The field site as a tool: mixed methods in social network studies

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The increasing adoption of blogs by Internet users during the last seven Millions of users worldwide engage in social network sites (SNS). This paper addresses the question of what methods may be considered adequate for undertaking research in this field by referring to an ongoing interdisciplinary research cooperation between the Fraunhofer Institute for Secure Information Technology SIT, Darmstadt, and the Department of Cultural Anthropology and European Ethnology at Goethe University, Frankfurt am Main. In this research we employ a mixed methods approach and understand SNS as a field site and a tool. These presumptions enable us to examine the so-called 'privacy paradox' phenomenon, which will be discussed next.

Keywords: social network sites, blogs, research methodologies

1. Introduction: Privacy and social network sites

Millions of users worldwide engage in social network sites (SNS) on a regular basis, and activities such as reading and writing messages or checking requests have become a part of many people's daily routine. As SNS have increasingly attracted the attention of social studies, new methodological issues have come to the fore (boyd and Ellison 2007). This paper addresses the question of which methods may be considered adequate for undertaking research in this field. As a case in point, the paper presents the ongoing interdisciplinary research cooperation between the Fraunhofer Institute for Secure Information Technology SIT, Darmstadt, and the Department of Cultural Anthropology and European Ethnology at Goethe University, Frankfurt am Main. In this research we focus on two SNS, 'StudiVZ' and 'Facebook'. 1The study aims to gain a deeper insight into SNS users' practices, motives, competences, and concepts of privacy. For this purpose, we employ a mixed method approach combining ethnographic methods with technical modelling, conceptualizing SNSs both as a field site (an actual research site for observation and connecting to interviewees) and a tool (for collecting technical data). In line with previous research (Barnes 2006; Utz and Krämer 2009), we observed users' paradoxical behavior relating to privacy concerns on SNS. We detected a discrepancy

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between users' desire for privacy and their actual behavior neglecting privacy hazards.

The next sections present our theoretical assumptions, followed by our experiences with the methods employed in the project to date, and the discussion of their advantages and disadvantages inherent in our study. In line with our focus on the 'privacy paradox', I will also ask whether users' privacy concepts are not at work in practice or whether the users do not understand the privacy settings provided.

2. Studying privacy issues in SNSs

Our study contributes to the research on communication processes and privacy issues in SNSs and the specific implications for individuals' informational self-determination in these types of technical environments. The aim of our project is to investigate whether users are in a position to achieve their desired privacy level with the technical tools provided, and are thus capable of exercising their right to informational self-determination. This approach entails taking into account both the technical facilities provided by a given SNS and their users' concepts of privacy. Therefore we have to provide a methodological and theoretical framework combining users' privacy concepts and the technical aspects of SNS.

2.1 Definitions of privacy

Classical definitions of privacy are 'the right to be let alone.' (Brandeis and Warren 1980, 193), 'the claim of individuals [...] to determine for themselves when, how, and to what extent information about them is communicated to others.' (Westin 1967, 7), or the 'control we have over information about ourselves' (Fried 1968, 475). These and similar definitions are challenged under new technical conditions facilitating online storage of huge amounts of information. Online privacy expert Helen Nissenbaum argues that in order to understand privacy issues in online environments we have to take into consideration that privacy depends on 'contextual norms' which are the basis for an individual deciding when, where, and under which circumstances information provided by her should be accessible (Nissenbaum 1998, 20). As 'contextual norms' are highly context-specific, and therefore highly variable, complex, and dependent on individual interpretations, qualitative, non-standardized research methods are required because they emphasize actors' perspectives instead of starting out with preconceived categories. We suggest that an analysis of the technical foundation of SNSs alone does not suffice and therefore apply Nissenbaum's approach to privacy in our research aiming to explore the contextual norms underlying privacy concepts of SNS users.

We also acknowledge that users

interact with technical settings and alter them according to their evolving needs, e.g. by finding more nuanced mechanisms to technically restrict access to their data than those provided by the application they use. Media researcher Patricia Lange mentions the use of few or cryptic tags by YouTube users to restrict access to their videos as a case in point (Lange 2007). We suggest that this approach allows for innovative ways to find out about the actual privacy management requirements of SNS users.

