Recruiting for and Conducting Qualitative Telephone Interviews to

Study Dispersed Groups, Virtual Organizations, and Distributed Communities

Kerk F. Kee, Ph.D.
Assistant Professor Department of Communication Studies
Chapman University, Orange, California 92866
Moulton Hall, Room 245
949-391-9988 (Google Voice)
714-532-6036 (Office)
714-628-7237 (Fax)
kerk.kee@gmail.com OR kee@chapman.edu
www.ekerk.com

Larry D. Browning, Ph.D.
Professor Department of Communication Studies
The University of Texas at Austin Jesse H. Jones Communication Center CMA Room 7.114 Austin, Texas 78712 512- 471-1931
lbrowning@mail.utexas.edu
Adjunct Professor of Management
Bodø Graduate School of Business at The University of Nordland, Norway

Abstract

This paper provides a flexible framework for email recruitment and telephone interview for studying dispersed groups, virtual organizations, and distributed communities whose work, interaction, and communication are primarily mediated by communication technologies. We argue that under the appropriate conditions, telephone interviewing can yield high quality data, thus it be considered a productive qualitative data collection mode. We regard the framework proposed in this paper as adding to an emerging literature on technology-mediated interviewing and studying virtual phenomena. We suggest that the quality of studies relying on telephone interviewing can be assessed by established criteria in the field. The framework can also be used as a pedagogical tool for training qualitative research students. (112 words)

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Qualitative research methods has a long history, tracing its roots back to the late 1800s and early 1900 in anthropology and sociology (Travers, 2009). The initial methods of interviewing and observations were developed based on two conditions of early cultural communities and sociological phenomena. First, communities emerged out of and existed within a single location and members were collocated. Second, the only mode of access to qualitatively study sociological phenomena was face-to-face (FTF) and extended direct contacts. Given these conditions, the qualitative tradition has tended to prefer research that involves long period of interaction and/or immersion to produce quality data and tacit understanding of the people and social world under investigation.

However, the ways in which people communicate, groups form, organizations emerge, communities develop, and more importantly is the way in which these entities are sustained, have evolved beyond the initial two conditions. There are now many mediated relationships, dispersed groups, virtual organizations, distributed communities facilitated by communication technologies such as the telephone and the Internet. More importantly for qualitative researchers is the recognition that there could be no one single geographical site to enter, to observe, and to study these entities. In fact, today's productive and effective communication processes often involve a combination of FTF and computer-mediated communication episodes in a flow of interconnected sequences (Browning, Morris, & Kee, 2011). Therefore, their FTF interactions may only be transient and representative of a small part of the totality. The commonplace of telecommunications and Internet technologies has created a new condition not just for these entities to thrive, but for qualitative researchers to develop new approaches for data collection.

Telecommunications and Internet technologies present an opportunity to explore how one of the most often used qualitative techniques, qualitative interviewing, can be extended to studying dispersed groups, virtual organizations, and distributed communities that exist beyond the traditional confine of geographic and temporal bounds. More specifically, the purpose of this paper is to explore principles and strategies through which qualitative researchers can employ to recruit informants via emails and conduct effective interviews via telephone to collect quality data. In this paper, we rely on Rubin and Rubin's (1995) definition of qualitative interviewing, which states, "Qualitative interviewing is a way of finding out what others feel and think about their worlds. Through qualitative interviews you can understand experiences and reconstruct events in which you did not participate" (p. 1). We argue that this can be effectively achieved via the telephone interviewing mode. Therefore, we pose the research question: *How can members of dispersed groups, virtual organizations, and distributed communities be strategically recruited and effectively interviewed for understanding their work, interaction, and communication mediated by telecommunication networks?*

In order to explore the stated research question, we organize the paper into four sections. First, we offer a brief literature review on the advantages of telephone interviewing as a viable, and sometimes preferred, mode of qualitative data collection. Second, we provide the context of the study from which we developed the principles for email recruitment and telephone interviews. Third, we present the core strategies employed in our study, which fielded a national sample of 66 interviews across 17 U.S. states and four more from three other countries, resulting in a total of 70 in-depth qualitative interviews. Finally, we conclude with some implications for the framework we proposed.

The Advantages of Telephone Interviewing

Although the telephone as a communication technology was invented in the mid-1870s (Brown, 1994) (relatively about the same time period as qualitative research methods, according to Travers, 2009) and majority of the populations in most developed nations have a telephone, literature on using the telephone as an interviewing mode is scarce, compared to the common FTF interviewing mode. Sturges and Hanrahan (2004) observe, "The use of telephone interviews in qualitative research is uncommon, due largely to concern about whether telephone interviews are well suited to the task" (p. 108) of qualitative investigations. Holt (2010) notes that "the majority of telephone research work tends to be left for 'quantitative researchers' or, at best, semi-structured interviews and the idea that the telephone (or indeed other technologies) may be as useful or perhaps more appropriate for the production of narrative data has been left unexplored" (p. 114). While there are challenges associated with the mode of telephone interviewing, such as lack of nonverbal cues to facilitate the interviewing process (Harvey, 2011; Holt, 2010), informants are likely to present themselves in the best light (Holbrook, Green, & Krosnick, 2003), limited contextual and ethnographic information for subsequent data analysis (Holt, 2010; Shuy, 2002), respondents are more likely to provide no-opinion responding, non-differentiation and acquiescent responses (Holbrook, et al., 2003), just to name a few, there are notable advantages based on the literature we reviewed. These advantages suggest that the quality of interview data collected via the telephone may not be compromised simply because it is not FTF, and in some situations, it may be superior to FTF interview data. We have organized nine advantages into two categories of practical and cultural advantages of the telephone interviewing mode.

