

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/232656867>

Online ethnographic methods: Towards a qualitative understanding of virtual community practices

Chapter · January 2011

DOI: 10.4018/978-1-60960-040-2.ch025

CITATIONS

3

READS

2,126

1 author:



Jörgen Skågeby

Stockholm University

49 PUBLICATIONS 194 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Retrocomputing [View project](#)



Coactive technologies [View project](#)

Chapter 25

Online Ethnographic Methods: Towards a Qualitative Understanding of Virtual Community Practices

Jörgen Skågeby
Linköping University, Sweden

ABSTRACT

This chapter describes the use of online ethnographical methods as a potent way to reach qualitative understanding of virtual communities. The term online ethnography envelopes document collection, online observation and online interviews. The chapter will explain the steps of conducting online ethnography – from defining setting and spelling out your research perspective, to collecting online data, analyzing gathered data, feeding back insights to the studied community and presenting results with ethical awareness. In this process the chapter will compare online ethnography to traditional ethnography and provide illustrative empirical examples and experiences from three recent online ethnographical studies on social information and media sharing (Skågeby, 2007, 2008, 2009a). While multimedial forms of data and data collection are becoming more common (i.e. video and sound recordings), the focus of the chapter lies mainly with text-based data. The chapter concludes by discussing methodological benefits and drawbacks of an online ethnographical process.

INTRODUCTION

User engagement and communication sharing are two very central activities of virtual communities. In themselves, these activities also lay the ground for online methods as practical means of data-collection. The enduring qualities of some conversations and the technological means to

record other, more transient, conversations make it possible to collect social data from virtual communities. Indeed, the growing body of research in the field of Internet studies provides support to the viability of online methods to examine virtual community practices, behaviours and sentiments (Granello & Wheaton, 2004; Hine, 2005; Kinnevy & Enosh, 2002; Maczewski, et al., 2004). Not only does this development give an improved scholarly foundation for researchers to “honour the field in

DOI: 10.4018/978-1-60960-040-2.ch025

which the participants are working – the online environment” (Crichton & Kinash, 2003), but also that “turning to the Internet for data collection [...] prompts one to think outside of the traditional box and leads to creative methods and measurements” (Skitka & Sargis, 2006, p. 543).

Online Ethnography as a Method to Understand User Engagement and Communication Sharing

Online ethnography is a qualitative approach to data collection in virtual communities. As such, its aim is usually to look beyond amounts and distributions and to try to unearth the deeper reasons for behaviours or sentiments (i.e. “why?”). In the attempt to find answers to the question “why?” online ethnography must acknowledge that usage is often situated in specific communities and with specific communication technologies. As Jones (2005) puts it: “Internet studies can [...] describe and intervene in the life and values of the people who use the internet, and these can be best understood, no matter our temporal distance, through close observation and analysis of specific people and technologies, in specific places and times”.

In many ways, online ethnography is not very different from traditional ethnography (Hine, 2000; Jakobsson, 2006). In fact, online ethnography has been described as “[traditional] ethnography adapted to the study of online communities” (Guimarães, 2003; Kozinets, 2002). Thus, to understand online ethnography, this chapter argues that it is important to understand the “costs and benefits” of traditional ethnography. A very short, but concise, explanation of ethnography would articulate it as a description of individuals, groups or cultures in their own environment over a (long) period of time. As such, ethnography is not explicitly wed to a specific set of methods, but commonly the utilized methods are qualitative in nature (e.g. observations and unstructured interviews). This chapter will discuss how document collection, direct observations and participation as

well as mediated interviews with key informants can help researchers to shape a valid description of a studied virtual community.

THE ONLINE ETHNOGRAPHICAL PROCEDURE

The online ethnographical procedure consists of a number of different steps, namely cultural entrance (or *entrée*), collection and analysis of data while also making sure that trustworthy interpretations are made, conducting ethically sound research and making sure that members of the studied milieu can provide feedback to the research(er). This chapter will describe these steps, but use a slightly different, and elaborated taxonomy, i.e. defining setting and research perspective; making an entrance; qualitative online data collection; analysis; and presentation of results. Additionally, the author will also consider the omnipresent ethical dilemmas that colour online ethnographical research.

Defining Setting and Research Perspective

This chapter will assume that an important research question has already been defined and that online ethnography has been identified as a workable method for addressing this particular question. It may be that online ethnography is judged to be the only available method for this specific question. In some cases it might even be seen as counterproductive to include other (offline) data collection methods – particularly when researching the specifics of mediated social interaction (Markham, 2004b). Still, it is important to understand that online ethnography is one method part of a larger repertoire of viable qualitative methods. This means that even though a study is aimed towards a virtual community, online and offline methods can sometimes be used in conjunction when researching certain practices or other social phenomena (Garcia, et

al., 2009; Silver, 2000). Thus, defining the setting and how the studied phenomena permeates or does not permeate the online/offline border can be crucial for subsequent methodological choices. Consequently, the setting should be defined in both social and technical terms, illustrating for example typical features, system development processes, user base, historical background, characteristic social phenomena (if any), content of significance in FAQ:s, any official standards of conduct etc. The declaration of setting provides readers with the basic knowledge needed to contextualize the findings and insights presented later as well as judge how the studied phenomena relates to the chosen setting on a larger scale. The reader can then make connections between the application genre, its features and the emergence of rules or practices. From a study of music file-sharing we see an example of how a high-level description of the setting can be written below (Skågeby, 2007):

Example: High-Level Setting Declaration

The network Soulseek (slsk) is one of the more popular P2P music networks, although it has kept an ‘underground spirit’ to it. Some members are annoyed that Soulseek is appearing in the media, something that has become more common. Soulseek is not a large-scale business endeavour, which makes the official descriptions and ‘biographical accounts’ of it stem from Wikipedia (“Soulseek,” 2006) or published interviews with the main programmer (Mennecke, 2003), rather than press releases or white-papers.

Soulseek is a file-sharing application and tightly knit network used mostly to exchange music, although able to share a variety of files. It was created by Nir Arbel, a former Napster programmer. Like Napster, it relies on a central server. Soulseek is free of spyware and other malicious code. Soulseek is different from other file sharing programs as it allows users the option of downloading full folders instead of just single files.

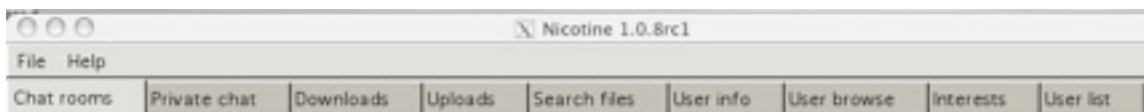
The original Soulseek userbase was composed mostly of members of the IDM [Intelligent Dance Music] Mailing List, and most of the music first found on Soulseek was underground electronic music or music created by the users themselves. After Audiogalaxy [another popular music-sharing service] was shut down, however, many former Audiogalaxy users migrated to Soulseek and brought copyrighted music owned by record labels belonging to the RIAA [Recording Industry of America Association]. Nevertheless, Soulseek remains a favourite of fans of underground and independent music, and a large portion of file-sharing on Soulseek is legal sharing of music that is distributed under a free license.