2.2 SNS as a field site and a tool

One central aspect of our research is to conceive of SNSs as both a field site and a tool. In referring to SNSs as a field, we follow ethnographic theory criticizing the notion of 'the field site' as a location that ethnographers 'just wander onto [...] to engage in a deep and meaningful relationship with 'the natives' (Gupta and Ferguson 1997, 5). Instead, this theory emphasizes the 'complex processes that go into constructing [the field]' (Gupta and Ferguson 1997, 5). Thus, the advantage of cultural anthropology lies 'in its attentiveness to epistemological and political issues of location', and less in a commitment to 'the local' (Gupta and Ferguson 1997, 39). Ethnographies of new types of technologically enhanced social formations like SNSs clearly demonstrate the need for a multi-sited approach. A 'conventional single-site mise-en-scene of ethnographic research' (Marcus 1995, 99) is of little use when research settings are multi-sited, heterogeneous, and socio-material. In order to explore sites like SNS, we suggest that ethnography must move 'from its conventional single-site location [...] to multiple sites of observation and participation' (Marcus 1995, 95) in order to 'meet the needs of the present' (Gupta and Ferguson 1997, 40). Hence, we perceive SNSs not as a single-site and physical place but as a multi-sited setting constituted by social interaction. By following this approach we are able to concentrate on the users' experience of social interaction mediated by SNS.

Social interaction on SNS includes the sharing of opinions, ideas and data. Therefore they provide a huge potential both for capturing data, and for contacting potential interviewees. In this way, SNS are a tool to collect data and to get in touch with users. SNSs make available for analysis content such as profiles and pictures, or data from sources like 'Facebook fails' and thus facilitate a better understanding of users' management of personal information and privacy. 2 To date, our investigation has made use of multiple data sources: on the one hand semi-structured, open-ended interviews, participant observation, and diary studies; on the other, we collected a variety of technical data on, among other things, profiles and photos stored online, discussions

(e.g. on Facebook 'walls'), and tactics like logging in under a pseudonym to avoid privacy related conflicts. We also applied a software tool to record the privacy settings of interviewees, and then discussed with them whether the settings actually concurred with their intentions. In line with a user-centred approach, we also plan to provide opportunities for SNS users to comment and discuss our research.

SNSs can be both a field site and a tool. They are a field site in the traditional sense of a location that researchers can actually wander into and engage with the 'natives'. However, SNSs are not a geographical location per se, but are co-constituted or co-produced by many interacting actors – human and technical – without which they would not exist (Jasanoff 2004). Researchers, therefore, will have to tackle the epistemological question of field construction. SNSs are also, in a very material sense, a (technical) tool in that the underlying technology facilitates data collection in ways not possible before opening up new opportunities for following the actors (the users) (Eagle and Pentland 2006). The idea of SNSs as a field site and a tool reflects the socio-technical or socio-material stance of our research. Moreover the technical read-out of users' privacy settings (described in section 3.1.2.) , based on the conception of SNS as a tool, points to users' paradoxical behavior towards privacy concerns.

2.3 Ethnographically informed research

To understand users' privacy concepts, we adopted the 'ethnographic premises' (LeCompte and Schensul 1999) in our investigation. That is, we employed ethnographic methods including observation as well as face-to-face interviewing to get insights into users' perceptions of their actions as well as into their social contexts. Insofar as we applyed ethnographic methods in our research practice, we were 'ethnographically informed', but we did not conduct a classical ethnography. In using the term 'ethnographically informed', we refer substantially to debates in the fields of Participatory Design, Human-Computer Interaction research and Computer Supported Cooperative Work. In these fields researchers both from the computing and social sciences share an interest in 'technical explorations and ethnographically informed investigations of technology-intensive sites of social action' (Suchman 2007, 276), and emphasize an 'inquiry from within' (Büscher and Urry 2009, 106). It is widely acknowledged in this community that ethnographic accounts can systematically inform system design and development (Iqbal et al. 2010), particularly by conducting empirical studies of actual practice and by doing in situ observations using multiple methods (Robinson

et al. 2007).