Practical Advantages

    We consider the following five points as 'practical' advantages because they pertain to the practical processes of informant recruitment, conducting the interviews, and subsequent data analysis that are consistent across most of the social and cultural situations we considered.

1. *Time Efficiency*. According to Sturges and Hanrahan (2004), the most common reason cited by informants for choosing to be telephone interviewed is not having the time to participate in a FTF interview. If a qualitative researcher insists on an FTF interview, the result may be much fewer interviews and a lower response rate (Harvey, 2011). The advantage of time efficiency is especially true when the researcher and informant are separated by considerable distance, making traveling for a FTF interview time consuming (Gratton & O'Donnell, 2011; N. Stephens, 2007), which also leads to the next point.

2. *Geographical Reach*. For research projects that involve informants spread out at multiple geographical locations, it may not be financially feasible for a researcher to travel extensively in order to conduct enough FTF interviews for a rigorous qualitative study (Gratton & O'Donnell, 2011). Therefore, the telephone mode represents a practical (Holt, 2010) and cost effective (Harvey, 2011; Shuy, 2002; N. Stephens, 2007) mode to expand a researcher's geographical reach for data collection for a study that otherwise may not take place.

3. *(Re)Arrangement Flexibility*. Offering the flexibility of FTF or telephone modes for informants to choose can increase their willingness to be interviewed, thus increasing response rates (Sturges & Hanrahan, 2004). In addition, Holt (2010) points out that when an unexpected interruption occurs during a scheduled interview, it is much easier and more flexible to rearrange for another appointment if it is a telephone interview; it could

be embarrassing and difficult for a FTF appointment, especially if the researcher has already shown up at the informant's home or a mutually agreed location.

4. ***Consistency of Data Level***. The telephone mode produces qualitative data at the consistent level, thus leading to qualitative data analyses that "stay at the level of the text" (Holt, 2010, p. 115). In this case, the researcher relies on what the informants share as the context from which to make analytical interpretations. In fact, staying at the level of the text could be regarded as a preferred method, especially in critical realist discourse analysis (Holt, 2010; Riley, Sims-Schouten, & Willig, 2007).

5. ***Researcher Safety***. For certain studies that involve interviewing socially disapproved (Blee, 2003) or deviant (Hamm & Ferrell, 1998) groups, it may be unsafe for the researcher to travel to and/or be physically immersed at the research site. In order not to put the life of a researcher in danger (Williams, Dunlap, Johnson, & Hamid, 2001), the telephone mode could be utilized for studies that may pose safety concerns to the researcher.

<u>Cultural Advantages</u>

We consider the following four points as 'cultural' advantages because they are advantages due to the western mainstream and ethnically diverse U.S. culture, through which we conducted the study. These advantages may not apply to more homogeneous societies or cultures that do not hold the same assumptions about the meaning of silence and the perceived urgency of telephone calls as elaborated below. While these observations are drawn from existing literature, some variations and exceptions may be observed in future studies due to individual circumstances.

6. ***Induced Richness***. As nonverbal responses are limited during a telephone interview (N. Stephens, 2007), and people who live in western cultures are generally uncomfortable with silence (Newman, 1982), Berry (2002) suggests that the telephone mode can be used to create a tension that leads to more detailed answers. Furthermore, Holt (2010) explains that the lack of nonverbal cues makes both the informant and the researcher tend to perform full articulation, which produces richer text for subsequent analysis. Therefore, certain meanings that would likely be communicated through nonverbal cues in a FTF setting are explicitly included in the interview conversations, leading to richer text and data.

7. ***Fewer Interruptions***. The telephone mode can reduce the number of interruptions as the western cultures in general tend to give more urgency to a phone conversation (Prasopoulou, Pouloudi, & Panteli, 2006), which can be an advantage to a phone interview and a disadvantage to a FTF interview. For example, Holt (2010) recalls "a telephone interview with a mother who was overheard telling her young daughter 'Ssshhhh, I'm on the phone…' at the beginning of the interview, and this seemed sufficient to enable the interview to progress uninterrupted" (p. 117). On the other hand, Harvey (2011) talks about high-profile informants who "often become distracted during an interview [in a face-to-face setting] through for example their telephone ringing or their personal assistant entering the room" (p. 438). Furthermore, Miller (1995) contends that telephone interviewing eliminates the distractions caused by the researcher's physically taking notes during the interview.

8. ***Neutralizing Assumed Privilege and Power***. Within many social research settings many western societies, there are demographic variables, such as race, ethnicity, age,

socioeconomic class, physical disabilities, etc., that could induce certain undesirable power relations between the informant and the researcher. For example, Sturges and Hanrahan's (2004) report a study involving family members of jail inmates who come from marginalized segment of the society when compared with the researcher. Moreover, Neil Stephens (2007) conducted a study with ultra-elites who are highly accomplished and senior members of the society when compared to him, a young researcher working on his dissertation. However, in a telephone interview, some of these demographic variables may not be obvious and/or prominent, therefore, creating a more neutralized conversational space for both the informant and the researcher.

9. ***An Increased Sense of Privacy, Confidentiality, and Anonymity***. Studies that involve interviewing marginalized and stigmatized populations can use the telephone mode to create a neutralizing distance that makes the informants feel more comfortable with disclosing sensitive information, without feeling judged by researcher in person (Sturges & Hanrahan, 2004), what Holt (2010) refers to as facing the "professional gaze" (p. 115). Some informants are more comfortable with the increased sense of anonymity during a telephone interview (Greenfield, Midanik, & Rogers, 2000). In fact, Fenig and colleagues (1993) further argue that "partial anonymity granted by the telephone may increase the validity of responses by reducing the embarrassment involved in responding to emotionally or socially loaded questions in a face-to-face situation" (p. 1).