The userbase has grown rapidly since its beginnings, and there are now some 120,000 users at any given time, with more than one million total registered users in early 2004. (“Soulseek,” 2006)

In terms of interaction, the picture below shows the overall interaction categories (these would be expanded on in a more elaborated description). Within each category there are additional, more specific features.

This chapter strongly recommends that the critical next step of an ethnographic research process is to declare the perspective from which

Figure 1. A structural overview of the interaction repertoire in Nicotine (one of the applications used to access and interact with the Soulseek network)



the researcher(s) are initiating their endeavour. This is a step that is more often than not, overseen by (online) ethnographic research papers. This may be due to the limited space often provided to papers or chapters, but nevertheless, as ethnographic research is so dependent on the relationship between researcher and the researched context, it presents itself as a necessary component of any ethnographic study. To declare a research perspective means to initiate a self-reflecting process, where the researcher(s) try to unfold his or hers prior interpretations and personal experiences of the studied domain and the present research questions. It also means to acknowledge the perspective that pure objective and value-free descriptions are very difficult, if not impossible. The Internet is also a setting for fieldwork and as such not neutral to bias from agendas, personal histories or social norms (Murthy, 2008). Thus, much importance lies in the in depth awareness and declaration of such potential preconceptions and the realization of how such preconceptions can enrich the research. In many ways, an ethnographic process is about taking turns between the stories of the researcher (e.g. the debriefing descriptions) and the stories of the participants, looking for instances where those stories converge (Guimarães, 2003).

This chapter, and much of the literature on interpretative methods, mentions the methodological importance of declaring the research perspective (Jones, 2005; Walstrom, 2004). In new media contexts it becomes particularly important, as it has the potential to further strengthen the entire field of Internet studies: “One action to be undertaken is questioning by us how we come to the knowledge we have. That is to say that, if an interpretative turn consists at least in part of self-reflection, of knowing how we know others, then we must as part of the development of our research and scholarship unpack the complicities and complications of our own positions as Internet users” (Jones, 2005). The process of unpacking our own positions as Internet users requires that

we, as online ethnographers, ask ourselves, and people in our close surroundings, some important questions, namely:

- What phenomena do I/we initially see in the problem area and why?
- Are there other ways to delimit/categorize phenomena in the problem area?
- What are my experiences of the problem area?
- What are my preconceptions about relationships between phenomena in the problem area?
- What are my values relating to phenomena in the problem area?

Answering these questions, honestly and with detail, is likely to enhance the dependability of the research. As described, once an ethnographical study is launched it is often seen as an obligation for researcher’s to, as accurately as possible, describe the context of the study (e.g. for reasons of transferability). This chapter argues that before a study is launched a declaration of self-reflection also needs to be conducted (i.e. by reflecting over the questions above).

Example: Researcher Perspective – Insider vs. Outsider

In prior studies conducted by the author of this chapter (Skågeby, 2007, 2008, 2009a), the stance of the researcher was to be an outsider with certain inside experience. The benefits of such a position are that there still is room for reflective observation as well as improved analytical skills from knowing the basics of interaction and technical features (e.g. by avoiding technical slip-ups or elementary social faux-pas). Other ethnographers have also deemed this to be a favourable research stance (Forsythe, 1999). A clear benefit of having an inside experience is that researchers who are viewed as insiders, or at least knowledgeable of the “local customs”, will face an easier task

when recruiting key informants (i.e. for follow-up interviews). Associating with central community members, engaging them as participants of the research (rather than just respondents), provides the researcher(s) with situated interpretative proficiency. The taking on of key informants could not only add interpretative fine-tuning, but potentially also enhance the reach of the method allowing for hidden or hard-to-reach populations to be included in the study (Matthews & Cramer, 2008).

Making an Entrance

How to “enter” the studied community depends much on whether hidden or open research is intended (i.e. if the researcher intends to not only gather data from archives, but also engage or participate in the ongoing activities of the community and its members). This, in turn, could depend on the nature of the studied community and how the results are fed back and ultimately disseminated. At the end of the day there is the question of how sensitive the material is judged to be and the potential harms and benefits that can result from the publication of the research (Murthy, 2008). Thus the entrance in a community can vary from simply identifying a community forum message archive appropriate to study, on the basis of the level of activity in it (i.e. number of active members, amount and richness of postings) (Kozinets, 2002) to overtly presenting oneself, the study and continuous results, obtaining collective informed consent and taking measures to protect participant privacy (Sharf, 1999). The practical issues and consequences of presenting oneself as an online researcher, and how it may depend on the specific social context, is effectively discussed by Garcia and colleagues (2009). They say, for example, that gender can still be an issue, sometimes posing a threat and sometimes acting as a factor enhancing trust. Referring to official web pages hosted by the University in charge, or other proofs of authorization, seems to balance out any informal tones that can otherwise build

caution with respondents. Naturally, any attempts to recruit or approach participants should adhere to the current informal rules, or netiquette, in order to circumvent potential social gaffes.

Online Ethnographic Data Collection

Once entrance is made, data collection may commence. The three most common data collection methods used in online ethnography are (1) document collection, (2) online observation and (3) online interviews.

By document collection I refer to the gathering of some form of archived interaction (e.g. mailing list archives, forum discussion archives). Online observation refers to the researcher’s concurrent use of, and data collection through, the services or applications utilized in the studied online practice. For example, the use of chat services (Svenningson, 2001), or virtual world systems (Jakobsson, 2006) as both means and ends to observe practices. Compared to document collection, online observation is real-time and synchronous, something which carries implications on both the observation type and the researcher role (as shall be elaborated on later). Online interviews means to use synchronous, micro-synchronous or asynchronous communication technology as a mediator of an interview. Benefits and drawbacks of each method will be concisely summarized under each section respectively.

Document Collection

Document collection refers to the gathering of, in some sense, archived data. In general, the data comes from asynchronous genres of communication, such as discussion forums, blogs or mailing lists. As such, the data collected via document collection is usually made up of textual material. However, with the increasing multimediated social interaction in for example social networking sites, audio and video are to an increasing extent included as data sources. The richness of social network-

ing sites is acknowledged by Murthy (2008) who ascertains: “when conducted alongside other data (e.g. interviews), the sites can provide unique in-depth autobiographical accounts of scenes and respondents” (p. 846). Certain structural and contextual information can also be collected via, for example, screenshots.