The concept of 'ethnographically informed' research was introduced into the debate in the early 1990s by a group of researchers from both software engineering and social sciences. They defined 'ethnographically informed design' as 'the application of sociological approaches to systems development' (Viller and Sommerville 2000, 171) pointing out that 'human, social, and political factors have a significant impact on software systems design' (Viller and Sommerville 2000, 169). They employed ethnographic studies in a series of projects in order to inform their systems design processes, particularly for cooperative settings (Viller and Sommerville 2000, 169). They aimed at bringing ethnographic studies closer to the design process (Viller and Sommerville 2000, 171), arguing for 'a method that is informed by ethnography, rather than modify ethnography to suit the needs of [software systems] design' (Viller and Sommerville 1999, 12). They saw the specific advantage of ethnographic methods in their capacity for detailed accounts of practice and in taking into account seemingly mundane aspects of accomplishing actions, resulting in an improved understanding of the way in which settings are socially organized (Viller andSommerville 2000, 172). Our own research practices draws substantially on achievements in this field.

Ethnographic methods today have become increasingly accepted in technology design, particularly in the field of Human-Computer Interaction, in order to take into account users' needs, abilities, and wishes. Proponents of this approach argue that users' needs have often been neglected (Forsythe 1992; 1999). In our study, improving our understanding of users' models and concepts of privacy in the context of SNS is paramount in order to analyse how technical systems and humans interact, and to suggest improved privacy protection tools. By comparing users' privacy concepts and their actual behavior in interaction with technical systems, we adress the question whether the users are cognizant of the possibilities of SNS' privacy settings.

2.4 Cyclic process of data collection

We approached users' privacy concepts as an ongoing process of interpretation. Therfore our research is informed by the 'grounded theory' approach. In a cyclic process of data collection, analysis, and theory construction, theories are 'grounded' in empirical data, that is, in the social reality of the research participants (Glaser and Strauss 1967). This approach is considered to be an appropriate way to investigate complex communication contexts like SNS, and other similar privacy problems where users' beliefs, ideas, and needs as well as technological requirements are at is-

sue (Krotz 2005, 159). With these contexts being highly dynamic, and in constant flux, they provide particular challenges. In the course of our research into privacy concepts of Facebook users, for instance, Facebook changed its privacy protection features. Users' interpretations of privacy in the context of SNS, therefore, require repeated re-evaluation. We conceive of users' diverse practices of handling online privacy issues as a process. On the basis of the empirically collected data, a 'grounded' thesis can then be iteratively developed (ibid. 163).

3. An overview of the methods used

In the following section I providea detailed overview of the methods we used in our ongoing interdisciplinary research project. The idea of SNS as a field site and a tool informed the use of a combination of interviews and a technical read-out of the users' privacy settings. This approach allows further investigation into the 'privacy paradox'. In order to understand the interplay between technical opportunities and users's mental concepts, teamwork between computer scientists and cultural anthropologists is beneficial. Being part of the field and conducting diary studies enriches our understanding of users' privacy concepts and their actual behavior.

3.1 Our experience

3.1.1 Semi-structured, open-ended interviews

The first method we made use of in the study was semi-structured, open-ended interviews. The two graduate students who worked for the initial research team were themselves SNS users, and therefore familiar with the setting; this is considered to be an advantage in a variety of ways (Burrell 2009, 190). In order to get a wider range of ideas we discussed the interview questions in an undergraduate seminar on methods, which is part of the curriculum of the department for cultural anthropology at Frankfurt University. The students contributed in important ways to finding the right interview questions, and helped to avoid or minimize the effect of unduly influencing or channelling the interviewees' responses.

Qualitative interviewing regards interviewees as experts of the issues under consideration (Bauer 1996, 2). As the students are all users of an SNS, their statements were considered to be experts' statements. The set of interview questions included applications, privacy settings, and privacy problems experienced in SNSs. Using the same list of basic questions for all interviews facilitated the analysis of the material.

Non-standardized interviews try to minimize the problem of interviewees forming an opinion of what they believe the interviewers want

to know and responding accordingly (ibid. 9). Therefore, neither did we prescribe the order of the interview, nor did we impose a vocabulary. For instance, we did not introduce the term 'privacy', in order to avoid implying that the respondents were affected by privacy issues in the SNS they use.