Based on the practical and cultural advantages reviewed above, it is reasonable to conclude that the telephone interviewing mode could be a valid, acceptable, productive, and valuable method of qualitative data collection under the right circumstances (N. Stephens, 2007). Similar to Sturges and Hanrahan (2004), we found no quality difference between the FTF and

telephone interviews we collected. In fact, Harvey (2011) and Holt (2010) argue that telephone interviewing can be considered a more favorable mode, and not to be regarded as 'second best' to the traditional FTF interviewing mode, given the appropriate conditions. We argue that these conditions can include the study of dispersed groups, virtual organizations, and distributed communities. We will provide the context of research project of such an example below.

The Cyberinfrastructure Community as an Emerging, Distributed, and Virtual Organization and Community

The distributed community of interest in this study is a 'cyberinfrastructure community' in the U.S. between the years 2007 and 2010. A cyberinfrastructure community usually consists of a mix of dispersed scientists, technologists, administrators, funders, social scientists, policy analysts, and industry experts who work in coordination, cooperation, and collaboration to develop and implement a networked-infrastructure for large-scale and big-data science (Atkins et al., 2003; Kee, Cradduck, Blodgett, & Olwan, 2011). Cyberinfrastructure is a national supercomputing network, along with associated computational tools, sensors, datasets, experts, etc., under the funding and support (Kee & Browning, 2010) of the U.S. National Science Foundation's 'Office of Cyberinfrastructure' (OCI) established in 2006 (Seidel, Muñoz, Meacham, & Whitson, 2009). The flagship cyberinfrastructure project during the initial establishment of OCI is called the TeraGrid, which involved a range of professionals located at 11 partner sites across the U.S. (Zimmerman & Finholt, 2006). These partner sites are different universities, supercomputing centers, and national laboratories across the country. TeraGrid was led by a 'Grid Infrastructure Group,' which consisted of representatives from all the partner sites, as well as a list of 'working groups,' consisted of specialists who collaborate with colleagues from other sites on different key issues related to the TeraGrid.

One unique arrangement of the TeraGrid is that its members primarily belonged to different independent institutions across the U.S., but they were also funded by the NSF OCI to work collaboratively on overlapping funding allocations. Therefore, the TeraGrid existed as a virtual organization and/or distributed community with its members working with each other via a mix of FTF meetings, annual conferences, teleconferences, telephones, and the Internet. Given its inherent distributed nature, the time informants are physically collocated at a conference and/or meeting only represents a segment of their complete interaction. Therefore, we decided to pursue studying this distributed community via the telephone interviewing mode.

We conducted interviews over a period of 32 months, from November 2007 to June 2010. The data set includes 70 interviews with 66 informants from across 17 U.S. states and three other countries. The few non-U.S. interviews were conducted to provide appropriate contrasts to frame the U.S. case in the study. The interviews were spread across four years with 10 informants in 2007, 42 in 2008, 16 in 2009, and two in 2010. The shortest interview was 15 minutes (which happens to be a FTF interview) and the longest was 2 hours and 16 minutes (which is a telephone interview). The interviews averaged approximately one hour each and were conducted in person with 19 of the informants and over the telephone with the remaining 51 informants. All the interviews were audio recorded except for two, due to technical difficulty and following one informant's request. However, notes were taken immediately after these two interviews. Furthermore, in order to generate an ethnographic context for this study of a distributed community, the first author attended several events in 2007, 2008, 2009, and 2010 organized by the University of Texas/Texas Advanced Computing Center (UT/TACC, a major site of the cyberinfrastructure community), and attended the Supercomputing 2008 conference (a major conference of the cyberinfrastructure community during which several FTF interviews were

conducted and phone interview informants recruited) in Austin, Texas. Additionally, the first author also attended lectures on cyberinfrastructure held at the Queensland University of Technology in July 2009, 'Society for Social Studies of Science' annual conference in Washington DC in October 2009, the National Communication Association annual conference in Chicago in November 2009, where some social scientists involved in cyberinfrastructure projects presented their work.

The 66 informants came from Texas (12), Illinois (11), California (10), Michigan (5), Indiana (4), Massachusetts (3), Arizona (2), Colorado (2), Louisiana (2), Washington (2), DC (1), Maryland (1), New York (1), Virginia (1), Ohio (1), Pennsylvania (1), Delaware (1), as well as Australia (2), Germany (1), and the UK (1). The geographic affiliations refer to the primary locations of the informants at the time of the interviews. Informants include 52 males and 14 females. Informants' primary professional roles were diverse, including domain scientists who used cyberinfrastructure to conduct large-scale and big data science (15), computational technologists who built cyberinfrastructure (12), a range of administrative directors and program managers at supercomputing centers and national research laboratories across the country (21), U.S. National Science Foundation (NSF) program officers who helped allocate funding to cyberinfrastructure projects (4), social scientists and policy analysts who studied and participated in cyberinfrastructure projects (12), and experts from commercial industry (2).

It is important to note that these roles are the primary roles of the informants at the time of the interviews. However, many wear multiple hats and have multiple backgrounds and disciplinary expertise. Some technologists are professors of computer science and they engage in research. However, they are labeled as technologists in this project because they are involved in the technological aspects of cyberinfrastructure projects. Also, two of the informants were NSF

directors before the interviews, and one became an NSF director shortly after the interview. They were categorized as not in the NSF categories due to the timeline of the interviews, but their insights about the influence of NSF were apparent during the interviews. Additionally, two informants left academic computing and joined the commercial computing shortly before the interviews. Although they were categorized as experts from commercial industry, they were very familiar with cyberinfrastructure in academic and scientific computing.