The selection and amount of data collected is usually at the discretion of the ethnographer and should, naturally, be guided by the research question. Since a lot of communities are highly social arenas with its benefits and drawbacks, data can be cluttered with ‘off-topic’ material. In a general sense, ethnography is interested in all community activities, but depending on the research question a preliminary sorting can be resource-saving. A risk is that it can be hard to predict what to save and pursue and what to discard and ignore, even with a narrow topic of research. On the one hand, this depends on the relevance of answering the research question and is up to the skills of the researcher. On the other hand, the technical cost of saving additional material from online ethnographic studies is usually low, so while a preliminary sorting can save time and effort, there is always a possibility to re-include material previously disregarded.

Document collection is typically one of two types: (1) targeted or (2) distributed. Targeted document collection means that one specific forum is selected because of its specific relevance to answering the research question (e.g. topical or demographical relevance). In this case, the actual collection boils down to identifying relevant discussion threads or posts and saving these. If the research question is limited in scope in relation to the overall topic of the forum, this chapter suggests to make use of search options included for the specific studied forum, but also that a final relevance judgement must be made at human discretion. In the case of distributed document collection, several for a (or blogs), are searched for relevant discussion. It might be that these are general discussion fora containing a wide

variety of discussions, not only pertaining to the specific research question. This approach is largely made possible by the continuously refined search options and techniques offered by both general (e.g. Google) or specialized (e.g. Boardreader, Omgili, Blogpulse) search engines. As such there is a larger reliance on language and technology, but also a potential to widen both the reach and variety of the data.

Online Observation

Internet use is often distributed over different techniques (such as discussion groups, instant messaging conversations, shared files, member profiles etc.) and capable of leaving many manifest traces. A combination of different sources of data can be very rewarding for scientists with an interest in social activities on the net. Thus, to actually engage in the common activities of a network or community is beneficial in reducing the potential gap between what people say and what people do. In much virtual community research the co-evolution of social activities, groupings and technical tools and development becomes a central theme. What is interesting is to understand how the virtual community works, often from the perspective of the users. However, the user does not act in a sociotechnical vacuum: the motivations, technology, netiquette, and conflicts of interest etc. emerge during social interaction. As such, using the same application(s) that members are utilizing can considerably help the online ethnographer understand new aspects of use. Note that this could also include using any other applications that the studied community favour, which may further assist to develop a sense of what is relevant, important and significant to the end-users. In summary, the researcher should make an effort to experience daily life as it is composed for the regular members of the studied community (Garcia, et al., 2009). In the words of Walstrom (2004): “Moreover, this approach obliges researchers to not only participate in the [online] groups

Table 1. Observation types and researcher roles (Svenningsson, 2001)

	Participant	Partly participant	Only observing
Open observation	[Participant observer]		[Reporter]
Partly open observation			
Hidden observation	[Wallraff/undercover]		[Spy]

that they study but also to have experienced the dilemma central to the participants' discussions".

This participation, however, can be hidden, open or somewhere in between. In the table below we see a summary of different research perspectives based on hidden/open and participant/observing dimensions:

The choice of how to conduct online observation can depend on several factors. Depending on the type of community it is not always technically possible to be open towards all other members (e.g. in P2P file sharing). Another aspect is whether online observation is used as primary or supplementary method. If used as supplementary method and not dealing with individuals or sensitive data, but as a way to confirm insights about ways of conduct in a general sense (i.e. practices) a hidden approach could be defended. However, if used as a primary method and dealing with potentially sensitive data, the researcher-participant trust can be heavily damaged if conducted in a hidden manner (Skitka & Sargis, 2006).

The question of how to record data from online observation has several possible answers. For example, Jakobsson (2006) made video recordings of a virtual environment (while concurrently also entrusting his avatar with a video camera). Screenshots is another, more static, option. As always, such material must be kept confidential. If considered for publication, informed consent and/or anonymization should be collected and performed. Interestingly, the role of field notes has been thoroughly discussed in literature on traditional ethnography (Emerson, et al., 1995), but as regards online ethnography it has not been well covered. However, the importance of these,

and the process of collecting them, is not to be underrated. Several authors have reported on the high value of field notes in online ethnography (Baym, 2000; Jakobsson, 2006). In studies of an online music sharing community, the researcher's usage of a sharing application generated an ample amount of central field notes (Skågeby, 2007). The main point of online observation and field notes is that the researcher must be sensitive to phenomena that cannot be deduced from text only. For example, in the aforementioned music study, fieldnotes about the conduct of users in terms of what they downloaded and shared, in combination with what they talked about, provided deeper insights and theoretical sensitivity than conversations alone. Typical categories of data that can be recorded via fieldnotes are implicit practices, member hierarchies, relationship structures and tacit knowledge.

Online Interviews

Online interviews can be performed synchronously or asynchronously. The main 'genres' (Barnes, 2003) of computer-mediated communication which are used for performing online interviews are either instant messaging (Davis, et al., 2004; Lawson, 2004; Volda, et al., 2004) or e-mail (Bampton & Cowton, 2002; Meho, in press). The big initial difference between these two genres is that instant messaging (IM) is synchronous and e-mail is asynchronous. This has certain implications on the type of interaction that can take place. While both these genres rely on certain technological skills and resources, IM is more time-dependent/time-intensive and thus

sensitive to technical problems, possibly creating lags and delays in responses. IM conversations also have the potential of being concurrent, for example an interviewee can sometimes manage as many as 20 conversations at the same time (Crystal, 2001).

Interestingly, online interviews direct attention towards the benefits and drawbacks of conventional or face-to face interviewing. Scholars skewing away from online interviews often acknowledge the “technical” benefits that come with it, such as diminished costs, speed and geographic reach. However, the social aspects are often treated with scepticism. The lack of nonverbal behaviour, the possibilities to manufacture online identities (for both interviewers and respondents) and less in-depth replies (Fontana & Frey, 2000) are only some of the common misgivings. Nevertheless, as more scholars conduct online interviews, the overall picture tends to get more nuanced. Many researchers have dedicated time and effort to describing the drawbacks and benefits of mediated interviewing (Crichton & Kinash, 2003; Kivits, 2005; Olivero & Lunt, 2004; Selwyn & Robson, 1998). Their accounts reveal a dependable data collection method capable of producing rich and in-depth data.

