

Using member checking in interpretive research practice : A hermeneutic analysis of informants' interpretation of their organizational realities

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USING MEMBER CHECKING IN INTERPRETIVE RESEARCH PRACTICE – A HERMENEUTIC ANALYSIS OF INFORMANTS’ INTERPRETATION OF THEIR ORGANIZATIONAL REALITIES

Purpose In recent years, there has been a growing desire to more fully integrate informants into the overall research process. In response to this trend, this study scrutinizes the usage and outcomes of the member checking technique for enabling more participatory interpretive research practices. Information systems (IS) research has utilized this technique, but it has not yet undergone a thorough analysis in this context. Additionally, interpretive IS research is in need of means and tools for engaging with informants during the data analysis and interpretation process.

Design/methodology/approach The data for this study originated from an inquiry into the position of usability work within its cultural context, and this study has adopted a hermeneutic lens to make sense of the member checking technique, which positions informants as co-analysts and co-interpretors to make sense of both their organizational realities and researchers’ interpretations of those realities.

Findings The analysis shows that during the research process, the informants reproduced, questioned, and cultivated the researcher-crafted texts that they were given to interpret, both individually and collaboratively. The study shows that member checking contributes to fulfilling the criteria set for interpretive IS research in a variety of ways.

Research limitations/implications The study contributes to interpretive IS research method practice by offering IS researchers insights into and guidelines on the usage and potential outcomes of the member checking technique.

Originality/value The examination of the member checking technique through a hermeneutic lens is a novel approach. For IS research, the study explicates the usages and outcomes of member checking in more participatory interpretive research practice. Also novel in this study is that member checking is examined as a collective endeavor.

INTRODUCTION

Over time qualitative research has legitimized its position in information systems (IS) research. Qualitative research has been characterized as

a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural setting, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. (Denzin & Lincoln 2000: 3)

However, this characterization applies specifically to qualitative research following the interpretive paradigm, whereas qualitative research can also follow the positivist/postpositivist or critical

paradigms (e.g., Denzin & Lincoln 2000; Lincoln & Guba 2000)¹. This study represents qualitative research following the interpretive paradigm, which is a widely acknowledged form of qualitative research, also in IS research (see, e.g., Klein & Myers 1999; Walsham 1995). In general, this type of qualitative research aims to capture “the native’s point of view” and provide “thick descriptions,” and thorough understandings of particular cases (e.g., Denzin & Lincoln 2000; Lincoln & Guba 2000; Klein & Myers 1999). To achieve these goals, the researchers need to work closely with the informants to determine their meanings and points of view. Actually, in interpretive qualitative research, the research data are seen as produced in interactions between the researchers and the informants (Klein & Myers 1999). This usually requires that the researcher enter into the natural setting of the informants and interact with them in various ways.

A relatively common practice in qualitative research is also to involve informants after data collection through member checking,² by which the informants are invited to check, comment on or approve the researchers’ data or interpretations, i.e., whether they are correct or meaningful from the viewpoint of the informants (e.g., Carlson 2010; Creswell & Miller 2000; Doyle 2007; Lincoln & Guba 1985). The literature on member checking clearly demonstrates variety in the uses, outcomes and goals of this technique (e.g., Carlson 2010; Creswell & Miller 2000; Doyle 2007; Hallett 2013; Lincoln & Guba 1985; Madill & Sullivan 2017), and different epistemological assumptions underlie research utilizing member checking: Some studies seek to check and correct facts through informants’ participation (e.g., Creswell & Miller 2000), whereas other studies aim to engage with the informants in collaborative reality construction and negotiation (e.g., Doyle 2007; Hallett 2013). The first type of studies adheres more closely to the positivist/postpositivist paradigm in qualitative research, while the latter relies strongly on the interpretive one (e.g., Denzin & Lincoln 2000; Klein & Myers 1999). Overall, one can conclude that the technique seems to serve different purposes in qualitative research: It can be used for increasing the validity or credibility of research, and/or it may be motivated by the fact that member checking invites informants to take part more fully in the research process, co-constructing the research outcomes together with the researchers. These goals can even be combined.

Within IS research, this study can be situated with studies that have scrutinized research practices (Cole & Avison 2007; Klein & Myers 1999; Lee & Baskerville 2003; Myers & Klein 2011; Sarker & Lee 2006; Schultze 2000). Within the qualitative interpretive research tradition in IS research, there are relevant articles, such as Schultze’s (2000) outlining the evaluation criteria for ethnography and confessional writing and Klein and Myers’ (1999) on the principles for crafting and evaluating interpretive research. These studies invite us to reflect on our own interpretive practices and potential biases. Along these lines, within the hermeneutic IS research tradition, some studies have offered highly transparent reflections on the use of hermeneutics to gradually gain a deeper understanding of the topic in question (e.g., Cole & Avison 2007; Sarker & Lee 2006). Within the critical IS research tradition, moreover, studies have discussed the possibility of inviting informants to reflect on their understandings. Emancipatory focus groups have been discussed as a way to enable informants to have more thorough involvement in the interpretation of their realities, such as by allowing the participants to express their views, discuss each other’s arguments, and collaboratively construct

¹ Actually, Lincoln and Guba (2000) identify the participatory paradigm as a separate paradigm, while in this study it is interpreted as being included in the critical or interpretive paradigm—critical in the sense of emancipatory interest and change, interpretive in the sense of social social constructivist ontological, epistemological, and methodological assumptions.

² The terms member/respondent checking, validation, and review are here used synonymously.

knowledge on the topic. Such a process can help both the researchers and the informants identify biases and assumptions (Banks-Wallace 1998; Stahl et al. 2011). The current study contributes to this literature by scrutinizing the use of the member checking technique within the context of interpretive research practice with a specific focus on enabling informant participation.

The interest in informant participation in the research process is an enduring theme in qualitative research. Researchers within different disciplines have long argued for a stronger and more explicit role for informants in the research process as analysts, interpreters, or even authors (Clifford 1988; Clifford & Marcus 1986; Denzin & Lincoln 2000; Doyle 2007; Lincoln & Guba 2000). IS research does commonly use the technique of member checking (e.g., Ghobadi & Mathiassen 2015, Mcavoy & Butler 2009, Sarker & Sarker 2009, Schultze 2000, Trauth et al. 2009, Walsham & Sahay 1999), but it is only briefly described in the research method sections of the articles. Only one IS study could be found that truly addresses the technique and its contributions to research practice (Bygstad & Munkvold 2007; Bygstad & Munkvold 2011). This study found that the informants contributed to the research process in various ways and during various phases, increasing both the internal and external validity of the research. The informants not only verified facts, but also co-constructed the case description and reflected on the reported case study implications (Bygstad and Munkvold 2007, 2011). However, this study addressed the benefits of member checking for increasing internal and external validity, which are very traditional evaluation criteria that adhere to the positivist/postpositivist tradition in qualitative research (e.g., Denzin & Lincoln 2000), whereas the current study examines how member checking can contribute to fulfilling the criteria characterizing interpretive research (e.g., Klein & Myers 1999).

Less attention has been devoted in the IS literature to addressing the evaluation criteria of interpretive research compared with the positivist/postpositivist one. As interpretive research features strongly in IS research, as well as in many other disciplines, studies addressing the criteria that characterize this type of research are needed: They should help and inspire researchers interested in and advocating this type of research to refine their research practice. The present study has a specific interest in explicating ways by which IS researchers oriented toward this type of epistemological and ethical assumptions can include informants more seriously in the research process as co-analysts and co-interpreters. Novel in this study is also that it examines member checking as a collective endeavor. Thus, based on the study, IS researchers are better prepared for using member checking in their interpretive research practice and to make more conscious choices concerning its goals and implementation in practice.