When geographic origins do not match the physical locations when the interviews were conducted, informants were placed in the locations they were speaking from. This is obvious for a few interviews conducted at the Supercomputing Conference in Austin, Texas. Another mix in the demography of the informants is dual countries; one of the two informants from Australia is also an American. However, he talks about cyberinfrastructure development in Australia during the interview. Therefore, his interview was put in the category of Australia. The non-U.S. interviews provided interesting comparison and contrast to frame the American case.

Cyberinfrastructure is a national development, and the project we embarked on is a national study. It is not possible to travel to various sites and conduct FTF interviews with every willing informant. In order to capture a diversity of perspectives, we chose the telephone interviewing mode (for 51 interviews, about 73% of total) as the most suitable way to conduct interviews with long-distance informants. In addition to the 51 phones interviews, we were able to conduct 19 FTF interviews (about 27% of total) with informants at UT/TACC and the conferences in Austin, Chicago, DC, and, Queensland. Telephone interviews are different from FTF interviews. A FTF interview involves rich nonverbal cues for feedback and observation to create immediacy and build trust between an informant and the researcher. In a telephone interview, the only nonverbal cue available for immediacy and trust is voice. In an interview that

involves uncertainty and ambiguity between two strangers and a task that requires immediacy and trust for disclosure, the interview process needs to be strategically designed. Shuy (2002) argues, "The first task is to persuade the respondent to agree to be interviewed; the second is to elicit the information desired" (p. 537). We follow this general sequence in this project. Since this project employs an unconventional mix of phone interviews and FTF interviews with dispersed and high-profile professionals, it is important to discuss how a combination of media was used in purposeful sequence with related strategies for recruitment.

Strategies for Recruiting for and Conducting Telephone Interviews with Cyberinfrastructure Community Members

This section provides a preliminary model for future studies of similar nature. Invitation is persuasion. The goal of an invitation is for a potential informant to respond, agree, and commit to an interview appointment. Here are the strategies we employed:

Persuasion Principles

1. ***Persuasion by Association.*** At the end of each interview (sometimes during the interview or in a follow-up email), we asked the informant to recommend new contacts we could invite to expand the project. Most of the time, they would generate a list and give us a few names. Two informants offered to send out a recruitment message through national listservs they were on, and a few actually took the initiative to contact their colleagues directly and copied the first author in an email. Two informants introduced the first author to their colleagues at the Supercomputing 2008 conference. When an informant used his or her name in conjunction with our recruitment message, that association increased their colleagues' likelihood of being persuaded to participate.

Second, for each new contact on the list that informants generated, we sent

him/her an email, copied the recommender on the correspondence, and mentioned the

recommender in the body of the email. Once again, we did that to establish an association

with the recommender. Often a new contact would reply and copy the recommender to

indicate a response. In addition, naming and copying the recommender in an email also

verified the legitimacy of the study. Since many people often receive spam or unsolicited

emails, an email copied to a trusted and credible colleague increased positive responses.

2. ***Persuasion by Specificity.*** In the invitation, we specified exactly what the topic was

about (e.g., cyberinfrastructure development, adoption, and implementation) and the

process (i.e., we will call them to conduct a telephone interview). In that case, the

potential informant knew what he or she was committing to when accepting the

invitation. We also provided specific time blocks that we were available. Therefore, a

new contact could look at his/her schedule and pick a time immediately. Specificity made

their decision to respond efficient, thus increasing the likelihood of their participation.

3. ***Persuasion by Trust.*** Trust in this case is an informant's assurance that the researcher

will not misuse the information to damage his/her career and/or reputation. Trust can be

established by association (i.e., referral) as discussed earlier. Trust can also be established

by the researcher's institutional affiliation and personal information. We included a link

to the first author's academic homepage in his email signature as a way to give potential

informants another way to find out about our qualifications as researchers, in case he or

she had doubts or questions about the legitimacy of the study. Quite a few informants

made references to our university and the homepage of the authors and we believe the

access to these types of information allowed them to look us up, thus increasing trust and encouraging them to participate.

4. ***Persuasion by Inducing Kindness/Goodwill.*** Many informants agreed to participate because they did it out of kindness and goodwill. The first author was a doctoral student during the time of this project, working under the supervision of the second author as his doctoral advisor on a dissertation. Stating his graduate student status in the invitation sometimes induced people's willingness to help. All the informants had been students themselves at one time, and many had been graduate students. His student status increased their likelihood to respond out of kindness and goodwill.

   Second, one informant who voluntarily contacted his colleague said in an email, "I thought [the first author] might benefit from the opportunity to speak with one of the people setting the direction of cyberinfrastructure development on a national scale." Another informant specifically stated goodwill and good karma in an email he voluntarily sent to his colleagues, "I encourage you to contact [the first author] and participate in his study. It's both good karma and in our own selfish best interests. It's not often that happens - we ought to take advantage of that!"