As before mentioned, it is captivating to highlight the strengths and limitations of online interviews, since they indirectly reveal what is good and bad about traditional interviews (Gruber, et al., 2008; Joinson, 2001; Murray & Sixsmith, 1998). To summarize, the strengths and limitations are:

Strengths:

- Online conversations allow participants to reconsider, research, recognize and reflect on words and expressions prior to posting them, allowing the conversation to be mutually negotiated
- Interviewees with textual skills are able to create more refined accounts of their experience

- The aim with the interview becomes more clear due to the absence of visual and bodily cues
- No non-verbal cues that discourage or distract participants
- Goes beyond geographical and economical limitations in term of reaching participants and interviewees otherwise not accessible
- Can be conducted with the convenience of time and familiarity of the home or work environment
- Transcription is less demanding (in its simplest sense, copy and paste)
- Disclosure of more honest and deep information

Limitations:

- Limited non-verbal cues for encouragement
- Empathic and emotional communication is not obviously manifested
- Covert or constructed identities or characteristics, as well as temporary nature of participation, can make follow ups difficult
- Potentially skewed population (e.g. predominantly young European or American male)
- Asynchronous: can be stretched out over time due to flexibility in response time – respondents can answer in their own time
- Requires careful development of research relationships and knowledge of studied venue, and thus, time
- Potential strategic self-presentation

It is imperative to remember that, when considering the benefits and drawbacks, depending on which perspective is taken, the pluses and minuses can be interpreted reversely. For example, the interviewee has a possibility to, at any time, increase the latency of, or even ‘withdraw without a trace’ from the interview. While this is on the one hand not a desired outcome for the interviewer, it is on the other a ‘safety vent’, increasing a sense of

security for the interviewee. Likewise, the careful development of a trusting research relationship is not merely time-consuming, but also essential and rewarding in terms of generating high quality data: “Email communication is then constructed as a continuous alternation between an informal and formal style in answering the question, between interviewing and conversing” (Kivits, 2005).

Olivero and Lunt (2004), as well as Kivits (2005), stress the importance of upholding a trustful, sensitive and linguistically adaptive relationship. Since e-mail interviews rely on textual communication, the linguistic and paralinguistic methods of strengthening the relationship is central. As such, the researcher’s sensitivity to issues of fostering trust, reciprocal conversation and questioning, equal partaking, authentic disclosure, cooperation and reflexivity becomes important. When it comes to synchronous interviewing (e.g. instant messaging or “chat”) a particularly interesting possibility is to conduct group interviews, similar to offline focus groups. For a detailed account of the group interview process we refer to the work of Klein et al. (2007).

Ethical Considerations

Research ethics come particularly in focus when conducting online ethnographies (Sharf, 1999). A part from the ethical issues pondered under each method respectively, there are also some general issues that come to mind. Online material can be quite dynamic and ephemeral. At the same time, one benefit from collecting textual material online is that it is automatically transcribed without particular efforts. The transcripts can easily be copied or saved for future use and reuse. At times they are also publicly available online for quite some time. This can of course also be a problem, why the issue of informed consent is important (Spinello, 1995). Scholars who intend to engage in discussion and post questions to the forum usually introduce themselves and their goals prior to the study (Walstrom, 2004). With researchers who

lurk in concurrent discussion or access archival data, the necessity of obtaining consent or not is debated (Bruckman, 2002; Chen, et al., 2004). For large public forums there is an issue regarding from whom to seek permission as well as who has the mandate to deny access since they are public (Clegg Smith, 2004). While archived interaction is by many Institutional Review Boards regarded as public information (Skitka & Sargis, 2006), researchers must themselves make contextually informed judgments regarding how to deal with these issues in specific cases. One way to ground insights with the studied community is to feed back tentative results to the studied community (see the upcoming section on design patterns).

Example: Distributed Document Collection and Ethical Concerns

As an example of something in between the outer edges of hidden and open research, in a study conducted on general forum discussions about Facebook, the author took steps to protect the privacy of users by not using participant’s screen names and by assembling prototypical quotes from several users (with the increasing possibilities to search forums and blog, researchers must be careful not to cite word for word since this makes quotes findable and thus traceable and not anonymous). However, informed consent was not deemed possible since users were dispersed over several various discussion forums and not always reachable for questioning (Skågeby, 2009a).

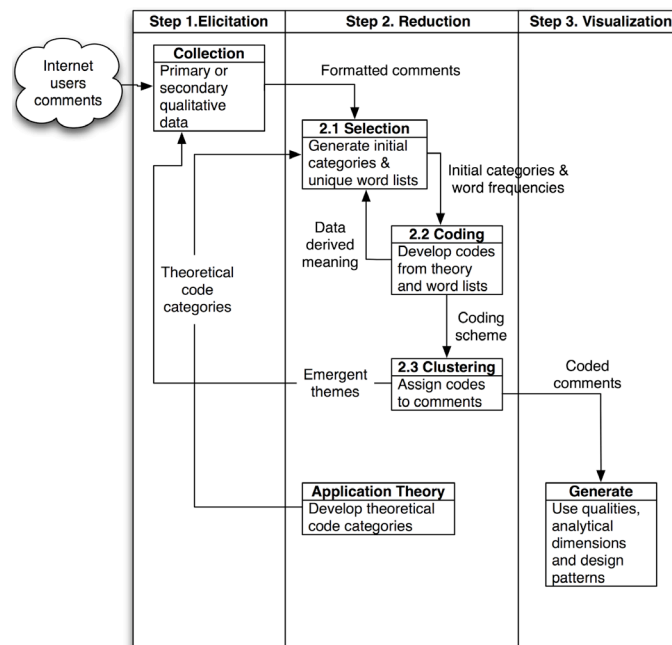
Analyzing Online Data

Analysis of textual data can follow many different frameworks (e.g. conversation analysis, discourse analysis, feminist analysis). This chapter does not have the space to include run-throughs of all potential analytical frameworks. Rather, we shall propose the more general approach of Romano et al (2003), combined with thematic analysis (Braun & Clarke, 2006; Freeday & Muir-Cochrane, 2006).

For the purposes of this chapter, the comprehensive framework of Romano et al illustrates the overall methodological procedure, while the thematic analysis gives detail to the selection and coding steps of this procedure (see Figure 2). Put simply, thematic analysis refers to a careful reading and re-reading of the data in order to find recurrent themes across the data. Using more general frameworks like these is purposeful in a handbook chapter since readers are likely to come from a variety of disciplines. Because thematic analysis is a general and flexible method that has been used in many different methodological and theoretical traditions, however under different monikers, it can provide a “common starting ground”. As such thematic analysis also connects nicely to a prominent quality of the procedure presented by Romano and colleagues, namely that it is open to and acknowledges the influence of application theories (i.e. initial theories and research efforts that colour the preliminary categorization of the studied area).

In step 1, data is collected as per previously described methods. In conventional terms, step 2 in the model above contains what is commonly referred to as “analysis”. Most, if not all, research questions owes legacy to previous research, either theoretically or empirically. Accordingly, an *application theory* is often used to create an initial code categorisation. Of course, it might turn out so that all initial categories are developed into refined categories or even discarded as no data supports them. Step 2.1 sees the initiation of the thematic analysis. The input to this step is formatted raw data. Formatting is usually done so that either each row of text is separated by a line break or that initial analyst judgment separates tentative “findings”. Through an iterative process, where the analyst conducts careful reading and re-reading of the data, s/he then identifies emergent and recurrent themes and key terms. These evolve as more data is included in the coding and clustering steps (2.2 and 2.3). The analyst must be sensitive to themes that emerge from the data: “There needs to be a balance between experi-

Figure 2. Overall analysis procedure (adopted and amended from Romano et al. (2003))



menter expectancy through overreliance on a priory theory and total dependence on data-derived meaning that may not provide any generalizability of the results.” (Romano, et al., 2003) These new themes are likely to influence the collection of data, allowing for a deeper analysis of that particular theme. Consequently, the sample size is in most cases not decided in advance. Rather the reduction step guides elicitation. Once no new classes of phenomena are found, elicitation can be stopped (or redesigned). So, from a pragmatic view the final sample is likely to reflect the variance of the population.