This study has used member checking to examine the position of usability work in the cultural context of software development organizations. Usability is an important characteristic of interactive systems and products (Gulliksen et al. 2006; ISO 13407 1999), as well as a significant factor in technology acceptance and diffusion (Davis 1989; Rogers 1995). Usability work aims to create and ensure usable systems (e.g., Gulliksen et al. 2006; Iivari 2006a). However, more research is needed because usability work tends to be difficult and ineffective in practice (e.g., Ardito et al. 2014; Gulliksen et al. 2006; Wale-Kolade & Nielsen 2016). The focus on culture, on the other hand, is relevant because when entering into an organizations, people necessarily also enter into the cultural context of that organization; the culture of a domain always frames the activities and meanings of the domain (Brown et al. 1989). Indeed, culture in the organizational context has been researched for decades

(Czarniawska-Joerges 1992; Smircich 1983), including IS research (e.g., Gallivan & Srite 2005; Leidner & Kayworth 2006). The influence of culture on different kinds of IS phenomena has also been established (e.g., Gallivan & Srite 2005; Leidner & Kayworth 2006). However, there are great differences in the cultural conceptions employed in these culture studies and in the epistemological and methodological assumptions, as well as empirical findings, on culture's influence (Iivari 2006a, Iivari 2006b, Iivari 2010). Related to usability work, the influence of organizational culture has not been examined much.

This study has examined the use of member checking during the study process through utilizing hermeneutics as a sensitizing device. The choice of this lens is suitable because hermeneutics initially influenced the empirical inquiry reported here (Iivari 2006b, Iivari 2010) and because hermeneutics is compatible with the technique of member checking (Doyle 2007). Researchers who rely on hermeneutics have recommended testing researchers' interpretations with informants, thereby placing the researchers' interpretations under the informants' scrutiny (Cole & Avison 2007). The empirical study examined in this paper was qualitative in nature, gradually evolving from a pure interpretivist epistemological stance (Iivari 2006a, Iivari 2006b) into a stance influenced by social constructionism and hermeneutics (Iivari 2006b, Iivari 2010) that rejects a "naïve realist view of representation" (i.e., "meanings are fixed entities that can be discovered"; Schwandt 2000: 197-200); instead, it viewed "facts" as socially constructed while acknowledging that there still are better and worse interpretations (Boland 1989; Myers 2004; Schwandt 2000³). The study shows through hermeneutic inquiry how informants—both individually and collaboratively—reproduced, questioned, and cultivated the texts crafted by researchers to describe their organizational realities.

The paper is structured as follows. The second section introduces related research: First, the technique of member checking is introduced, after which hermeneutics as an analytical lens is discussed. The third section presents the research design involved in the empirical study, and the fourth section presents the empirical findings. The fifth section summarizes the results, discusses their implications and limitations, and identifies paths for future work.

RELATED RESEARCH: MEMBER CHECKING IN LIGHT OF HERMENEUTICS

Member checking is a widely used technique in qualitative research. Informants are invited to check or approve the researchers' data or interpretations (i.e., whether they are correct or meaningful from the viewpoint of the informants). Overall, member checking as a technique aims to increase the trustworthiness and, more specifically, the credibility of research (e.g., Lincoln & Guba 1985), and it can also be used to give informants increased opportunities to participate in the research process (e.g., Doyle 2007) and to increase the fidelity of the research (Moss 2004), which refers to the faithfulness and integrity of the researcher in maintaining the informant's worth and integrity. Through member checking, researchers can ensure that their reconstructions are recognizable to the informants as adequate representations of their realities (Lincoln & Guba 1985). Researchers can examine the intentions of the informants, errors can be corrected, additional information can be provided, respondents' reactions can be captured on record, and data analysis can be initiated in the form of summarizing (Lincoln & Guba 1985). How raw data are provided to informants varies, ranging from interview transcripts to researchers' interpretations and research reports. The informants can perform

³ Note, however, that all these three epistemological stances are seen to represent the interpretive paradigm in qualitative research.

the member checking as individuals or in a group (e.g., during a focus group session). Member checking can also be done iteratively during several cycles (Carlson 2010; Creswell & Miller 2000; Doyle 2007; Lincoln & Guba 1985). In comprehensive member checking, as outlined by Lincoln and Guba (1985), the reviewers are expected to provide feedback about the overall credibility of the data as well as to point out major concerns and factual or interpretative errors. The process must conclude in either a complete consensus, a split consensus, or a majority consensus with a minority dissent (Lincoln & Guba 1985).

In general, in the member checking process, informants are invited to verify, clarify, or elaborate on the research outputs. They may confirm the researchers' interpretations and correct errors, but they may also challenge inaccurate interpretations as well as reassess their own viewpoints. Hence, informants may reflect on the material they have delivered and expand on or alter the information they provided earlier. The member checking procedure can thus also result in new information (Bygstad & Munkvold 2007, 2011; Carlson 2010; Creswell & Miller 2000; Doyle 2007; Lincoln & Guba 1985; Madill & Sullivan 2017). Lanzara's notion of backtalk, despite the fact that it should be separated from systematically elicited feedback from the informants, in a very similar sense refers to the informants' articulate elaboration on the materials presented by the researchers, during which alternative interpretations may also be provided and new discoveries made (Lanzara 2016). Noteworthy in the use of the member checking technique is that the informants may also disagree with the researchers as well as challenge the researchers in many ways (Bradshaw 2001; Bygstad & Munkvold 2007; Madill & Sullivan 2017; Turner & Coen 2008). There are complex power relations between researchers and those being researched—sometimes the researchers are in the more powerful position and they describe the participants, while other times the informants are in control and dictate the research process (Bradshaw 2001; Hallett 2013; Moss 2004). It has also been pointed out that member checking can impact the informants and the context of the research; for example, it can change the way the informants think and talk about things (Bygstad & Munkvold 2007, 2011; Hallett 2013; Moss 2004; Walsham & Sahay 1999). Member checking may even negatively influence the ways by which informants think about themselves and their lives. Thus, researchers should carefully consider when and how the member checking technique can be used so that it does not end up as being harmful for the informants (Hallett 2013).

In this study, the use of member checking technique is examined through the hermeneutic lens. In IS research, hermeneutics has been acknowledged for decades, although the number of studies explicitly relying on hermeneutics is not high (Klecun-Dabrowska & Cornford 2000; Lee & Dennis 2012). The scholars that initially introduced hermeneutics to IS research were Boland (1991, 2010), Lee (1994; Sarker & Lee 2006), and Myers (1995, 2004). There has been a slow and steady growth in the number of hermeneutic studies as IS researchers have provided a convincing case for the use of hermeneutics in understanding both IS development and use (Boland 1991; Hansen & Rennecker 2010; Janson & Cecez-Kecmanovic 2005; Lee 1994; Sarker & Lee 2006).