5. ***Persuasion by a Sense of Opportunity.*** The reverse of the previous strategy (kindness/goodwill) could also hold true. When a research project is conducted by a graduate student under his advisor's supervision, a new contact may not assign much value to the invitation. We explained in the email that the project was on an important topic and that we had interviewed a wide range of stakeholders across the U.S. This strategy gave a new contact a sense of opportunity of being a part of an important national study. A sense of opportunity motivated some to respond. Furthermore, as

quoted to illustrate goodwill and good karma in (4), the same informant saw the study as an opportunity for the entire cyberinfrastructure community. He also stated in the same email, "As a group of people who are producing cyberinfrastructure, we deal everyday with the challenges of getting more people to adopt cyberinfrastructure. I think one of the best things we can do, over the long run, to facilitate adoption is to participate in studies such as the one [the first author] is engaged in."

6. ***Persuasion by Personalization.*** One's identity is important. We did a Google search on every new contact before sending him/her an email invitation. In the invitation email, addressed appropriately with their titles, we emphasized an angle of the project that related the most to them (i.e., depending on whether they were domain scientists, computational technologists, administrators, NSF officers, etc.). If the recommender had mentioned that a new contact would be a good informant for a particular reason, we also mentioned the reason he or she was recommended. This strategy is akin to Neil Stephens' (2007) approach in interviewing eminent economists in his study, when he states, "I frequently brought copies of my respondent's papers with me to the interview. This … added to their enjoyment of the interview" (p. 211).

Second, we provided our availability converted to their time zones. For example, we typed (Pacific Standard Time, your time zone) in the invitation email, signaling to them that we were aware of their locations. In addition, we would always respond to their replies as soon as possible. Speed of reply indicates the seriousness with which we regarded a potential interview informant. The faster our reply, the more we showed him/her our seriousness. With these efforts, the invitation email was personalized, and

personalization made a new contact feel unique and special. This increased the likelihood

that he/she would respond.

7. *Persuasion by Flexibility.* In every email, we usually included about two weeks of

availability (following the Principle of Specificity discussed earlier). However, we made

sure that our availability was wide and accommodating. The first author would get up and

conduct interviews at 6 AM central time (which is 7 AM in the east coast) and 9 PM

central time (which is 7 PM on the west coast). When an informant needed to reschedule

or failed to pick up the phone for the first appointment, we continued to offer a flexible

schedule for rescheduling. A few times informants completely ignored our availability

and replied with dates/times that we had not specified. In that case, we did what we could

to rearrange our own schedule to match theirs. This effort to accommodate informants

was a result of the realization that if we did not remain flexible, some interviews would

not take place.

8. *Persuasion by Sequence.* Using a foot in the door and Cialdini's (2009) principle of

consistency, we recognized that persuasion is a sequence and not a single act. The first

invitation email was to get a new contact to respond and agree to be interviewed. The

reminder email prior to the phone call was to persuade a new contact to allow audio

recording. We did not want to request audio recording in the first email because digital

documentation may make some new contacts uncomfortable before trust has been

established. After several email exchanges, and when we sensed that trust has been

established, we extended the audio recording request, but we made it optional. Among

the 70 interviews conducted, there was only one instance when an informant requested

not to be audio recorded.

Telephone Interview Procedure

Kvale (1996) maintains, "There is no common procedure for interview research. Interview research . . . if well carried out, can become an art" (p. 13). In the following section, we simply present one possible procedure that may be appropriately adapted in future projects. As mentioned earlier, phone interviews limited the number of nonverbal cues a researcher could employ to create immediacy and establish trust. The interview process involved an intentional sequence with appropriate improvisations. The general structure was as follows:

1. ***Clarify Initial Uncertainty.*** After the beginning greeting, we did not give a brief overview of the study. We did not find that necessary because we usually engaged in a series of emails that explained the purpose prior to the phone call. Also, a consent form was usually signed and returned prior to the interviews. By the time we talked on the phone, informants already were well-informed and had a good idea of what the interview consisted. Instead, we started the conversation by giving the informant an opportunity to ask any questions about the interview. We would usually say, "Before we begin, do you have any questions about the interview today?" If they wanted an overview to refresh their memory, we would then provide one. If they wanted to know how the interview would be used, we would then address that issue. Giving informants an opportunity to ask clarifying questions in the beginning gave them a sense of control over the interview. As Shuy (2002) explains, "When interviewers permit respondents to participate in setting the agenda, to ask questions, and to change the direction of things, they surrender personal power and help to distribute power more equally between the participants" (p. 550). A frequent question informants asked is how the interviews will be used. We explained that the interviews will be used for the first author's dissertation research project in the field

of organizational communication. Another question that came up was who funded or sponsored the project. We then explained that this project was not funded by any external sources but by the doctoral student (the first author), and working under the supervision of his advisor (the second author).

2. ***Build Trust.*** Groves and Kahn (1979) recommend, "the first few moment of the interaction should be designed to request no information but rather to attempt to develop trust of the interviewer by the respondent" (p. 204). In order to build trust further and to indicate that we did not have a hidden agenda, we would say, "Can I have your permission to put you on speakerphone and turn on the audio recorder?" This signaled to the informant that they would be informed of every step to be taken during the interview. This gave them a sense of control, and it also increased trust.

3. ***Document Consent.*** Since consent is an important part of today's research protocol, we made sure that verbal consent was documented during the interview with the question in (2), in addition to the signed consent form. Once the audio recorder was turned on, we would continue, "[Name of the informant], you are now on speakerphone and the audio recorder is running, can you hear me alright?" Their response indicated that they were aware of being audio recorded and that they were agreeing to it. In addition to verbal consent, we also keep a copy of all email exchanges as additional evidence of consent to participate.