Presenting Results

Ethnographic studies normally result in “thick descriptions” (i.e. lengthy and exhaustive descriptions of the studied phenomena). While these are certainly valid and appropriate for online ethnographic studies as well, there are at times conditions underlying online ethnographic research to “inform design”. In these cases a thick description may be too dense and generate a need for more ‘appropriate’ forms of presentation (Diggins & Tolmie, 2003). Earlier work in online ethnography has suggested three alternative ways to present results particularly suited for studies of information systems intended to provide design suggestions (Skågeby, 2009b). This chapter will only briefly outline these presentation techniques. For further detail please refer to the works cited under each respective technique.

Use Qualities

Löwgren (2006) describes use qualities as “properties of a digital design that is experienced in its use”. The concept is based on value perspectives that include instrumental, aesthetical, social/communicative, constructional and ethical aspects. These perspectives are significant to a varying degree depending on the use or practice that is being researched. Largely because (a) any artefact

can be used in a multiplicity of ways, including ways it was not ‘intended’ and (b) there are many artefacts that can be used to accomplish one specific task (Ihde, 1993). An underlying postulation of use qualities is that different artefacts (or genres of artefacts) will present/generate diverse use qualities; use qualities that a designer will need to bear in mind during the craft of interaction design. While many general user experience attributes has been introduced over the years, the use qualities approach suggest that not all of them are equally relevant to all systems. One way to make use qualities more specific in terms of informing design is to include opposing use qualities as conflicting forces in design patterns (Arvola, 2006). However, before taking the full step to design patterns, this chapter argues that it is important to consider the potential space in between conflicting use qualities.

Analytical Dimensions

Analytical dimensions aims to envelope the full diversity of use qualities that commonly exist in complex information systems (Skågeby, 2007). Analytical dimension offer a frame for relating and contrasting the complexity of the studied conflict. As such, it is good for presenting a comprehensive view that supports comparison over several specific cases. The basic anatomy of the analytical dimension is a polarized conflict, where the most obvious/prevalent counterparts make up the poles of the dimension. Once these poles are identified, they give the researcher the opportunity to postulate, identify and research activities, concerns and intentions in-between the extremes. Analytical dimensions also sustain analysis of users who have decided to change from one specific way of online conduct to another. A prototypical example would be users who have initially provided photos completely publicly, but then decide to be more selective about the receiving audiences of their pictures. In summary the analytical dimension is a versatile communicative

tool, allowing both for precise descriptions, but also recognizing the full range of potential use qualities that make up the dimension.

Design Patterns

As hinted previously, both use qualities and analytical dimensions can inform design patterns. In short, a design pattern is a structured exposition of a generic solution to a problem in a context.

Another way to say it is that the design pattern includes a feature that resolves forces in some context(s) (Martin, et al., 2001; Martin & Sommerville, 2001). The concept of design patterns was originally developed by architect Christopher Alexander and colleagues (Alexander, 1979). Alexander had noticed that there were qualities of architecture that were “hard to define”, but that were still very common and desirable. To create shareable descriptions of these qualities Alexander developed design patterns and while it is hard to summarize all that has been written about them, there are certain features that seem more or less agreed upon, to be precise:

- Design patterns address a re-occurring problem in a specific context
- They build on understanding of what needs, interests and motivations (forces) that drive people in specific contexts.
- They include a feature(s) that coordinates or resolves these forces
- They are not too vague nor too specific and are thereby able to help designers understand what forces are at play and how these can be resolved, but still be flexible enough to allow infinite specific solutions
- They focus on what is good, rather than critique what is bad
- They are testable. That is to say, by applying the pattern to other cases, by sharing the patterns and debating, discussing, agreeing and disagreeing on them, and by examining how a specific pattern-derived

solution functions and feels, patterns can be put to empirical tests

- They are shareable in that they create a concrete common resource debatable to all involved stakeholders. They also create a way for people who are not designers, but still holds relevant and valuable knowledge, to inform the design (Erickson, 2000)
- They can help to bridge the gap between the qualitative descriptions of (users’) problems and solutions applicable in a design or implementation phase (or analysis phase, for that matter)

There is now a significant range of pattern forms spanning from minimally functionalistic to more narrative ones (Fincher, 2000). However, there are also a number of elements that are common to most design patterns: a name; a description of the problem, a description of the context, the forces at play; and a generic solution. A benefit that cannot be over-emphasized is that design patterns are fairly simple and to the point, and can therefore straightforwardly be brought back to the studied communities for discussion. A user-grounded assessment of developed patterns strengthens both the validity and reliability of the results. So, when a design pattern, use quality or analytical dimension is considered ready for sharing, feeding it back to the community or to any users reporting a special interest in the study and its results, is imperative. Indeed, a benefit of all of the above forms of presentation is the ease with which tentative results can, and should, be fed back to the studied community. Drafts of insights and study results posted to the community can open up to both grounding and improvements of the research in whole (Erickson, 2000; Matthews & Cramer, 2008). This can be accomplished through regular forum posts. Another alternative is to use a “research blog” where results, interpretations and draft texts can be published for public (or semi-public) scrutiny and be subject to suggestions for editorial development (Murthy, 2008). It needs to

be said though, that the benefits and drawbacks of such efforts are, so far, largely unevaluated.

Example: Feeding Back Results

A recent study (Skågeby, 2007) used a combined effort to address the grounding of interpretations as well as to estimate the sufficiency of collection, some tentative analysis results were fed back to the network forum to generate discussion. The goal was to instigate discussion and use this as a recurring source of data (which could challenge the analysis or be incorporated as further proof of trustworthiness). The feedback did generate some debate and discussion that was enriching both to analysis, as well as to picking up on keywords and in-vivo-expressions (Internet slang is common in forums). Apart from that, the feedback also has the function of meeting informants on their ground. This can help to make a more situated and grounded judgment about the appropriateness of including quotes and applying certain analytical reasoning. However, there is a risk connected to this procedure, why after two general forum feedback sessions it was decided to attempt more personal feedback through interviews with users. The reason results were not fed back to the macro-level forums more extensively or continuously was the risk of cluttering or biasing the naturally occurring discussions. Fortunately, discussions were very rich and inspired and consequently, the grounding of interpretations was mainly done via individual key informants.