Hermeneutics refers to the study of interpretation, especially the process of coming to understand a text. Hermeneutics emerged as a concern with interpreting ancient religious texts and has evolved to address the general problem of how we give meaning to what is unfamiliar and alien. (Boland 1991: 439)

In hermeneutics, the primary interest is the meaning of “texts” in a very broad sense (Myers 1995, 2004). Over time, the original focus on interpreting ancient texts has been extended to the interpretation of various kinds of texts (Klecun-Dabrowska & Cornford 2000; Lee & Dennis 2012) and even text analogues (Hansen & Rennecker 2010; Myers 1995; Myers 2004; Sarker & Lee 2006). In line with Ricoeur (1981), researchers have considered “meaningful action” as a text that is “authored” (Sarker & Lee 2006) and that can be interpreted (Lee 1994). The focus on giving meaning to something alien has always been relevant because the ancient texts were alien to their readers due to the historical and cultural distance between the authors and the readers (Sarker & Lee 2006); the texts currently being examined are also considered as alien and as needing to be interpreted. Hermeneutics, overall, aims “to struggle against cultural distance and historical alienation” either in temporal terms or genuinely against the estrangement from its meaning (Ricoeur 1981: 185).

In cultural anthropology, cultures have for long been considered as texts to be interpreted by researchers (Geertz 1973); however, this approach took a step further when a crisis of representation emerged during the 1980s. At this point, research turned to rhetoric and storytelling in research: It was argued that researchers were not able to capture lived experience as was earlier assumed; instead, cultures were to be viewed as texts constructed by researchers. Cultural accounts were to be seen as merely artificial texts, or “true fictions” based on systematic exclusions, as “there is no whole picture that can ever be ‘filled in.’” Critics also advocated for placing the focus on the production of the culture texts, in which the writer’s voice always dominates and situates the analysis. Hence, the focus was turned toward modes of authority in the production of culture texts. Traditionally, anthropologists had had full control over the interpretation and description of other cultures; they had focused on exotic, primitive, small, non-Western cultures—the Other—and in so doing, also marginalized the Other. The marginalized group was not allowed to argue against, or even have a dialogue with, the authoritative voice of the anthropologist. However, over time, a stronger and more explicit role for informants in the research process was championed: The natives were to be invited as analysts, interpreters, and even authors of the culture texts produced within the research process (Clifford 1986a, 1986b, 1988; Denzin & Lincoln 2000.)

Hence, in hermeneutics as well as in cultural anthropology and IS research, understanding the social world and people’s actions within has legitimately been viewed as authoring and interpreting texts (Boland 1989) or text analogues (Hansen & Rennecker 2010; Myers 1995, 2004; Sarker & Lee 2006). Hermeneutics indicates that in culture studies, members of the culture should be viewed as the authors of the culture texts (i.e., meaningful actions considered as texts), but research within cultural anthropology argues further that culture members should also be more strongly involved in creating and interpreting the culture texts earlier crafted solely by researchers; the culture members should be writing the texts together with researchers. In a sense, IS research relying on the hermeneutic tradition has also acknowledged this, as it has been argued that research data should be viewed as being produced in interaction between informants and researchers (Klein & Myers 1999), informants should be considered as interpreters and analysts of the research data, and the researchers’ interpretations should be placed under the informants’ scrutiny (Cole & Avison 2007; Klein & Myers 1999).

Hermeneutics also offers useful insights into the actual analysis of the texts. One needs to acknowledge that when reading and interpreting a text, appropriation of the text, or making “one’s own what was initially ‘alien,’” is needed (Ricoeur 1981: 185). During this process, the meanings

derived are not necessarily what the author of the text intended them to be. Thus, texts need to be seen as open to interpretation: There is always a multitude of possible meanings that can be attached to a text (Boland 1991). No one “correct understanding” of a text can be gained through questioning the author’s intentions behind a text (Sarker & Lee 2006), but instead, the meaning of a text is always derived from an engagement between the reader and the text (Myers 2004); hence, readers are always in a dialogue with a text (Boland 1991; Myers 2004). Reading involves the realization, or enactment, of the semantic possibilities of a text—it “actualizes the meaning of the text for the present reader” (Ricoeur 1981: 185). Moreover, there is interaction between a text and its reader in another sense: Not only does the reader appropriate the text, but the text also appropriates and transforms the reader (Lee 1994); this means that the interpretation of a text necessarily “culminates in the self-interpretation of a subject who thenceforth understands himself better, understands himself differently, or simply begins to understand himself” (Ricoeur 1981: 158).

The hermeneutic circle of understanding is a guiding principle in hermeneutics. It emphasizes that when trying to understand a text as a whole, one needs to interpret its parts, but in order to understand the parts, one needs to grasp the whole—there is constant movement between considering the whole and its parts (e.g., Boland et al. 2010; Hansen & Rennecker 2010; Klecun-Dabrowska & Cornford; Klein & Myers 1999; Myers 1995, 2004). It is also important to note that understanding always starts with one’s own prejudices and preunderstandings, which are then transformed through a dialogue with the text. One must still acknowledge that understanding necessarily remains partial and transient (Cole & Avison 2007; Klecun-Dabrowska & Cornford 2000; Klein & Myers 1999); yet, researchers should carefully reflect on the biases and prejudice that guide their interpretations (Cole & Avison 2007; Klecun-Dabrowska & Cornford 2000; Klein & Myers 1999). During the process, researchers should eventually end up with a new understanding (i.e., understanding differently from the initial concepts), and they should witness the co-emergence of perspectives resulting from the “fusion of horizons” (Cole & Avison 2007).

In IS research, two hermeneutic studies are particularly relevant in relation to inviting informants to be co-analysts and interpreters in the research process. Cole and Avison (2007) describe a hermeneutic inquiry within which a researcher attempted to develop her incomplete understanding and verify her partial explanations. Increasing levels of understanding were achieved via discourse, and the researcher strived for the co-emergence of the perspectives of herself and of the participants. The researcher’s interpretations of the findings were presented as the basis for further discussion, and the informants were invited to assess and monitor the accuracy of the findings. Thus, both the informants and researcher gained new understanding; i.e., their understanding was different from their initial concepts (Cole & Avison 2007). In addition, Hansen and Rennecker (2010) created a collective hermeneutic model that involved collaboratively developing and validating interpretations within a systems development team. These studies pinpoint the usefulness of hermeneutics as a research tool that allows informants and researchers to develop new understandings, both alone and in collaboration with others (Cole & Avison 2007; Hansen & Rennecker 2010).

This study, along these lines, inquiries in detail how member checking can be used to allow informants more thorough involvement in the interpretation of their organizational realities and with what kind of outcomes. The study adds a collaborative aspect to the analysis of the member checking

technique and reveals a wide variety in the ways that the technique can be used to enable informant participation in the interpretive research practice.

RESEARCH DESIGN

Two software development companies were involved in this study. Case A is a large global corporation, while case B is a small- to medium-sized enterprise. In both cases, personnel from product development and customer support were involved, including software developers, managers, and usability specialists. Both companies have placed an emphasis on usability work for years, and several usability specialists are on staff of each company. Access to the cases was gained through a research project the companies were already involved in to improve the position of usability work in their organizations. The author of this paper was an “outside observer” rather than an “involved researcher” (Walsham 1995) in the project (i.e., she did not have “a direct personal stake” in its outcomes and interpretations; Walsham 1995: 77). The research project included other researchers who adopted a more interventionist approach for their research. The current data came from a qualitative inquiry into the position of usability work in the cultural contexts of the case organizations.