4. ***Warm Up with a Biography.*** Since this was the first synchronous telephone interaction between two strangers, the warm-up exercise was for the informant to provide his/her biography. A biography was a good warm-up topic for three reasons. First, it was a topic the informant knew a lot about, so it was an easy topic with which to start. It relaxed the

informant in the beginning. Second, in the process of telling the researcher about his or herself, trust emerged (or was strengthened from prior emails) because a relationship had started (or continued) between the informant and the researcher. Third, human beings have the need to be known. Allowing an informant to share his or her biography in his/her own way fulfilled this need to be known. We also wanted to let informants know that we were interested in them personally before the interview, so our strategy at this point was to state, "We did a Google search on you, and we found out that you did (this, this, and that). However, we would like to begin the interview with you sharing about who you are, what you do, and how you came to be where you are today." In other words, we were interested in the versions of their own biographies, not simply what we had found online.

As noted above in (6) in the previous section, it is important prior to the phone interviews to Google and do some background research on the informants. Keri Stephens (2007) proposes, "Using mass media as a precursor ICT [information and communication technology] increases the effectiveness and efficiency of information… and learning tasks" (p. 498). The essence of this proposition is that proactive use of mass media, such as the Internet and the Google search engine, for information (prior to an actual communication episode) is an effective covert strategy to increase the effectiveness and efficiency of a communication episode. Appropriate and complementary proactive use of mass media for information increases the likelihood for success by providing prior information and making one more knowledgeable for the actual communication episode. Our interview approach followed the wisdom of Stephens' proposition.

Some informants took a bit of time sharing their biographies. That was useful for three reasons. First, the more they talked about themselves, the more trust was established because they told the researcher about themselves and they felt known. Second, the length of their biographies primed them to share just as much about cyberinfrastructure in the remaining time. The use of biography was a priming strategy. Third, many caught themselves taking a lot of time talking about themselves (i.e., one took 20 minutes out of a 60 minutes interview), and they felt bad, as if their biographies wasted our interview time. When they felt that way, they often offered more information and became more open about cyberinfrastructure during the remaining interview time. Some even offered to extend the interview time further because their schedules allowed. Biographies as a warm-up prompt were not only effective as a strategy to start the interview, to build trust, to prime the informant for more sharing, and to set the stage for more disclosure, biographies also provided information for improvisation and customization as described next.

5. ***Customize Pre-Scripted Questions.*** We had pre-scripted interview questions about cyberinfrastructure development (i.e., co-production between scientists as users and technologists as developers), adoption (i.e., reasons and rationales for using the infrastructure), implementation (i.e., distributed collaboration and virtual organization among small groups and interconnected groups of scientists via cyberinfrastructure), definition (i.e., explanation, metaphors, and analogies), history, and future vision of cyberinfrastructure. However, not every question applied to every informant. With their biographies in mind, we were able to improvise, customize, and personalize the interviews based on their unique backgrounds and experiences with cyberinfrastructure.

When time was limited (for example, a couple of interview informants had only about 15 to 20 minutes each), we were able to select which questions to prioritize, drop, and pursue. Furthermore, customizing pre-scripted questions based on biographies allowed us to show our attentiveness to the conversation and to discover what was salient in their consciousness about their identity at work at the moment. If time allowed, we later pursued less pertinent issues. Having heard their biographies also prevented us from asking uninformed questions due to a lack of knowledge of an informant's background.

6. *Free Flow Narrative for Surprises.* An important strength of qualitative interviews is the potential for serendipity. A highly structured interview may be efficient, but it may miss interesting insights. In grounded theory (Browning, 1978; Corbin & Strauss, 1990; Glaser & Strauss, 1967), an investigation is guided by pre-scripted questions that also allow rooms for improvisation, adaptation, and deviation during data collection. Shuy (2002) suggests, "If the goal is to probe deeply and to elicit thoughtful answers, then interviewers' letting respondents self-generate whatever is on their minds is superior to having probes controlled by a standardized set of questions" (p. 552). In order to increase the likelihood of serendipity and elicit thoughtful insights, we built in an opportunity for free flowing narrative. This is when we say, "We have covered a lot of issues in this interview. Before we wrap up, were there questions or issues you thought might come up during the interview, that didn't?" This question usually prompted informants to talk about what they thought might be relevant (if they had given some thought to the interview beforehand) or to answer their own questions about the interviews. There were often interesting insights that otherwise would have been left out by a pre-scripted protocol. For example, two informants talked about tensions and conflicts between

groups of scientists in the process of cyberinfrastructure development only after we started wrapping up the interviews. However, these tensions and conflicts were strong and powerful in these interviews that they prompted a careful analysis of the entire dataset. As a result, a hidden theme in the dataset surfaced after we had been enlightened by the informants. Subsequent data analysis supported their observation and led to an article on a serendipitous theme (citation omitted for peer review purposes; will cite upon acceptance).

7. ***Give in Return.*** Before concluding the interviews, we thanked the informants for their time and insights. Furthermore, we also offered to share our research findings when the project is complete, giving our anticipated project completion date. Because we offered to give something back in return, informants often felt appreciated for their efforts. This promise of reciprocation, although a couple of years in the future at the time the interviews were conducted, helped further strengthen the trust that was established beginning with the first email invitation and culminating in the interview.

Conclusion & Implications

In this paper, our goal was to explore how one of the most often used qualitative techniques, qualitative interviewing, can be extended to studying groups, organizations, and communities that exist beyond the traditional confine of geographic and temporal bounds. More specifically, we posed the research question: *How can members of dispersed groups, virtual organizations, and distributed communities be strategically recruited and effectively interviewed for understanding their work, interaction, and communication primarily mediated by telecommunication networks?* In order to explore this question, we organized the paper in four sections. First, we offered a brief literature review on the advantages of telephone interviewing

as a viable, and sometimes preferred, mode of qualitative data collection. Second, we provided

the context of the study from which we developed the strategies for email recruitment and

telephone interviews. Third, we presented the core principles and strategies employed in our

study, which fielded a national sample of 66 interviews across 17 U.S. states and four more from

three other countries, resulting in a total of 70 in-depth qualitative interviews. Finally, we would

like to conclude with some implications for the strategies we proposed.