DISCUSSION: BENEFITS, DRAWBACKS AND EPISTEMOLOGICAL ISSUES

This chapter has shown that there are both similarities, as well as certain characteristic differences between a traditional ethnographic procedure and its counterparts when studying virtual communities and cultures. It is imperative though, to remember

that many of the fundamental epistemological issues and controversies remain the same (Travers, 2009). These include for example the concept of validity in ethnographic studies and interpretative versus critical analytical frameworks. However, in terms of data quality, there is tentative support to that online methods may attract higher motivated and more unprompted participants than traditional approaches (Skitka & Sargis, 2006).

From a methodological point of view it is motivating to discuss what issues that are brought to light by doing research in, and through, a technology-mediated context (e.g. a virtual community). At large, the Internet holds certain characteristics, which are supported more or less by the various applications utilizing it. Internet is, in a certain sense, global; it is, in a certain sense, anonymous; it is, in a certain sense, interactive; and it supports digital manipulation (material can be digitized, transferred, stored, cross-referenced and reproduced with certain flexibility and efficiency) (Weckert, 2000). These characteristics bring some fundamental differences with regards to researching virtual communities compared to corporeal communities:

- The population online may be heterogeneous and almost ubiquitous to researchers, which raises questions about the validity and reliability of the data. There may be, for example, potential misrepresentative attractions, that is, that the people responding to calls for participation or people who post to forums etc. are only a minor extrovert part of the actual population
- Not only are the users dissimilar, but the specific technologies used to communicate can be quite diverse and consequently influence the entire sociotechnical setting
- Identity, anonymity and pseudonymity give rise to methodological concerns
- All statements above raise issues pertaining to research ethics

Credibility and Transferability of Online Ethnographic Studies

Credibility refers to the degree by which the results are recognizable and valid from the perspective of the participants and transferability refers to the degree to which the results can be transferred or generalized to other settings and contexts (Guba & Lincoln, 1989). While ethnographic studies are often **idiosyncratic** in nature, there is still reason to discuss and even try to defend such scientific concepts as credibility and transferability. A complete coverage of the full population is often impractical, not to say impossible. Consequently, because of practical and material constraints, there is a need to sample the population. In online ethnography there is a practical issue: **it can only address individuals who speak up or 'write up' or somehow participate**. Further, there is often an explorative purpose to the study why the number of individuals interesting to the study is hard to predict. Thus, it is hard to generate a statistically representative sample based on a distribution criterion: "The significance of this argument is even greater when we think of other more dynamic units: as we do not know how characteristics concerning emotions, attitudes, opinions and behaviour are distributed in the population, aiming at statistical representativeness of samples is technically groundless." (Gobo, 2004, p. 440) Instead, online ethnographers must focus on finding communities that hold high significance and relevance for the research question. A more specific way to put it is to say that when studying certain practices, we need to look at online settings where those practices are likely to occur.

Online ethnographic studies can thus be generalized because they contribute to a growing body of scientific research, which forms a system of cases. They also constitute tests of hypotheses and methods, which may supplement the overall understanding of a phenomena (Flyvbjerg, 2004). In addition, by using an application theory, the study can be anchored in insights that have been repeat-

edly present in other communities and societies (i.e. a 'theoretical transferability'). Another way to put it is to say that the theoretical recognition of the studied phenomena makes the use of application concepts theoretically meaningful. Moreover, the use of an application theory can aid in holding back the overwhelming idea of trying to draw a complete picture of all social interaction occurring in a virtual community (LeBesco, 2004).

The heterogeneity of the user group is a circumstance, which also adds to the difficulty of generalizing results. The difficulty in accurately sampling a representative population stresses an even greater importance in representing the social and technological structures surrounding, emerging and co-evolving with it. By sensitively describing these circumstances and mechanisms the potential transferability of the results becomes more highlighted, and thus of more use to fellow researchers and practitioners.

While themes and insights are usually developed from one specific community, they often represent a *class* of concerns and intentions, which, at times, have also been identified or alluded to in other contexts. In other words, the results are not transferable as to what opinions users in other virtual communities actually have, but rather as to what opinions users in these networks *can have*. Thus, online ethnography describes the social significance of dimensions and the relations between them, rather than statistically logic populations, and how many individuals who possess a certain characteristic. Further, there is cause to consider the 'authenticity' of online ethnographical data. Markham (2004a) reports that online textual communication can be very representative, and assuming that it is less so than, say, interviewing face-to-face, could be impetuous. Presenting tentative results to the studied community is one way to increase the authenticity. Another way is to consecutively, and for extensive periods of time, use the current applications and gain first-hand experience of the various aspects of everyday life in the virtual community.

Dependability and Confirmability of Online Ethnographic Studies

Dependability refers to the obligation of the researcher to provide accurate descriptions of the context so that readers feel they can depend on the results. This is particularly important; as a fundamental assumption of qualitative research is that we cannot measure the exact same thing twice. This has two practical implications: (1) researchers must aim to describe the sociotechnical context to the best of their ability and (2) it is a benefit if presentations of results are also in forms that can be easily compared. As regards to the first proposition, this chapter has already provided information on describing the setting. In reference to the second, researchers must be aware that there are obvious risks with condensing insights, such as over-reduction or constraining future interpretations of data (Diggins & Tolmie, 2003). Consequently, researchers should stress that any developed models or theories are most often not complete or generic theories. Rather, models are interfaces through which the data can be understood.

Confirmability refers to the degree by which the results can be confirmed by others. This becomes interesting vis-à-vis confidentiality and anonymity. While confirmability is certainly desirable, there can also be reason to protect users or even the entire virtual community from identification. Again, this highlights rigour in describing setting and perspectives along with the importance to establish refined reflexivity (Delamont, 2004) and trustworthy interpretations of data (Golafshani, 2003). Another way is to actively engage participants, in order to get ‘confirmation’ from them. Established techniques, such as inter-rated analysis and coding are also adequate (Conway, et al., 1995), although there are also scholars who regard single-hand analysis as a methodological strength (Emerson, et al., 1995).

CONCLUSION

The conclusion drawn from working with empirical data from document collection, online interviews and application use is that they are highly workable sources for insights into end-user problems and solutions; verbalized concerns and intentions; experiences and stories; and likes and dislikes. With regard to online ethnographic data collection it is also important to consider the balance of collecting data to the level where no additional or new information emerges and the risk of collecting too much data. Due to the availability and ease of data collection, huge amounts of data can be accumulated, increasing the risk of having an insurmountable records and spending too little time actually classifying and analyzing them. Again, this shows the importance of ‘living the life’ and becoming aware of communal memberships, rituals, language and behaviours in order to bring depth and quality to the analysis. In summary, online ethnography is capable of revealing:

- Hidden aspects of an activity – what was previously known and, perhaps even documented within the community might not be good descriptions of ‘what is actually performed’. Insignificant details may very well make an activity meaningful and worthwhile to its actors.
- Public knowledge (e.g. media reports and folk models), are frequently in contrast to the unofficial aspects of an activity. Thus, there is a need to complement the public picture with aspects based on studied practice.
- Categories and expressions used naturally within an area of research, emphasizing local and situated expertise.
- Concrete needs, objectives and methods that are described in ways that are recognizable to those who have and perform them.