Additionally a particular problem is posed by the ubiquitous media discourse on online privacy and security issues. Many respondents presented themselves as cautious users, acutely aware of privacy concerns. We were curious to find out whether in answering our questions, they tried to conform to the standards expressed in the media discourse. In order to find out if this was true, we matched their statements with their actual privacy settings in the SNS. This procedure is described in detail in section 3.1.2. .

We not only asked for students' input to the interview questions, but they also conducted interviews themselves as one of the assignments of the course based on the list of open interview questions we had developed together. The results were very conducive to our study in two ways. Firstly, we received valuable information on how to modify our interview questions for the next research round, and secondly, some of the findings were extremely helpful in focusing the research.

In addition to the interviews conducted by the students we conducted a series of explorative, open-ended interviews, in order to generate a list of relevant questions which were improved in the process. This list was then used in another series of ten interviews. The interviews conducted to date have helped our understanding of privacy management issues and user requirements, by eliciting a series of aspects to which we will adapt our future research strategies.

3.1.2 Technical read-out of privacy settings

At the start of the investigation we created a software that enabled us to automatically identify our interviewees' privacy settings in order to gain a quick overview of their privacy settings without going into detail. A modified standalone version of the internet browser Firefox served to save privacy settings. The software could be directly started from a USB-stick or a CD without previous installation on the participant's computer. After reading out the configuration from Facebook, the software presented the data as a human-readable text to the interviewer and the interviewee. In this way, the respondents could be sure that the interviewer only read the configuration and no other private data. Moreover, because no installation was necessary in advance, the respondents could also be sure that the tool would not pose a threat to their computer. However, shortly after we finished programming the tool, Facebook radically modified its

privacy settings. As a consequence, the automatic read-out of the privacy settings ceased to work. Such constant changes point to the need for a cyclic process of data collection (as discussed in section 2.4.). As the technical aspects of SNS are modified, researchers have to re-evaluate the users' interpretations of these changes. To supplement both our tool and the open-ended interviews outlined in section 3.1.1., we compiled a standardized questionnaire on paper, based on the privacy settings available on the two SNSs 'StudiVZ' and Facebook. After each non-standardized interview, the interviewers additionally went through the standardized questionnaire with the interviewees, comparing their intended privacy settings with the actual configuration.

Matching the respondents' interview statements with the data gained by the checklist allowed us to uncover discrepancies (Axinn 2006). Many informants who presented themselves as well informed about privacy problems in social networks were actually quite surprised about the features privacy settings offered and many were not aware of their personal privacy setting opportunities. This was apparent in several interviews in which the interviewer asked the participants to comment on their profiles on Facebook or the German network StudiVZ. One of the participants, for example, who introduced herself as very aware of privacy problems in SNSs could not even find the privacy settings section in Facebook. We found that the full range of privacy setting options was not used by most of the participants.

One possible interpretation of the findings is that participants were anxious to seem well-informed about privacy settings because they believed that this was what the interviewers expected of them. However, many were not informed. Rather, they often referred to issues discussed in public debates on SNSs and their dangers. Applying a mixed methods approach we were able to find that the participants were aware of problems, but did not apply their knowledge to their actual practice. Using both methods, the open-ended interview and the standardized questionnaire, allowed a more realistic understanding of the actual practices of the respondents. Furthermore this procedure alludes to the question whether users are not in a position to put their concepts in practice.

3.1.3 Teamwork issues

These findings were strongly influenced by the teamwork between computer scientists and anthropologists. By matching users' answers to their actual practice, we revealed the 'privacy paradox'. But working as a team also brought along specific challenges. In our case, we began by separating the interviews from their analysis; that is, one person undertook the interviews and

another analysed them. However, it soon became obvious that it was more efficient when both activities were carried out by the same person. For our purposes, teamwork turned out to be more appropriate in situations when researchers compared their findings, bringing in their tacit knowledge, theory and subjectivity, all of which affect the outcome of the analysis (LeCompte 2000, 147). This type of teamwork, we suggest, encourages reflexivity of the participants. Particularly, team meetings between the computer scientists and the anthropologists were geared to explain different disciplinary approaches. For instance, methods, which had been taken for granted by the anthropologists, had to be explained and their feasibility was discussed. This debate expanded our knowledge about weak and strong aspects of our methods and allowed both disciplines to benefit from each other's expertiseThe most relevant result of our discussions was the technical tool discussed in section 3.1.2. This tool consisted of a technical read-out to capture the privacy settings of the interviewees, developed by the computer scientists. With the help of the technical read-out, we were able to uncover discrepancies between the intended and actual privacy settings of the users interviewed.