Regarding the epistemological assumptions, there was a gradual shift from the tenets of the interpretive discourse to those of the postmodernist/structuralist. At first, meanings attached to usability work and organizational culture were examined as if “subjective meanings” can be understood in an “objective manner” (Schwandt 2000: 193). It was assumed that the empirical material “told the truth” about the situation in the case units (see Iivari 2006a, Iivari 2006b). However, later a stance influenced by social constructionism and hermeneutics (Boland 1989, Schwandt 2000), was adopted, acknowledging that understanding the social world necessitates the reading and interpreting of “alien texts” (Boland 1989). Empirical material was then viewed as representing processes of reality construction, meaning construction and representation. The interview conversations and the dialogue captured in the field notes were seen as attempts by the culture members to produce representations of themselves and of their situation in the unit. Hence, the material was not assumed to “tell the truth,” but rather to reveal how the “natives” were trying and willing to represent themselves. However, the study did not go very far in reflecting upon the role of the researchers as the producers of these results and as interpreters with particular biases and prejudices, as expected in hermeneutics (e.g., Klein & Myers 1999; Cole & Avison 2007) or in confessional ethnography (e.g., Schultze 2000). Therefore, the stance resembles a rather weak social constructionism (cf. Schwandt 2000).

The research material includes various kinds of data that was collected over a 3-year period. Process data, or “stories about what happened and who did what when—that is, events, activities, and choices ordered over time” (Langley 1999: 692), related to usability work and its cultural context were gathered during various meetings, workshops, and interviews. In addition to interview and workshop recordings, various memos and reports produced within these organizations were saved for the purposes of the research. The research team also kept field notes after all events in the case organizations. In addition, a specific effort to experiment with different means to examine the cultural context was organized. First, different kinds of organizational culture surveys were used to inquire into the cultural context of the case organizations. Then, a report on the survey results was provided for the cases. Afterward, personnel of the organizations were interviewed to collect their feedback on

the survey results. The interviewees included usability specialists, developers, and managers. After the interviews, a report on the interview results was delivered. Then, workshop sessions were arranged in which personnel of the organizations were invited to provide their feedback on the survey and interview results. Finally, additional workshop sessions were organized in which the overall results gained during the effort were discussed. The workshop participants again were comprised of usability specialists, developers, and managers. Before the later workshops, the other research material collected during the 3-year period was examined and combined with the results of this effort. The workshop participants also commented on the analysis results of this other material.

During this research effort, the technique of member checking was utilized extensively to scrutinize researchers' interpretations: The informants were invited to check and comment on the researchers' interpretations after the surveys, the interviews, and the first workshop sessions. No raw data were delivered to the informants; rather, they received the initial analysis results. Individuals as well as groups were invited into the process, and the work was carried out iteratively. The research data collected during this study are presented in Table 1.

Table 1. Research Data Involved in the Study

Data Collection Method	Informants, Case A	Informants, Case B
General interviews	10	9
Organizational culture surveys	30	21
Organizational culture interviews	4	4
Organizational culture workshop 1	3	5
Organizational culture workshop 2	6	7

Various kinds of analyses of the material were conducted (e.g., Iivari 2006a, Iivari 2006b, Iivari 2010). For the purposes of this study, an analysis relying on the hermeneutic lens of the member checking process was conducted and the empirical data collected during the interviews and the workshop sessions were re-examined using the central concept of hermeneutics as a sensitizing device. Hermeneutics underscored that no "correct understanding" of a research report/culture as a text should be sought by asking authors the meanings or intentions behind the text or text analogue that they authored (Sarker & Lee 2006); instead, the meaning of a text should always be derived through the engagement of the reader and the text (Myers 2004). Readers are in a dialogue with the text (Boland 1991, Myers 2004), and not only do the readers appropriate the text, but the text also appropriates and transforms the reader during this process (Lee 1994). This study also acknowledged the collaborative aspect in the analysis (cf. Hansen & Rennecker 2010).

Hermeneutic interpretation was performed in multiple ways in the study. First of all, hermeneutic interpretation took place among the survey respondents and the interviewees and workshop participants when they were "reading" their own organizational realities while providing their answers to the researchers inquiring into these issues. Thereafter, the researchers interpreted the survey respondents', interviewees', and workshop participants' accounts and created "texts" (i.e., results reports that we presented for the informants to gain further insights and comments). Then, the informants read these texts, interpreted them, and related these to their organizational realities. During

some interviews and especially during the workshop sessions, the participants discussed these issues in a group, collaboratively negotiating the meaning of these texts. The informants expressed their interpretations, which the researchers then used to create refined texts for the next round of commenting. For each new finding, the researchers' deliberation was needed regarding whether and how it influenced the evolving interpretations and the future texts to be crafted. In this study, there were no large disagreements between the informants and researchers; rather, emerging disagreements and information additions led to refining the texts as well as opening interesting paths for the following rounds of inquiry. In this analysis, the informants' activities during all these sessions were considered as reading researcher-crafted texts and appropriating (i.e., giving meaning to) these texts in a dialogue with the texts that were open to multiple meanings (Boland 1991; Myers 2004; Lee 1994; Ricoeur 1981). At the same time, the texts were seen as potentially appropriating and transforming the readers (cf. Lee 1994; Ricoeur 1981). The inductive data analysis revealed that the informants were confirming, challenging, or expanding the texts (Cole & Avison 2007; Doyle 2007), both individually and collaboratively (Hansen & Rennecker 2010). The next section describes these findings and connects them with criteria characterizing interpretive research (Klein & Myers 1999).

EMPIRICAL FINDINGS

The culture members', after encountering the researcher-crafted texts, 1) individually or collaboratively reproduced the texts, 2) individually or collaboratively challenged the texts, or 3) individually or collaboratively cultivated the texts further. These encounters with the texts are described in more detail in the following section.

Reproducing the text

There were clear cases in the data in which the informants confirmed (cf. Doyle 2007) the research results. The following empirical examples come from situations in which an interviewee familiarized herself with the survey results report and agreed with the results. In the following excerpts, the interviewee explains to the researcher why her organization—which is very large and bureaucratic—had such low scores on its structure and justifies a finding that the leadership style in the organization resembles that of a father figure:

“[Our organization] is a big, bureaucratic organization because [our company] is big, and here we have this bureaucracy so that this functions overall: clear rules, ISO standards and audits, and everything else involved with this. Guidelines are very powerful because they need to cover several hundred thousand employees. On the other hand, there is still this small town team culture where one does things within these boundaries but following common sense, and authority is not such a It is this kind of territory that has been defined as wide[ly] as possible within this larger organization. How should I [describe] it? The [company] organization sets the boundaries, and then within the team, we function within the boundaries very freely without great authorit[y].” (Usability Specialist A1)

“There was this other table [in the survey results report], [that reported a] father figure [leadership style in the organization]. I think it describes our leadership very well

(laughing) . . . Many people consider Peter as our leader. He is this kind of father figure; he acts that way and takes care of people.” (Usability Specialist A1)

In these cases, the informant reproduced the text she encountered. Additionally, these excerpts show that the informant was engaged in a hermeneutic circle in making sense of her organizational realities: She was considering detailed numbers in the report, reflecting on her experiences in the organization, again making sense of the numbers, and then giving meaning to them (cf. Klein & Myers 1999).