- Relationships and connections between individuals and groups that explicate context and how the division of labour is enacted
- Conflicts between individuals, activities, groups, technologies etc.
- The specifics of conflicts: what/who is causing them, how are they dealt with, are there different magnitudes of problems etc

It seems obvious that research closely connected to virtual community practices gain extra relevance from utilizing online ethnographical methods. However, there is also great future potential in conducting wider user experience research, for example in the fields of human-computer interaction and consumer research, via online ethnographic methods (Skågeby, 2009b).

REFERENCES

- Alexander, C. (1979). *The Timeless Way of Building*. Oxford University Press.
- Arvola, M. (2006). Interaction design patterns for computers in sociable use. *International Journal of Computer Applications in Technology*, 25(2/3), 128–139. doi:10.1504/IJCAT.2006.009063
- Bampton, R., & Cowton, C. J. (2002). The E-Interview. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research [On-line Journal]*, 3(2).
- Barnes, S. S. (2003). *Computer-Mediated Communication: Human-to-Human Communication Across the Internet*. London: Pearson Education.
- Baym, N. K. (2000). *Tune in, Log on: Soaps, fandom and online community*. London: SAGE.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. doi:10.1191/1478088706qp063oa
- Bruckman, A. (2002, Apr 4, 2002). Ethical Guidelines for Research Online Retrieved Nov 20, 2007, from <http://www.cc.gatech.edu/~asb/ethics/>
- Chen, S.-L. S., Hall, G. J., & Johns, M. D. (2004). Research Paparazzi in Cyberspace: The Voices of the Researched. In Johns, M. D., Chen, S.-L. S., & Hall, G. J. (Eds.), *Online Social Research: Methods, Issues, & Ethics* (pp. 157–178). New York: Peter Lang.
- Clegg Smith, K. M. (2004). “Electronic Eavesdropping”: The Ethical Issues Involved in Conducting a Virtual Ethnography. In Johns, M. D., Chen, S.-L. S., & Hall, G. J. (Eds.), *Online Social Research: Methods, Issues, & Ethics* (pp. 223–238). New York: Peter Lang.
- Conway, J. M., Jako, R. A., & Goodman, D. F. (1995). A meta-analysis of interrater and internal consistency reliability of selection interviews. *The Journal of Applied Psychology*, 80(5), 565–579. doi:10.1037/0021-9010.80.5.565
- Crichton, S., & Kinash, S. (2003). Virtual Ethnography: Interactive Interviewing Online as Method. *Canadian Journal of Learning and Technology*, 29(2).
- Crystal, D. (2001). *Language and the Internet*. Cambridge: Cambridge University Press.
- Davis, M., Bolding, G., Hart, G., Sherr, L., & Elford, J. (2004). Reflecting on the experience of interviewing online: perspectives from the Internet and HIV study in London. *AIDS Care*, 16(8), 944–952. doi:10.1080/09540120412331292499
- Delamont, S. (2004). Ethnography and participant observation. In Seale, C., Gubrium, J., Gobo, G., & Silverman, D. (Eds.), *Qualitative Research Practice* (pp. 217–229). London: Sage.

- Diggins, T., & Tolmie, P. (2003). The 'adequate' design of ethnographic outputs for practice: some explorations of the characteristics of design resources. *Personal and Ubiquitous Computing*, 7(3-4), 147–158. doi:10.1007/s00779-003-0226-y
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing Ethnographic Fieldnotes*. Chicago: University of Chicago Press.
- Erickson, T. (2000). Lingua Francas for Design: Sacred Places and Pattern Languages. In the *Proceedings of DIS2000*, New York, USA.
- Fincher, S. (2000, Aug 7, 2007). The Pattern Gallery Retrieved June 10, 2008, from <http://www.cs.kent.ac.uk/people/staff/saf/patterns/gallery.html>
- Flyvbjerg, B. (2004). Five misunderstandings about case-study research. In Seale, C., Gubrium, J., Gobo, G., & Silverman, D. (Eds.), *Qualitative Research Practice* (pp. 420–434). London: Sage.
- Fontana, A., & Frey, J. H. (2000). The Interview: From Structured Questions to Negotiated Text. In Denzin, N., & Lincoln, Y. (Eds.), *The handbook of Qualitative Research* (2nd ed., pp. 645–669). Thousand Oaks, CA: Sage.
- Forsythe, D. E. (1999). "It's Just a Matter of Common Sense": Ethnography as Invisible Work. *Computer Supported Cooperative Work*, 8(1-2), 127–145. doi:10.1023/A:1008692231284
- Freeday, J., & Muir-Cochrane, E. (2006). Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development. *International Journal of Qualitative Methods*, 5(1).
- Garcia, A. C., Standlee, A. I., Bechkoff, J., & Cui, Y. (2009). Ethnographic Approaches to the Internet and Computer-mediated Communication. *Journal of Contemporary Ethnography*, 38(1), 52–84. doi:10.1177/0891241607310839
- Gobo, G. (2004). Sampling, representativeness and generalizability. In Seale, C., Gubrium, J., Gobo, G., & Silverman, D. (Eds.), *Qualitative Research Practice* (pp. 435–456). London: Sage.
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *Qualitative Report*, 8(4), 597–607.
- Granello, D. H., & Wheaton, J. E. (2004). Online Data Collection: Strategies for Research. *Journal of Counseling and Development*, 82(4), 387–393.
- Gruber, T., Szmigin, I., Reppel, A. E., & Voss, R. (2008). Designing and Conducting online interviews to investigate interesting consumer phenomena. *Qualitative Market Research: An International Journal*, 11(3), 256–274. doi:10.1108/13522750810879002
- Guba, E. G., & Lincoln, Y. S. (1989). *Fourth Generation Evaluation*. Thousand Oaks, CA: Sage.
- Guimarães, M. (2003). *Doing Online Ethnography*. Unpublished Seminar Report. Department of Sociology, University of Surrey.
- Hine, C. (2000). *Virtual Ethnography*. London: Sage.
- Hine, C. (Ed.). (2005). *Virtual Methods: Issues in Social Research on the Internet*. New York: Berg.
- Ihde, D. (1993). *Postphenomenology - Essays in the Postmodern Context*. Evanston, Illinois: Northwestern University Publishers.
- Jakobsson, M. (2006). *Virtual Worlds & Social Interaction Design*. Umeå: Umeå University.
- Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31, 177–192. doi:10.1002/ejsp.36