First, it is important to note that our goal is to provide a strategic framework for email

recruitment and telephone interview of dispersed and blended groups, therefore, being emerging,

distributed, virtual, and technology-mediated is the assumed conditions for assessing the

appropriateness of the strategies proposed for future projects. Given the concerns of digital

divide (Norris, 2003) and how it can marginalize certain segments of the society and the world,

we see the telephone, given its long history and wide diffusion, as a safe communication

technology to reach long-distance informants who may be less familiar with newer

communication technologies on the Internet. However, given the proliferation of virtual

organizations and the innovative computer-mediated-communication patterns in contemporary

societies, the framework we propose could add to the emerging literature on online and email

interviewing (James, 2007; James & Busher, 2006, 2009; McCoyd & Kerson, 2006), computer-

mediated focus groups using group support systems (Franklin & Lowry, 2001) and

videoconferencing (Gratton & O'Donnell, 2011), virtual ethnography in graphical online

environment (Hine, 2000; M. Williams, 2007), blogosphere (Hookway, 2008), virtual work

(Gibbs, 2009; Kee & Thompson-Hayes, 2012), etc.

Second, Sturges and Hanrahan (2004) explain that a major concern of telephone

interviews in the research community is data quality. We have argued in this paper, along with

other scholars whose works we reviewed in this paper that telephone interviews can be of high-quality. When practiced appropriately under the right circumstances, the telephone mode could yield better quality data or data that otherwise cannot be easily obtained. In order to systematically assess if the data collected via the telephone and the research analysis based on telephone interviews are of rigorous standard, we refer readers to Tracy's (2010) eight 'Big-Tent' criteria for excellent qualitative research. She argues that in order to be deemed excellent qualitative research, a study needs to demonstrate: worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence. We believe these criteria could be met by carefully collected telephone interview data. One way to verify data quality is to perform a members check. If members of the community under studied recognize the findings to be true and accurate (Lindlof & Taylor, 2002), then the telephone mode should be regarded as appropriate and productive.

Finally, along with Tracy's (2010) criteria and similar to one of the goals she stated in her article, we believe our framework can be used for pedagogical purposes. In other words, for students learning how to conduct qualitative interviews for the first time, the persuasion principles and telephone interview protocol we presented could be used as an initial guide, adapted appropriately to the goals of the qualitative methods professors of individual classes, especially if the project involves studying distributed communities who are comfortable with using a range of communication technologies. As previously stated, "There is no common procedure for interview research. Interview research . . . if well carried out, can become an art" (Kvale, 1996, p. 13). We do not intend for the model presented as a strict guide, but a starting point for the art of qualitative interviewing to be developed for new students under the guidance of their teachers.

References

Atkins, D. E., Droegemeier, K. K., Feldman, S. I., Garcia-Molina, H., Klein, M. L., Messerschmitt, D. G., . . . Wright, M. (2003). Revolutionizing science and engineering through cyberinfrastructure: Report of the National Science Foundation Blue-ribbon Advisory Panel on Cyberinfrastructure. Washington, DC: National Science Foundation. Retrieved December 19, 2006 from http://www.communitytechnology.org/nsf_ci_report/.

Berry, J. M. (2002). Validity and reliability issues in elite interviewing. *PS: Political Science and Politics, 35*(4), 679-682.

Blee, K. M. (2003). *Inside organized racism: Women in the hate movement*: Univ of California Press.

Brown, T. (1994). *Historical first patents: The first United States patent for many everyday things*. Ann Arbor: University of Michigan: Scarecrow Press.

Browning, L. D. (1978). A grounded organizational communication theory derived from qualitative data. *Communication Monographs, 45*(2), 93-109.

Browning, L. D., Morris, G. H., & Kee, K. F. (2011). The role of communication in positive organizational scholarship. In K. S. Cameron & G. M. Spreitzer (Eds.), *Oxford handbook of positive organizational scholarship* (pp. 566-578). Oxford: Oxford University Press.

Cialdini, R. B. (2009). *Influence: Science and practice* (5th ed.). Boston, MA: Pearson Education.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*(1), 3-21.

Fenig, S., Levav, L., Kohn, R., & Yelin, N. (1993). Telephone vs face-to-face interviewing in a community psychiatric survey, from

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1694719/

Franklin, K. K., & Lowry, C. (2001). Computer-mediated focus group sessions: Naturalistic inquiry in a networked environment. *Qualitative Research, 1*(2), 169-184.

Gibbs, J. (2009). Dialectics in a global software team: Negotiating tensions across time, space, and culture. *Human Relations, 62*(6), 905-935. doi: 10.1177/0018726709104547

Glaser, B. G., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Piscataway, NJ: Aldine Transaction.

Gratton, M. F., & O'Donnell, S. (2011). Communication technologies for focus groups with remote communities: A case study of research with First Nations in Canada. *Qualitative Research, 11*(2), 159-175.

Greenfield, T. K., Midanik, L. T., & Rogers, J. D. (2000). Effects of telephone versus face-to-face interview modes on reports of alcohol consumption. *Addiction, 95*(2), 277-284. doi: 10.1046/j.1360-0443.2000.95227714.x

Groves, R. M., & Kahn, R. L. (1979). *Surveys by telephone: A national comparison with personal interviews*. New York: Academic Press.