3.1.4. Being part of the field

Some members of our research team had been regular users of Facebook and/ or StudiVZ before the start of the project, and were familiar with the field site. Anthropological research literature has discussed, extensively, the challenges of being well acquainted with, or 'native' to, the field, and requires that researchers reflect on this issue critically. Researchers actively engaged in the domain they make their object of study, share a cultural setting with their research subjects. On the one hand, researchers are no longer the professional strangers of classic ethnography but rather become observing participants; on the other hand, research subjects cease to be the classic informants, but rather become partners in research. Most participants of our study were students, which reflects a degree of pragmatism as regards availability and motivation. We suggest that participating in SNSs allowed us to get a well-rounded idea of both the technical environment and users' practices (Suler 1999).

Our approach was to follow the premise of experiencing SNSs like most users do (Garcia et al. 2009, 60). By being part of the social situation, we became aware of information, which is often not considered useful or relevant (Spradley 1980, 55). For example, by regularly using SNSs we recognized that many people shared 'posts' in foreign languages. This excluded all users who were not capable of understanding these languages. This procedure could be understood as using a

very easy mechanism as mentioned in 2.1. to restrict access to data instead of using the mechanisms provided by the SNS.

Anthropologists, as well as science studies scholars, raise the question whether researchers can be part of a social situation and observe it at the same time (Tedlock 2000, North 1994). We suggest that by applying a mixed method approach we may be able to offset some of the effects connected with being both inside and outside the field.

3.1.5. Data about actual usage patterns: conducting diary studies

We also experimented with diary studies in order to capture participants' actions in situ (Carter and Mankoff 2005, 899). Diary studies provide a way of gathering information about people and their activities. This technique allows users to self-report, such as in a study on mobile phone use for which Mizuko Ito and Daisuke Okabe used 'communication diaries', and found them to be a useful instrument for receiving extensive information about communication habits (Ito and Okabe 2003). We expected to find, and did find, that diary studies did indeed greatly enrich our data, particularly those on usage patterns gained in the semi-structured, open-ended interviews. However, it is not always easy to recruit people for diary studies, because they are somewhat time-consuming.

Participants in our diary studies were asked to record their daily actions on SNSs. We developed a basic grid to be filled with the data by participants. We encouraged them to note how often, and how long, they were active in SNSs, and also to record their particular actions, special incidents, and their thoughts when they were about to publish data, e.g. a comment.

Our diary studies show that SNSs for many people constitute a central part of their everyday life, similar to the findings of Miller and Slater (2000) on the use of the Internet (Millller and Slater 2000, 5). Additionally, the diary studies delivered data about reasons for not using SNS. We asked the students, who had been part of the undergraduate seminar in which we discussed our set of interview questions, to be part of our diary studies. Some students do not use any SNS. Therefore they explained their reasons why they do not use SNS. Most answers relate to privacy concerns. Additionally diary studies exhibited the absence of privacy concerns in daily routines. Even though we asked the participants to note privacy concerns in daily routine, almost no one recorded privacy concerns as a reason for not publishing content.

3.2. Research methods for future inquiry

These findings give raise to the interpretation of the users' para-

doxical behavior. As already mentioned, public debates about privacy concerns may be understood as a factor, which induces the interviewees to present themselves as well-informed. The users' disability to deal with the privacy settings provided may be an other explanation. However, further inquiry is needed.

Conventionally, field work is associated with face-to-face interactions of the researchers and those being researched, and participant observation of the everyday life of a given group of people by the researchers (Bailey 2007). However, with studies increasingly conducted in online environments, and with communication moving online, the need for appropriate methods for research in such environments is widely discussed. In our study, we use a mixed method approach to capture users' increasing daily online interactions (Murthy 2008, 849). Combining offline and online research methods, we will be able to collect interesting data on both users' concepts of privacy and their actual behaviour.