- Jones, S. (2005). Fizz in the field: Toward a Basis for an Emergent Internet Studies. *The Information Society*, 21(4), 233–237. doi:10.1080/01972240591007544
- Kinnevy, S. C., & Enosh, G. (2002). Problems and Promises in the Study of Virtual Communities. *Journal of Technology in Human Services*, 19(2/3), 119–134. doi:10.1300/J017v19n02_09
- Kivits, J. ð. (2005). Online Interviewing and the Research Relationship. In Hine, C. (Ed.), *Virtual Methods: Issues in Social Research on the Internet*. New York: Berg.
- Klein, E. E., Tellefsen, T., & Herskovitz, P. J. (2007). The use of group support systems in focus groups: Information technology meets qualitative research. *Computers in Human Behavior*, 23, 2113–2132. doi:10.1016/j.chb.2006.02.007
- Kozinets, R. V. (2002). The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities. *JMR, Journal of Marketing Research*, 39(1), 61–72. doi:10.1509/jmkr.39.1.61.18935
- Lawson, D. (2004). Blurring the Boundaries: Ethical Considerations for Online Research Using Synchronous CMC Forums. In Buchanan, E. A. (Ed.), *Readings in Virtual Research Ethics: Issues and Controversies* (pp. 80–100). London: Information Science Publishing.
- LeBesco, K. (2004). Managing Visibility, Intimacy, and Focus in Online Critical Ethnography. In Johns, M. D., & Chen, S.-L. S. (Eds.), *Online Social Research: Methods, Issues, & Ethics* (pp. 63–80). New York: Peter Lang.
- Löwgren, J. (2006). Articulating the Use Qualities of Digital Designs. In Fishwick, P. (Ed.), *Aesthetic Design* (pp. 383–403). Cambridge, MA: MIT Press.
- Maczewski, M., Storey, M.-A., & Hoskins, M. (2004). Conducting Congruent, Ethical, Qualitative Research in Internet-Mediated Research Environments. In Buchanan, E. A. (Ed.), *Reading in Virtual Research Ethics*. London: Information Science Publishers.
- Markham, A. N. (2004a). Representations in Online Ethnographies: A Matter of Context Sensitivity. In Johns, M. D., Chen, S.-L. S., & Hall, G. J. (Eds.), *Online Social Research: Methods, Issues, & Ethics* (pp. 141–156). New York: Peter Lang.
- Markham, A. N. (2004b). The Internet as research Context. In Seale, C., Gubrium, J., Gobo, G., & Silverman, D. (Eds.), *Qualitative Research Practice*. London: Sage.
- Martin, D., Rodden, T., Rouncefield, M., Sommerville, I., & Viller, S. (2001). *Finding Patterns in the Fieldwork. In the Proceedings of ECSCW2001*. Bonn, Germany: Kluwer.
- Martin, D., & Sommerville, I. (2001). Patterns of Cooperative Design: Linking Ethnomethodology and Design. *ACM Transactions on Computer-Human Interaction*, 11(1), 58–89.
- Matthews, J., & Cramer, E. P. (2008). Using Technology to Enhance Qualitative Research with Hidden Populations. *Qualitative Report*, 13(2), 301–315.
- Meho, L. I. (in press). E-mail interviews in qualitative research: A methodological discussion. [x]. *Journal of the American Society for Information Science and Technology*.
- Mennecke, T. (2003, Dec 26). Soulseek Interview Retrieved March 13, 2006, from <http://www.slyck.com/news.php?story=356>
- Murray, C., & Sixsmith, M. (1998). E-mail: A qualitative research medium for interviewing? *International Journal of Social Research Methodology: Theory & Practice*, 1(2), 103–121.

- Murthy, D. (2008). Digital Ethnography: An examination of the Use of New Technologies for Social Research. *Sociology*, 42(5), 837–855. doi:10.1177/0038038508094565
- Olivero, N., & Lunt, P. (2004). When the Ethics is Functional to the Method: The Case of E-Mail Qualitative Interviews. In Buchanan, E. A. (Ed.), *Readings in Virtual Research Ethics: Issues and Controversies*. London: Information Science Publishers.
- Romano, N. C., Donovan, C., Chen, H., & Nunamaker, J. (2003). A Methodology for Analyzing Web-Based Qualitative Data. *Journal of Management Information Systems*, 19(4).
- Selwyn, N., & Robson, K. (1998). Using e-mail as a research tool. *Social Research Update*(21).
- Sharf, B. F. (1999). Beyond Netiquette: The Ethics of Doing Naturalistic Discourse Research on the Internet. In Jones, S. G. (Ed.), *Doing Internet Research: Critical Issues and Methods for Examining the Net*. London: Sage.
- Silver, D. (2000). Looking Backwards, Looking Forwards: Cyberculture Studies 1990-2000. In Gauntlett, D. (Ed.), *web.studies: Rewiring media studies for the digital age*. London: Arnold.
- Skågeby, J. (2007). Analytical Dimensions of Online Gift-giving: 'other-oriented' contributions in virtual communities. *International Journal of Web-based Communities*, 3(1), 55–68. doi:10.1504/IJWBC.2007.013774
- Skågeby, J. (2008). Semi-Public End-user Content Contributions: a case study of concerns and intentions in online photo-sharing. *International Journal of Human-Computer Studies*, 66(4), 287–300. doi:10.1016/j.ijhcs.2007.10.010
- Skågeby, J. (2009a). Exploring Qualitative Sharing Practices of Social Metadata: Expanding the Attention Economy. *The Information Society*, 25(1), 60–72. doi:10.1080/01972240802587588
- Skågeby, J. (2009b). Online friction: studying sociotechnical conflicts to elicit user experience. *International Journal of Sociotechnology and Knowledge Development - Special Issue on New Sociotechnical Insights in Interaction Design*, 1(2), 62-74.
- Skitka, L. J., & Sargis, E. J. (2006). The Internet as Psychological Laboratory. *Annual Review of Psychology*, 57, 529–555. doi:10.1146/annurev.psych.57.102904.190048
- Soulseek (2006, Feb 28). Retrieved Mar 09, 2006, from <http://en.wikipedia.org/w/index.php?title=Soulseek>
- Spinello, R. A. (1995). *Ethical Aspects of Information Technology*. London: Prentice-Hall.
- Svenningson, M. (2001). *Creating a Sense of Community. Experiences from a Swedish Web Chat*. Linköping University, Linköping.
- Travers, M. (2009). New methods, old problems: A sceptical view of innovation in qualitative research. *Qualitative Research*, 9(2), 161–179. doi:10.1177/1468794108095079
- Walstrom, M. K. (2004). "Seeing and Sensing" Online Interaction: An Interpretative Interactionist Approach to USENET Support Group Research. In Johns, M. D., Chen, S.-L. S., & Hall, G. J. (Eds.), *Online Social Research: Methods, Issues, & Ethics* (pp. 81–100). New York: Peter Lang.
- Weckert, J. (2000). What is New or Unique about Internet Activities? In D. Langford (Ed.), *Internet Ethics*. London: MacMillan. Volda, A., Mynatt, E. D., Erickson, T., & Kellog, W. A. (2004, 24-29 April). Interviewing Over Instant Messaging. In the *Proceedings of CHI 2004*, Vienna, Austria.