Hamm, M. S., & Ferrell, J. (1998). Confessions of danger and humanity. In J. Ferrell & M. S. Hamm (Eds.), *Ethnogrphy at the edge: Crime, deviance, and field research* (pp. 254-275). Boston, MA: Northeastern University Press.

Harvey, W. S. (2011). Strategies for conducting elite interviews. *Qualitative Research, 11*(4), 431-441.

Hine, C. (2000). *Virtual ethnography*: Sage Publications Ltd.

Holbrook, A. L., Green, M. C., & Krosnick, J. A. (2003). Telephone versus face-to-face

interviewing of national probability samples with long questionnaires: Comparisons of

respondent satisficing and social desirability response bias. *Public Opinion Quarterly,

67*(1), 79-125.

Holt, A. (2010). Using the telephone for narrative interviewing: A research note. *Qualitative

Research, 10*(1), 113-121.

Hookway, N. (2008). Entering the blogosphere': Some strategies for using blogs in social

research. *Qualitative Research, 8*(1), 91-113.

James, N. (2007). The use of email interviewing as a qualitative method of inquiry in educational

research. *British Educational Research Journal, 33*(6), 963-976.

James, N., & Busher, H. (2006). Credibility, authenticity and voice: Dilemmas in online

interviewing. *Qualitative Research, 6*(3), 403-420.

James, N., & Busher, H. (2009). *Online interviewing*: Sage Publications Ltd.

Kee, K. F., & Browning, L. D. (2010). The dialectical tensions in the funding infrastructure of

cyberinfrastructure. *Computer Supported Cooperative Work 19*(3), 283-308.

Kee, K. F., Cradduck, L., Blodgett, B., & Olwan, R. (2011). Cyberinfrastructure inside out:

Definitions and influences shaping its emergence, development, and implementation In

D. Araya, Y. Breindl & T. Houghton (Eds.), *Nexus: New intersections in Internet

research.* (pp. 157-189). New York: Peter Lang.

Kee, K. F., & Thompson-Hayes, M. (2012). Conducting effective interviews about virtual work:

Gathering and analyzing data using a grounded theory approach. In S. D. Long (Ed.),

Virtual work and human interaction research (pp. 192-212). Hershey: IGI Global.

Kvale, S. (1996). *Interviews: An introduction to qualitative research*. Thousand Okas, CA: Sage.

Lindlof, T. R., & Taylor, B. C. (2002). *Qualitative communication research methods*. Thousand
    Oaks, CA: Sage.

McCoyd, J. L. M., & Kerson, T. S. (2006). Conducting intensive interviews using email.
    Qualitative Social Work, 5(3), 389-406. doi: 10.1177/1473325006067367

Miller, C. (1995). In-depth interviewing by telephone: Some practical considerations. *Evaluation*
    & Research in Education, 9(1), 29-38.

Newman, H. M. (1982). The sounds of silence in communicative encounters. *Communication*
    Quarterly, 30(2), 142-149.

Norris, P. (2003). *Digital divide: Civic engagement, information poverty, and the Internet*
    worldwide (Vol. 40): Taylor & Francis.

Prasopoulou, E., Pouloudi, A., & Panteli, N. (2006). Enacting new temporal boundaries: The role
    of mobile phones. *European Journal of Information Systems, 15*(3), 277-284.

Riley, S. C. E., Sims-Schouten, W., & Willig, C. (2007). The case for critical realist discourse
    analysis as a viable method in discursive work. *Theory & Psychology, 17*(1), 137-145.

Rubin, H. J., & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data*: Sage
    Publications, Inc.

Seidel, E., Muñoz, J., Meacham, S., & Whitson, C. A. (2009). A vision for cyberinfrastructure.
    Computer, 42(1), 40.

Shuy, R. W. (2002). In-person versus telephone interviewing. In J. F. Gubrium & J. A. Holstein
    (Eds.), *Handbook of interview research: Context and method* (pp. 537-555). Thousand
    Oaks, CA: Sage.

Stephens, K. K. (2007). The successive use of information and communication technologies at
    work. *Communication Theory, 17*(4), 486-507.

Stephens, N. (2007). Collecting data from elites and ultra elites: Telephone and face-to-face

    interviews with macroeconomists. *Qualitative Research, 7*(2), 203-216.

Sturges, J. E., & Hanrahan, K. J. (2004). Comparing telephone and face-to-face qualitative

    interviewing: a research note. *Qualitative Research, 4*(1), 107. doi:

    10.1177/1468794104041110

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative

    research. *Qualitative Inquiry, 16*(10), 837-851. doi: 10.1177/1077800410383121

Travers, M. (2009). New methods, old problems: A sceptical view of innovation in qualitative

    research. *Qualitative Research, 9*(2), 161-179.

Williams, M. (2007). Avatar watching: participant observation in graphical online environments.

    Qualitative Research, 7(1), 5-24.

Williams, T. E., Dunlap, B., Johnson, D., & Hamid, A. (2001). Personal safety in dangerous

    places. In J. M. Miller & R. Tewksbury (Eds.), *Extreme methods: Innovative approaches

    to social science research* (pp. 216-238). Boston: Allyn & Bacon.

Zimmerman, A., & Finholt, T. A. (2006). TeraGrid user workshop final report. . *Collaboratory

    for Research on Electronic Work, School of Information, University of Michigan.*

    Retrieved January 10, 2010, from http://deepblue.lib.umich.edu/handle/2027.42/61841