of the working environment, including various office environments and the floor plan of the team. If these data points seemed misaligned, I followed up during exit interviews to ask about the disparity in findings.

In one circumstance there appeared to be a minor difference when comparing data provided by activities reports when compared to participant observation, though I was not able to discern the reasons other than reporting error (i.e., the participant did not appear to sample all communication in activities reports--only a portion). In this instance, the quality of what was described in the activities reports was high, but the frequency of reporting seemed improbably low when compared across the rest of the data. Following Black et al. (2012) I estimated the data by triangulating against other findings. After comparing the interviews, participant-observations, and activities reports, I turned to additional data points as a means for triangulating and extending my initial findings. For instance, referring to the LinkedIn profile of participants helped to establish experience and education, as did the survey and workplace artifacts collected. Knowing, for instance, a participant had aspirations to advance to middle management influenced how I understood their long-term goals and motivations. Figure 2 illustrates the interrelatedness of these analytical procedures.

To further analyze the data, I developed models of the data. I began with Spinuzzi's (2013) models of "hand-off chains," "resource maps," "triangulation tables," and "activity systems." Particularly useful for the dataset was assembling the broader activity system of the team. The activity system is based on Leontiev's (1978) ideas about Cultural-Historical Activity Theory. The activity system model that Spinuzzi (2013) explains in Chapter 19 can be understood as a kind of logic model that Yin (2009) describes. Many different kinds of logic models exist, but Spinuzzi's (2013) model helped clarify communication

across the team as a sociocultural activity. Because I used Spinuzzi's (2013) activity system model, I identified contradictions and disruptions in the communication workflow of participants in the study. The first case study was designed specifically to position my research questions in alignment with data collection and analysis. ECR experience sampling was used in this analysis as a means for testing participant-observation impressions, but also, to extend my observation of communication activities in this specific workplace.

Additionally, I mapped the environment to better understand where work took place (see Lauren, 2015). These maps were established through hand drawings completed during participant-observation, but also through an ambulatory analysis of the activities reports. Again, the activities reports were nested in the participant observations to perform this assessment. I used a statistical analysis of where work took place and which activity occurred most often at a given setting to better learn about the role of the environment in the team's communication. While I was not able to generalize this data across teams at other workplaces, the data suggested that there was a contradiction in alignment between the social rules, tools, and division of labor at this specific office. The mapping data aligned with the other data points as well, which helped to establish internal validity of these findings.

6.2   Analyzing the second case study

Case 2, on the other hand, used ECR as a means to extend the findings in Case 1 across project managers and leaders at other organizations. Table 1 demonstrates how the cross-case synthesis was organized. While Case 1 helped establish a broader picture of a team as they managed projects and communicated across the organizational network, it did not provide as deep an analysis of in situ strategies, practices, and philosophies for communicating in such organizations or environments. Case 2 was designed to better understand what was learned in Case 1, specifically as the phenomenon existed at other work contexts. To analyze the data for Case 2, I began with focusing on interview results. As previously noted, I coded the data using predetermined codes based on my research questions and desired unit of analysis. The starter codes were made up of "Project Management Philosophy," "Tools," and a broad category of "Communication." Over time these codes were revised and placed in dialogue with codes in the first case study. Once coding the interview data was completed, I wrote about the findings in a coding memo. The memo was then used to establish communication trends, focusing specifically on strategies, practices, and philosophies. From the memo I was able to develop the coaching prompts (see Table 2) for the ECR protocol.

As I went to analyze and model the data, I returned back to these prompts to code instances of what was found. Following a similar pattern, I coded the data using Burke's (1949) dramatistic pentad terminology to assemble findings into communication events. Once I had established initial findings, I looked for patterns and logics that could be compared to Case 1. To triangulate data, I used the participants resumes, LinkedIn pages, and a mind-map of their communication strategies as they were tied to different settings (e.g., one participant intimated that email can be used to request information or meetings, but sensitive communications, such as those about work performance, must be done face-to-face). Next, I worked to create triangulation tables (Spinuzzi, 2013) across the data collected during the ECR. Of triangulation tables, Spinuzzi explains "It helps us triangulate the two data sources; we can see how closely they line up and where they disagree or are partial" (2013: Chapter 17, Section 1, para. 8). These tables proved especially useful when comparing data across Case 1 and Case 2.

As I continued work on synthesizing the first and second case study, I focused on discovering trends that traverse across each case to describe what the data informs me about in situ communication theory in the workplace. To do so, I used triangulation tables, but on a macro level across cases. As recommended by Yin, each case was being treated as separate studies (2009: Chapter 5, Section 3.5, para. 2). The triangulation tables were being treated specifically useful in synthesizing the cases because it indicated where data established a weak connection between phenomenon, making it possible for considering

rival explanations more purposefully. As well, the these broader tables helped identify additional areas for future study.