The same can be observed in occasions where there were several informants present in an interview or workshop session and the informants collaboratively confirmed (cf. Doyle 2007) the results. The first example comes from a situation in which two interviewees familiarized themselves with the survey results report and together explained to the researcher why their organization had such low scores on its human relations:

“There are blood and thunder fights and silent treatments (laughing). One sees things so differently, although I am not so sure that the things really are so different, but it happens that [the personnel] cross swords.” (Manager B1)

“If there are disputes, in the background there usually is actually the fact that we talk about the same thing and agree with each other, but we do not realize that. The other one talks about it on a higher (laugh) or at a different level in any case. We do not notice that we think we disagree. And later on we find out that we agreed [the whole time]. This takes a lot of time and energy (laughing) . . .” (Usability Specialist B1)

“This is very typical. This also relates to [the Usability Specialist B1] being worried that [the researcher] misunderstands [something]. Because it happens very easily in here that an email is totally misunderstood and then a weird discussion begins.” (Manager B1)

Another example concerns the second workshop in which a group of people collaboratively agree with the workshop results report. The results report states the following: *“Usability sometimes becomes useless pondering . . . Sometimes usability is overemphasized, especially if one is in a hurry. Earlier, it was wild and free, nobody told [us] what to do . . . Recently, effort has been put into [usability work]. Earlier, [usability work] was the sole responsibility of the usability specialists; one could ask advice from them. Usability is not a responsibility in every project, but it has been acknowledged as an issue, and planning is being done . . . There isn’t much knowledge about usability. Quite a few courses have been taken [by personnel].” (Workshop Results Report)*

The interviewees build on each other’s arguments, developing a shared understanding of the position of usability work in their organization:

“I do not doubt we have a pretty good attitude toward [usability work], but I am not sure whether people fully understand what usability is.” (Manager A1)

“They do not even now understand.” (Usability Specialist A2)

“Yes, and the issue [is] who is expected to do it? Do they assume that usability specialists will do it?” (Usability Specialist A3)

“Yes.” (Manager A1)

“Do it.” (Usability specialist A1)

“Partially, there becomes visible this attitude that we cannot all be usability people.” (Usability Specialist A2)

“Yes, in principle. And probably it is an issue as people say that as there are usability specialists, they can do it. It is so easy to push [usability work on] them.” (Manager A1)

“Usability.” (Usability Specialist A1)

“And preferably afterward, during as late [a] phase as possible.” (Usability Specialist A2)

“And this relates to not all people having internalized what [usability work] actually means.” (Manager A1)

The informants, three usability specialists and their manager, collaboratively built an understanding that in their organization not much has changed since the time when *“it was wild and free, nobody told [us] what to do”* and *“[usability work] was the sole responsibility of the usability specialists.”* This conversation painted even a bit more negative picture of the situation than the results report, which indicated that the situation had improved.

Overall, one can say that during this interaction, meanings were negotiated and the results report text was open to interpretations, with a multitude of possible meanings that could be attached to it (cf. Boland 1991; Lee 1994; Ricoeur 1981). As indicated by the literature, a reader can attach a multitude of meanings to a text, while in this situation, negotiations of meaning took place as a collaborative effort in situ. Overall, these examples illustrate how the interpretations were collaboratively constructed in interactions among the informants as well as with the researchers producing the various kinds of reports and arranging the feedback sessions (cf. Klein & Myers 1999).

Challenging the text

However, the informants not only reproduced the research results; they also questioned them (cf. Doyle 2007). For instance, one informant, after reading the survey results report and its recommendations on how to improve the position of usability work in their organization based on the survey results and the existing literature, questioned the applicability of the recommendations:

“This is actually quite interesting. If I talk about usability work, I have a feeling that people are lazy. I have that kind of assumption about human beings This soft approach [recommended for my organization based on the survey results] trusts people and offers educational tools for improving work and quality. I have written in here that I do not think it fits [the organization] because we do have control mechanisms [that]

are quite powerful. If there are some competing issues that are not included in the control mechanisms, then they are left out because we have these control mechanisms and they set the pressure. We have noticed that nothing gets through with this soft approach, for example, through training and such . . . These things have to be included in the control mechanisms to get through (laughing).” (Usability Specialist A1)

The results report suggested a “soft approach” to improve the position of usability work, but the usability specialist opposed this reading of her organizational reality, resisting the meanings that the author of the text intended. She tried to relate her understanding of her organizational reality to the one described in the research results report, found inconsistencies, and eventually selected another “approach” that was described in the text—a “hard approach” that she found more suitable. One can argue that she considered the research results and recommendations as a whole, but she also considered its parts—she eventually reached a conclusion of incompatibility between the recommendations and her reality during a hermeneutic circle of interpretation (e.g., Boland et al. 2010; Hansen & Rennecker 2010; Klecun-Dabrowska & Cornford; Klein & Myers 1999; Myers 1995, 2004). This example also shows that this process of interpretation had actually begun before the session as she had familiarized herself with the results report and even written notes on it. Interestingly, this example also indicates that her involvement in this research process initiated dialogical reasoning on her side in the sense of the informant contemplating her fundamental philosophical assumptions, prejudices, and preconceptions when encountering the text crafted by the researchers (cf. Klein & Myers 1999). Here, dialogical reasoning does not refer to the researchers’ back-and-forth reflection on her theoretical preconceptions when encountering the data, but rather the informants’ back-and-forth reflection on her bias and preconceptions about her organization and the people within when encountering the researchers’ representation of the data.

Questioning and criticizing the research results also took place in group settings. For example, an interview results report regarding human relations indicated that there were two identifiable groups among the personnel: “*engineers without a family*” and “*female[s] with a family.*” In the first workshop session in which a group of informants discussed the results, this interpretation was collaboratively condemned as “*rough,*” “*exaggerated,*” and “*extreme*”:

“I think there might also be people in the middle. Do we have engineers with a family?” (Developer A1)

“Maybe there are some (laughing).” (Manager A2)

“There isn’t such a separation; albeit in the cafeteria, people might split into different tables because we do not fit into one. Otherwise we do not have separated people.” (Manager A2)

“I don’t know, but I think this is quite rough, this separation: ‘engineers without a family’ and ‘female[s] with a family.’ I don’t know if it can be done, but if the group must be separated, then this might be fine.” (Developer A1)

“‘Engineer’ is not a good word, as we do not have them. Actually we have two of them.” (Manager A2)

“What do we have? Do we have [a] Master of Science and [a] Master of Science in Technology?” (Developer A2)

“Well, yes, are there any others?” (Developer A1)

“I don’t think so.” (Developer A2)

“This thing [about] the engineer without a family; for him, the workplace is the family and social relationships are in the workplace (laughing). It seems like an awfully nerdy picture. I don’t think we have these kinds of people working here (laughing). Or do we?” (Developer A1)

“I don’t think so.” (Manager A2)

“This characterization is kind of. . . ” (Developer A1)

“Quite extreme.” (Manager A2)

“Exaggerated.” (Developer A1)

Again, the collaborative meaning making becomes clear in this example of two developers and their manager, each building on each other’s arguments and collaboratively denying the research report’s illustration of the situation in their organization. Another example comes from the second workshop session in which the interview and workshop results were discussed within a group. Regarding leadership, the report stated that *“the personnel obey authorities.”* The group, including usability specialists and their manager, collaboratively argued against this result:

“Actually, I have not noticed this trait.” (Usability Specialist A2)

“We laughed at this ‘obeying’ [when reading through the report].” (Manager A1)

“In my mind, I tried to imagine this situation (laughing).” (Usability Specialist A2)

“What it looks like.” (Usability Specialist A1)

“Yes, what it looks like in practice.” (Usability Specialist A2)