3.2.1. Online interviews and e-mail interviews

One advantage of online and e-mail interviews is that they allow researchers to collect a fair amount of statements concerning privacy issues within a short time, offering the additional advantage that time-consuming interview transcription does not have to be made because responses are already in writing (Murthy 2008, 842). Also, some researchers have found that respondents often prefer to answer sensitive topics, such as being uniformed about privacy settings, online rather than face-to-face (Ehlers 2005). However, we have to bear in mind that text-based questions are more direct than in face to face situations. Therefore, we have to find ways to ensure that questions in a text-based environment do not unduly channel responses. First of all, questions should be as open as possible. Another option is to not pose questions, but rather ask participants to jot down their ideas on a specific topic. Of course, many other issues have to be taken into account, not least the question of missing body language in text-based settings.

3.2.2. Capturing participant observation by media

Capturing a respondent's use of SNSs, e.g. by video, or adopting the method of 'thinking aloud', are further approaches for observing activities in context. Thus this method provides an opportunity to uncover uncertainties in handling privacy settings.The method of thinking aloud involves the participant continuously thinking out loud while using the system. By verbalizing their thoughts, we may get interesting clues as to how they perceive the system.

'Thinking aloud' facilitates questions on usage decisions, in situ. This method also permits the users

to comment on and assess their actions themselves (instead of the researchers), giving participants much more leeway to state their views. In return, this provides the researchers with a better understanding of the users' perception of a given system. Film and video have become accepted tools in social sciences, particularly in workplace studies. Video cameras are also a common tool in usability labs. Cameras are positioned so as to capture images of the screen, the keyboard, the user's face and body movements, etc. The idea is to be as unobtrusive as possible. The output, typically, is a video recording of users' interactions with the system. To make sense of data, the researchers must have criteria upon which to base their assessment. Recording users' actions on SNSs on video may provide us with information about usage patterns which may be less constructed than answers in interviews.

3.2.3. Usability tests for further insights

We also considered eye-tracking and mouse-tracking techniques to gain a better understanding of users' actions on SNS. Eye-tracking is widely used in the scientific community, in marketing, and in usability studies, commonly when a detailed evaluation of visual search is required. Mouse tracking differs from eye tracking in that a user's mouse movements are recorded instead of their eye movements. What we may be able to find with these techniques is whether the users are able to find the information they need. Eye- and mouse-tracking might uncover whether privacy settings are arranged in a way that permits users to make informed choices. These questions arose in our interviews as some interviewees were not able to show their privacy settings to the interviewer because they simply could not find them. This problem is an issue concerning the usability of privacy tools, and may be solved by a more adequate interaction design.

4. Conclusion: The field site as a tool

To conclude, qualitative research on privacy issues in SNS clearly cannot do without qualitative methods developed for offline situations. Yet it would also not be feasible to ignore the challenges posed by research in online environments. The set of mixed methods we employed in our study to date, has allowed us to follow SNS users' actions and interactions. Employing a mixed method approach in an interdisciplinary cooperation has facilitated a wider understanding of concepts and practices of SNS users. For instance, the combination of the technical read-out of privacy settings in conjunction with in-depth interviewing lends itself to exploring the question of if, and how, the media discourse about online privacy affects respondents' self-presentation and self-perception. We uncovered

that the participants' answers, but not their actual behaviour, were in agreement with the standards of the discourse.

Using SNSs not only as field but also as a tool, enables SNS researchers to combine their findings based on ethnographically informed methods with the findings based on technical data sources. This approach could help to expose privacy problems which are not yet properly recognized. In our context, the mixed methods approach of combining the findings from our interviews and those from the technical read-out, helped us to recognize that the bigger part of the SNS users interviewed by us were not cognizant of the features that exist for the protection of their privacy.

Endnotes

1 StudiVZ' is a German social network site, in use since 2005 and aimed primarily at university students. As most interviewees use Facebook, we are now concentrating on this SNS. 2 Google-search results with the term 'Facebook fails' show a collection of more or less funny conversations on profiles, which maybe should not have been publicly available. Most cases are caused by a lack of knowledge of privacy settings. There are websites collecting these 'fails'.

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