7 RESULTS OF USING EXPERIENCE SAMPLING IN CASE STUDY RESEARCH

An important issue that surfaced when analyzing ECR could be understood as variations in frequency of reporting. Upon receiving reports in both case studies, I discovered participants reported with various levels of frequency (e.g., one day a participant would file 28 communicative events, but on another, would file 17). In retrospect, without having an intended goal for the amount of reporting expected, it seemed participants had to make a judgement call on what to report and when. While not necessarily a threat to validity of the research because, after all, some days at work are different than others, the range of reporting presented an initial challenge in assembling in-the-moment experience.

As well, reports exhibited various levels of detail. In the first case study the level of detail was likely due to the template provided (there was not a lot of room for reporting data in the spreadsheet), and so participants were constrained by the research instrument. In the second case study the template for reporting was revised but the submitted level of detail still varied. It appeared reporting was, at times, driven by the participant's level of engagement. For example, the more emotionally dynamic a communicative event was described, the more detail was given. Other events, like sending an email to a coworker and asking for an update, contained less explanation of rationale. Also, even though the template for the second case study was piloted with participants for usability, participants did not always fill out all information fields on the form. It seems likely this route was taken because participants could fill in missing details at the end of the week during the interview. One participant noted it saved time and during an email exchange, asked if what were the essential ideas that needed to be captured in the moment. While we began to work on augmenting the template, the participant ultimately chose to keep it as it had been. In reviewing the protocol, it seemed, at times, participants chose not follow intended reporting guidelines. As Hart-Davidson (2007) suggests, weekly interviews are a useful way to overcome many of these issues.

Also, I sent participants gentle reminders to help keep them on task and notify them of the due dates scheduled for the results of reporting. While participants did not always keep to the schedule, it helped make sure data collection was bound by a specific period of time. In the second case study, I worked to be more proactive about how reporting was done and would spend the first few moments of each weekly interview informally talking about procedures as a way to clarify and reinforce goals for reporting. This seemed to help, though there were still variations in reporting for a number of reasons, such as being preoccupied with important or unexpected issues at work. Despite these variations, openly discussing the dataset made it easier to understand what was missing from the ECR and how to document it for the purposes of the research.

In the research write-up, it is important to account for these variations in reporting by calling direct attention to them and triangulating findings across other data points. Additionally, since in the first case study I positioned the activities reports as a subset of participant observation in my analysis, plausibility could be established through nesting the experience sampling as a subset of observations in Case 1, and in interviews in Case 2. Doing so helped to establish validity of the experience report findings. Triangulating the data in this way also clarified where there were weaknesses or contradictions that required further inquiry.

Lastly, the method used in Case 2 made it difficult to determine how others in that workplace experienced the communication in the moment, which both participants noted as well. While my research design was specifically within-person for Case 2, it should be noted that ECR works well when multiple people in the workplace can participate and report on the same experiences. While not a specific goal of the studies detailed here, it is nevertheless important to establishing in situ communication in the workplace, and is a true opportunity for future ECR research to study organizational communication. In fact, it

seems ECR has the potential to uncover details not always presented by participant-observation and interviews in the moment with the researcher nearby.

8 CONCLUDING THOUGHTS ON EXPERIENCE SAMPLING

ECR experience sampling proved useful in assembling descriptive case study research on the in situ communication strategies, practices, philosophies, and experiences of individuals working across organizational networks. As part of a broader grouping of methods, experience sampling was particularly useful for eliciting recall of specific communication situations at work. The cases presented in this article indicate that when working to build accounts of communicating in the workplace, experience sampling provides a unique view of how in situ communication unfolds. Furthermore, the method is particularly useful for studying within-person practices, strategies, and philosophies, and how they are socially and culturally negotiated.

Lastly, an important takeaway of this research is that experience sampling is a sort of collaboration that occurs between a researcher and participant. As such, there must be a period of time where the researcher adapts and pilots the sampling protocol with participants. Collaborating in this way can lead to more rich results and discussions about how participants read and respond in the moment to communication events at work. As well, using an iterative approach to designing the reporting form may also help assist in assembling validity of the dataset by ensuring participants are able to report at an appropriate frequency for capturing the phenomenon. By collaborating with participants when iterating reporting forms researchers may have a higher likelihood of capturing valid and reliable data about situ communication experiences at work.

9 REFERENCES

Black, A.C., Harel, O., & Matthews, G. (2012). Techniques for analyzing intensive longitudinal data with missing values. In M.R. Mehl & T.S. Conner (Eds.), Handbook of research methods for studying daily life (pp. 339-356). New York, NY: The Guilford Press.

Bolger, N., and Laurenceu, J. (2013). Intensive longitudinal methods: An introduction to diary an experience sampling research. New York, NY: The Guilford Press.

Bruffee, K. (2011). Collaborative learning and the "conversation of mankind." In S. Miller (Ed.), The Norton book of composition studies (pp. 545-562). New York, NY: Norton.