“I don’t think so Well, I absolutely believe in this (joking, laughing).” (Manager A1)

Interestingly, however, one informant, another manager, disagreed with this jointly produced interpretation and agreed with the results report regarding *“obeying authorities”*:

“I don’t know. I think that people believe you when you say that things have to be done this way. I think it relates to the issue that we do not ask them to do any stupid stuff, but there is always a reason for why it is done in a certain way If we started to tell them to do some stupid stuff, then this [system] would suffer, and they would not do it the way we wished [anymore]. It is this mutual trust: We trust that the subordinates do as they are told, and the subordinates trust that we tell them to do only those things that really are important.” (Manager A3)

After this comment, the discussion ended. It seems that the participants agreed with the last interpretation—no opposing views were expressed. Hence, also in this situation, the text was open to interpretations with a multitude of possible meanings that a group of readers, who all did not agree with each other's interpretations, could attach to it (cf. Boland 1991; Lee 1994; Ricoeur 1981). The process not only involved collaboratively developing and validating interpretations (Hansen & Rennecker 2010), but also collaboratively negotiating and questioning them in situ. This example shows that multiple interpretations (cf. Klein & Myers 1999) can also emerge in a collaborative member checking situation in situ. It again becomes visible that the process of interpretation was initiated much earlier: The informants indicated that they “laughed” earlier when reading through the results report and that they “tried to imagine” the situation expressed in the results report. It seems that this collaborative meaning making had been taking place for a while, with the culture members taking part in a hermeneutic circle of understanding: relating their understanding of their organizational reality to what was outlined in the results report.

Cultivating the text

The informants did not only agree with or challenge the research results; on some occasions, they also expanded upon them (cf. Doyle 2007). For example, after one interview, an interviewee emailed the researcher, continuing to discuss the study results and pondering their implications for her work:

“Another example concerns usability issues being connected with the ‘female[s] with a family’ group (I labeled us as [the] ‘mommy mob’ ☺). Actually, those who have education from [a university] are interested in usability ([a manager], the mommy mob, [a developer]) as they have gained some education about usability. An engineer or an engineer with a university degree has not encountered usability during [their] education. Based on this, I think one can conclude that people coming from somewhere else than [a university] could be [given] general usability training immediately when they enter the company.” (Usability Specialist A1)

The informant not only reflected on her own and her reference group's role and image in the organization (i.e., labeling usability specialists as the “mommy mob” after taking part in the study), but she also planned for future actions (training for a certain kind of new employee). All this occurred after the actual interview situation, showing that the interpretation of these texts was a continuous process that may not be tied to a certain researcher-initiated and -selected session. Another very interesting observation is that it seems that the interpretation of this text culminated “in the self-interpretation of a subject who thenceforth understands himself better, understands himself differently, or simply begins to understand himself” (Ricoeur 1981: 158). Interpreting, reproducing, and challenging these texts enabled the informant to see her group (usability specialists) and the future actions needed for their work to become successful (increased usability training for engineers) in a new light. Moreover, the informant can be seen as being involved in abstraction and generalization (cf. Klein & Myers 1999) in a sense, as the empirical findings, unique instances in the data, led her to planning new employee training practices in the company. Of course, she was not theorizing in the sense researchers do, but nevertheless, she was figuring out general implications from the findings.

This elaboration and fine-tuning of the results also took place in the group sessions. As an example, there was the following discussion on the interview results report in the first workshop session. The

interview results report indicated that in the case of the company, *“the goal is to be on the crest of the wave as regards technology development.”* The participants in the workshop session agreed with this. Moreover, they agreed with the interview results report, stating that *“people in the development services team (including usability, design, testing, localization, and validation) are less valued than people in the motor [technology] development team.”* However, the informants did not agree on whether this was an acceptable state of affairs:

“[Usability work] is there is the background, but it is not [included in a] similar way [as technology development].” (Manager B1, Development Services Team, including usability specialists)

“This represents the existing situation that [usability work] is not visible but people know about it.” (Designer B1)

“It has probably been emphasized [recently] because we have been doing this technology platform but not user interfaces or user level design One must also remember the historical perspective. Once, when we made [a product], the user interface was done in [a city]. It was always someone else who made the user interface. Then, when [another product] was made, the first user interfaces and services were made here, but then this job was [quickly] moved to [another country], and here we again concentrated on technological issues.” (Manager B4, Development)

“Exactly. The product development personnel are so technology oriented and the usability specialists are It is divided; specifically, it is polarized in this house so totally, while elsewhere there have been people in the middle.” (Manager B3, former usability specialist)

“Yes, usability specialists do not have companions for discussion here when compared to other places.” (Manager B4, Development)

“But somehow one can see the appreciation of technology. I understand that the core is [that] it needs to be there, but when we compete for resources, the motor always wins (laugh).” (Manager B1, Development Services Team, including usability specialists)

“Well, yes, the motor is always needed.” (Manager B4, Development)

“I agree that [usability work] is appreciated here, my work and my [Manager B3’s] work is appreciated in this firm, but it’s like ‘it is enough that you are here’ (laugh), like mere talk is enough.” (Manager B1, Development Services Team, including usability specialists)

“There is this thing that the developers are valued and taken care of, but these [development services people] are kind of second-class citizens (laugh).” (Manager B1, Development Services Team, including usability specialists)

“Well, yes, but one must always consider what we are doing. We are making the next generation product, and the platform is of course made first. And we have been

developing the platform for a pretty long time and [have] invested a lot in it. But we have been able to sell it to a couple of significant customers, so it has [been fruitful]. And slowly, we can do different things on top of it, as the basic development does not continue much anymore. When the product is commercialized, then . . . [its] nature changes. But when one is making things from scratch, then it is of course very technology-centric.” (Manager B1, Development)

The manager of the usability specialists expressed her concerns and indicated even a possible misrepresentation (like mere talk was enough for usability work). In a sense, she introduced suspicion into the research process, indicating the possibility of biases and systematic distortions in the narratives collected from the participants (cf. Klein & Myers 1999). On the other hand, the development manager strongly emphasized the position of technology development in the company, ignoring the expressed concerns and rationalizing the current state of affairs. While doing so, he was heavily involved in contextualization (cf. Klein & Myers 1999); i.e., in critical reflection of the social and historical background of the setting and explaining how the current situation emerged. Moreover, this example painfully elaborates on multiple interpretations (cf. Klein & Myers 1999) emerging in situ: The manager of the usability specialists, albeit laughing, was expressing her concerns of the unfair situation among the professionals in their organization, while the development manager was maintaining the situation as rational, fair, and justified.

The same discussion continued in the second workshop session, in which it started to seem that the member checking session was actually being used by the usability specialists to gain allies and advocate their work. The participants acknowledged again that in their company, *“the goal is to be on the crest of the wave as regards technology development,”* but the advocates of usability work started to broaden the view as regards which aspects their company was *“on the crest of the wave”*:

“Also in the sense of the company image, our goal is to be a pioneer.” (Manager B2, Marketing)

“This being a pioneer, it shows also in other ways, like in the way usability [has] been taken into account. We actually were, as a company, [the] first one in Finland [to do it]. It is not only [in] technology [that] we are forerunners.” (Manager B3, former usability specialist)

“From my point of view, this is not related to one specific thing. I have only two and half years of experience, but the aim is to be a pioneer in many respects: technology, product development, ways of working, ways of working with the customers, and how customer relations are managed. So, we want to be the forerunners [in many areas].” (Manager B2, Marketing)

“You [Manager B2, Marketing] said that in marketing, [user-centeredness] is used as an argument.” (Designer B1)

“But there they talk about customer-centeredness.” (Manager B1, Development Services Team, including usability specialists)

“Well, yes, but it is the same thing.” (Designer B1)

“Not exactly the same thing.” (Manager B1, Development Services Team, including usability specialists)

“Well, if we talk about our strengths as a company, we do not only talk about customer-centeredness, but we say: ‘we have competence, we have behavioral scientists and usability specialists and research, and we collaborate with universities.’” (Manager B2, Marketing)

“Well, yes, yes, this is true. I am always surprised about people with whom I do not cooperate at all when I hear their presentations. I’m like ‘Wow, they say great things!’” (laughing), so it is there.” (Manager B1, Development Services Team, including usability specialists)

“Because it is quite exceptional.” (Manager B2, Marketing)

In addition to the marketing manager, the chief financial officer entered the discussion and expressed his support:

“In software firms of this size, there is not necessarily even what we have, so we need to proportion this thing. [Usability work] has a clear position here” (Chief Financial Officer B)

“At least we have the will.” (Manager B2, Marketing)

“Yes, we have the will. But one always has to consider what one can afford and then one decides what one must do and what would be good to do.” (Chief Financial Officer B)

Overall, during the research process, a fear of the future position of usability work in the company became expressed during several occasions, while in the end of the second workshop it was revealed that the usability specialists would be responsible for the specifications in future projects and would hence have an important position in the company:

“Specifications will be made in-house, and development will be done elsewhere, this is the decision in principle made as regards the services.” (Manager B1, Development Services Team, including usability specialists)

“If you think how our Next Generation project is managed, the specification starts by myself and [a usability specialist] specifying the functionality, and the API’s are specified directly based on that.” (Manager B3, former usability specialist)

“There has been this insecurity. We were told that our own people would develop the motor and that the services would be developed [externally]. But we have usability specialists. It did not sound rational at all. Now it has changed so that we do the specifications here in-house and we also have technical expertise related to this, not only related to the motor. This is what we have gained: We have moved in the right direction” (Manager B1, Development Services Team, including usability specialists)

All in all, these excerpts paint a picture of the usability specialists quite extensively taking part in the study process, including reading their organizational realities, commenting on the texts produced by researchers, inviting other people to comment on these texts, and reflecting on their organizational realities, with usability work eventually gaining a stronger position in the organization than it previously held. It is impossible to determine the influence of this particular study on this outcome, but at least one can say that through the process, the usability specialists invited influential people to reflect on the importance of usability work in their organization and were able to air their concerns. One can speculate on whether these texts and their interpretation appropriated and transformed (cf. Lee 1994, Ricoeur 1981) these influential manager level readers in the case organization.

CONCLUDING DISCUSSION

This study was concerned with enabling more in-depth involvement of informants in the interpretive research process. Member checking was proposed as one means for inviting informants more thoroughly into the research process. This study examined this technique in-depth through a hermeneutic lens. The data originated from an inquiry into the position of usability work in the cultural context of software development organizations. The empirical study utilized member checking on several occasions within the research process and noted a lot of versatility in the ways the informants contributed to the research process and its outcomes.

The study showed that the informants, when invited to be co-inquirers in the process through reading and interpreting the researchers' result reports, individually and collaboratively reproduced the texts, challenged the texts, and cultivated the texts further. In many cases, the informants merely reproduced the texts: They confirmed the results (cf. Doyle 2007), offered explanations or verified their accuracy (Cole & Avison 2007; Doyle 2007). However, the informants also challenged the texts on some occasions, both individually and as a group (cf. Bradshaw 2001; Bygstad & Munkvold 2007, 2011; Doyle 2007; Madill & Sullivan 2017; Turner & Coen 2008). This also involved negotiation among the participants and challenging of each other's views *in situ*. This observation is a novel finding that is not present in the literature. It underscores that such texts truly are open to interpretation with a multitude of possible meanings that can be attached to them—it is definitely not only in the hands of the author to determine the meaning (Boland 1991; Lee 1994; Ricoeur 1981). Finally, the informants also cultivated the texts further, reflecting, reassessing, and expanding them (cf. Doyle 2007). This involved, for instance, a usability specialist pondering her identity and job requirements or workshop participants negotiating and reconsidering the position of usability work in their organization. In the first example, it seems that this emerged *ad hoc* due to the study process, whereas in the second example, it is possible that the usability specialists even intentionally used the study process as a tool to advocate their interests; i.e., inviting influential people from their organization into such a process to reflect on and recognize the importance of the usability work. All in all, these findings indicate that reading the texts also appropriated and transformed the readers (Lee 1994; Ricoeur 1981); the research participants' dialogue with the text and other participants culminated in them understanding themselves better, understanding themselves differently, or simply beginning to understand themselves (cf. Ricoeur 1981).

The analysis showed that the technique of member checking contributes to the achievement of all seven principles of interpretive research (Klein & Myers 1999) and that it does so in a variety of

ways. These seven principles can be considered not only from the researchers' perspective, but also from that of the informants. From this perspective, the member checking technique enabled the informants to become unusually thoroughly involved in a hermeneutic circle of understanding their organizational realities. They reciprocally considered individual findings and the overall understanding of their organization; they were involved in contextualizing the findings by offering reflections on the social and historical background of the research setting explaining the current situation; they were heavily involved in interactions among themselves and with the researchers, thus socially producing, interpreting, and analyzing the findings; they were even a bit involved in abstraction and generalization; they were involved in dialogical reasoning (i.e., confronting and revealing their prejudices, preconceptions, and philosophical assumptions when encountering the findings); they were involved in creating multiple interpretations that showed there were differences in interpretations as well as contradictions among the participants; and, finally, they brought to the forefront a need for suspicion when encountering the findings by emphasizing that there might be biases and systematic distortions in the narratives crafted during the study (cf. Klein & Myers 1999).

From researchers' perspective, one can say that the technique contributed to fulfilling the criteria of interpretive research (Klein & Myers 1999) in many respects. It contributed by enabling researchers to be thoroughly involved in the hermeneutic circle of understanding the individual findings and the whole as well as by helping to contextualize the findings, by enhancing the interaction between researchers and informants, by encouraging multiple interpretations to emerge, and by encouraging suspicion toward the narratives crafted. However, regarding the suspicion, critical theory would encourage researchers not only to rely on suspicion expressed by the informants, but instead to view all participants as having a "false consciousness" that should be revealed and addressed by the critical researchers (cf. Klein & Myers 1999; Myers & Klein 2011). This type of analysis has not yet been conducted on these data; hence, this principle has not been followed very thoroughly in this study, although the member checking technique could be used to address also this issue.

In sum, this study contributes to the research method literature advocating more in-depth involvement of informants in the study process (Clifford 1988; Clifford & Marcus 1986; Denzin & Lincoln 2000; Doyle 2007; Klein & Myers 1999; Lincoln & Guba 2000). The technique of member checking clearly allows extensive informant involvement in the research process (Bygstad & Munkvold 2007, 2011; Carlson 2010; Creswell & Miller 2000; Doyle 2007). Emancipatory focus groups (Stahl et al. 2011) and some hermeneutic studies (Cole & Avison 2007; Doyle 2007; Hansen & Rennecker 2010) share a similar goal. However, while widely acknowledged and used in the IS literature, the technique of member checking has lacked in-depth analysis, and its particular benefits and uses in interpretive IS research have not been fully explicated before. Additionally, there is a lack of research discussing the nature of collaborative member checking or the potential outcomes of such an endeavor. In response to this deficit, this study has succeeded in shedding some light on these issues.