Burke, K. (1945). A grammar of motives. New York, NY: Prentice Hall.

Butts, M.M., Becker, W.J., & Boswell, W.R. (2015) Hot buttons and time sinks: The effects of electronic communication during nonwork time on emotions and work-nonwork conflict. Academy of Management Journal, 58(3), 763–788, Retrieved from http://dx.doi.org/10.5465/amj.2014.0170

Card, N.A. (2012). Multilevel mediational analysis in the study of daily lives. In M.R. Mehl & T.S. Conner (Eds.), Handbook of research methods for studying daily life (pp. 479-494). New York, NY: The Guilford Press.

Corbin, J., & Strauss, A.C. (2008). Basics of qualitative research. Thousand Oaks, CA: Sage.

Doerfel, M.L., & Gibbs, J.L. (2014). Field research. In L.L. Putnam & D.K. Mumby (Eds.), The Sage Handbook of Organizational Communication: Advances in Theory, Research, and Methods (pp. 223-244). Thousand Oaks, CA: Sage.

Fisher, C.D., & To, M.L. (2012). Using experience sampling methodology in organizational behavior. Journal of Organizational Behavior. DOI: 10.1002/job.1803

Hart-Davidson, W. (2007). Studying the mediated action of composing with time-use diaries. In

H. McKee, & D. DeVoss (Eds.), Digital Writing Research: Technologies, Methodologies, and Ethical Issues (pp. 153-170). Cresskill, NJ: Hampton Press.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). Experience Sampling Method: Measuring the Quality of Everyday Life. Thousand Oaks, Calif: SAGE Publications, Inc.

Hofstede, G., Hofstede, G.J., and Minkov, M. (2010). Cultures and organizations: Software of the mind. New York, NY: McGraw Hill.

Lauren, B. (2014). Mapping disruption and contradiction in a thirdspace work environment: Applications for technical communication.(Unpublished doctoral dissertation). Texas Tech University, Lubbock, TX.

Lauren, B. (2015). Mapping the workspace of a globally distributed "agile" team. International Journal of Sociotechnology and Knowledge Development, 7(2), 45-62.

Leontiev, A. N. (1978). Activity, consciousness, and personality. Englewood Cliffs, NJ: Prentice-Hall.

Mintzberg, H. (1980). Structure in 5's: A synthesis of the research on organization design. Management Science, 26(3), 322-341.

Mintzberg, H. (2013). Simply managing: What managers do and can do better. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Moskowitz, D.S., and Sadikaj, G. (2012). Event-contingent recording. In M.R. Mehl and T.S. Conner (Eds.), Handbook of research methods for studying daily life (pp. 160-175). New York, NY: The Guilford Press.

Oerlemans, W.G., and Bakker, A.B. (2013). Capturing the moment in the workplace: Two methods to study momentary subjective well-being. Advances in Positive Organizational Psychology, 1, 329–346, DOI:10.1108/S2046-410X

Ong, W.J. (2002). Orality and literacy: The technologizing of the word. [Kindle version] Retrieved from Amazon.com

Quinn, R.W., & Bunderson, J.S. (2016). Could we huddle on this project? Participant learning in newsroom conversations. Journal of Management, 42(2), 386–418, DOI: 10.1177/0149206313484517.

Rainie, L. and Wellman, B. (2012). Networked: The new social operating system. Cambridge, MA: The MIT Press.

Reis, H.T. (2012). Why researchers should think "real-world": A conceptual rationale. In M.R. Mehl and T.S. Conner (Eds.), Handbook of research methods for studying daily life (pp. 3-21). New York, NY: The Guilford Press.

Shrout, P.E., & Lane, S.P. (2012). Psychometrics. In M.R. Mehl and T.S. Conner (Eds.), Handbook of research methods for studying daily life (pp. 302-320). New York, NY: The Guilford Press.

Spinuzzi, C. (2013). Topsight: A guide to studying, diagnosing, and fixing information flow in organizations. [Kindle version]. Retrieved from Amazon.com

Spinuzzi, C. (2014). How nonemployer firms stage-manage ad-hoc collaboration: An activity theory analysis. Technical Communication Quarterly, 23(2), 88-114, DOI:10.1080/10572252.2013.797334

Spinuzzi, C. (2015). All edge: Inside the new workplace networks. Chicago, IL: University of Chicago Press.

Tracy, S.J., & Geist-Martin, P. (2014). Organizing ethnography and qualitative approaches. In L.L. Putnam & D.K. Mumby (Eds.), The Sage Handbook of Organizational Communication: Advances in Theory, Research, and Methods (pp. 245- 270). Thousand Oaks, CA: Sage.

Yin, R. (2009). Case study research: Design and methods (4th ed.). [Kindle version]. Retrieved from Amazon.com

Young, I. (2015). Practical Empathy: For collaboration and creativity in your work. Brooklyn, NY: Rosenfeld.