Although this study was carried out in the context of culture and usability work, this technique should be seen as valuable in other IS contexts, too. Of course, especially in the case of culture studies, intense engagement with culture members is needed (e.g., Czarniawska-Joerges, 1992; Iivari 2006; Smircich, 1983): As culture is conceptualized as the continuous spinning and re-spinning of fragile webs of meaning (Ortner 1999), culture members' ongoing meaning making should be examined in-depth. Thus, this technique fits well with the topic of culture, but it fits with studies relying on

hermeneutics as well. Hermeneutics is compatible with extensive informant involvement in the research process (Doyle 2007). Some hermeneutic IS studies (Cole & Avison 2007; Hansen & Rennecker 2010) have already examined meaning making between a researcher and informants (Cole & Avison 2007) or as a collaborative effort within a systems development process (Hansen & Rennecker 2010). The current study points out that in order to truly utilize the strengths of the hermeneutic method, extensive informant involvement in the analysis process is needed. Member checking is one way to accomplish this. Moreover, in line with hermeneutics, one needs to remember that our understanding always begins with our prejudices and preunderstandings and that our understanding, including both researchers' and informants' understanding, will always remain partial and transient. However, we should seek to increase our levels of understanding, and this can be accomplished, in part, by inviting informants into the process and allowing them to negotiate meanings individually, collaboratively, and together with the researchers (cf. Cole & Avison 2007; Hansen & Rennecker 2010; Klecun-Dabrowska & Cornford 2000; Klein & Myers 1999).

For IS research, overall, this study shows ways by which IS researchers can involve informants in the research process after data collection both individually and collaboratively. It also reveals a variety of potential outcomes of such an effort. Through member checking, researchers may gain confirmation for their results, but also have those challenged or expanded upon; this should prompt researchers to challenge and reassess their assumptions. The informants' interpretations emerge in the meanings negotiation process in situ, while they may also engage in the interpretation process before or after the actual member checking situations. The informants may even use member checking to further their own agendas and issues. All this indicates that the researcher is not in full control of the situation but may embrace the opportunity to gain more in-depth insight into the study topic. This kind of approach is particularly suitable for interpretive, specifically hermeneutic, IS studies, although researchers relying on more positivist/postpositivist epistemological assumptions (see Denzin & Lincoln 2000; Lincoln & Guba 2000) can also utilize member checking to increase the validity of their research. For interpretive IS studies, member checking can lead to an increase in the credibility (Lincoln & Guba 1985) or authenticity (Schultze 2000) of the research. Moreover, member checking can contribute to more ethical research practices and increased fidelity (Moss 2004). However, member checking can cause changes in the case organizations and in the lives of the informants (e.g., Bygstad & Munkvold 2007, 2011; Hallett 2013; Walsham & Sahay 1999), which should be carefully considered when using the technique. Hermeneutic or other interpretive research methods are not particularly suited for advocating or preparing for changes; rather, studies may lead to such outcomes without the researchers' intentional effort, and this should be acknowledged.

There can be many challenges in the use of the member checking technique, such as unwanted or unintended consequences (e.g., Moss 2004; Hallett 2013). Although those were not evidenced in this study, it is important for researchers to always consider what kind of implications the member checking technique may have for the lives of the informants. Many times these considerations go hand in hand with the considerations of the implications of publishing the results. However, the member checking technique even more strongly than mere publication of the results requires the informants to familiarize themselves and engage with the researchers' interpretations; hence, these considerations are pivotal. Even if the topic of study is not particularly sensitive or the informants are not particularly vulnerable, such considerations are needed. In most cases in IS research, however,

there probably are no particular reasons to avoid the use of member checking. Regarding the timing of these considerations, if a researcher has a strong commitment to a participatory research process together with the informants, these issues need to be considered upfront—before engaging in any research activities. At this time, the researcher likely lacks some insights on the future findings and on their potential implications on the lives of the informants, which is a drawback. In such a situation, nevertheless, the use of the technique should be agreed upon and discussed with the informants early on. Member checking can also be adopted later on in the research process, without a strong commitment or felt obligation driving its use. In such a case, ethical considerations regarding its use can be informed by the findings derived so far, enabling the researchers to better assess the benefits and problems that can be associated with the use of the technique.

Another challenge relates to participants disagreeing with or challenging each other or the researcher (see, e.g., Bradshaw 2001; Bygstad & Munkvold 2007; Madill & Sullivan 2017; Turner & Coen 2008). Disagreements are somewhat to be expected, and researchers need to be prepared to address them. Regarding disagreements between the informants in this study, the negotiation process was interesting to observe, and when unclear issues remained, those were addressed during the next round of data collection. There were no such cases in which several totally opposing explanations or interpretations remained, but such examples would have been interesting findings regarding divergence in reality construction. The informants also disagreed with the researcher interpretations in this study. In those cases, there was no particular reason to stick with the original interpretation but it was better aligned with the informants' viewpoints. Then again, it is important to acknowledge that sometimes the researcher should stick with the original interpretation, as the informants may be disagreeing with it, for example, to maintain face, due to political reasons internal to their organization, or due to limited understanding of the theoretical concepts guiding the analysis (e.g. Bradshaw 2001; Turner & Coen 2008). These challenges have been previously discussed, especially when studying research participants in powerful positions (e.g., Bradshaw 2001). Overall, the complex relationship of power between the informants and researchers needs to be acknowledged when using the member checking technique (Bradshaw 2001; Moss 2004). In the current study, some participants were in top management positions, and there was a suspicion that some study participants were using this study to advocate certain types of issues inside the organization. Then again, usability specialists frequently suffer from their subordinate position inside their organizations, and their empowerment could have even been adopted as the main goal of research if it relied on the critical tradition. However, in this study the issues of power and politics were left somewhat weakly explored. A critical inquiry on power and politics intermingled with the use of the member checking technique is warranted in the future.

Another limitation of this study is that the analysis process focused on informants' involvement in the research process but neglected a detailed analysis of the researchers' evolving interpretations and understandings (exemplified in Cole & Avison 2007; Sarker & Lee 2006). Another study is necessary to dig deeper into the process of researchers "reading" and "rewriting" these texts. Another limitation is that this study focused on member checking of researchers' interpretations. Another study could offer the raw unprocessed data to the informants and observe their reading of it. Regarding paths for future work, researchers could even more systematically experiment with this technique with their informants. As previously mentioned, the procedure fits within the hermeneutic research tradition in

particular, but it can be integrated with many kinds of qualitative inquiries, especially those relying on the interpretive paradigm. On the other hand, the procedure could also be developed further, for instance, by integrating a more explicit requirement for the informants to reach an agreement on the issues (e.g., complete consensus, split consensus, majority consensus with minority dissent; see Lincoln & Guba 1985). Finally, the procedure could be extended by inviting informants to also take part in the scientific writing process. In this study the informants were not allowed the powerful position of an author (called for, e.g., by Clifford 1988; Clifford & Marcus 1986; Denzin & Lincoln 2000; Doyle 2007; Lincoln & Guba 2000). As a final note, this study warmly recommends the use of member checking technique for various kinds of IS research to enrich the research outcomes as well as the research process itself in various, versatile ways.

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