

The Significance of Member Validation in Qualitative Analysis: Experiences From a Longitudinal Case Study

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Abstract

This article explores the concept of member validation and its potential role in the process of constructing case descriptions and interpretations in qualitative research. Although generally approved as a required step in qualitative inquiry, the format, conduct, and purpose of this vary significantly according to different research perspectives. The paper discusses methodological and validity aspects of member validation, and illustrates these issues with experiences from member validation in a longitudinal, interpretive case study in an airline company. A definition of analytical abstraction as including three steps, referred to in the methodology literature as the “ladder of abstraction”, is used as the basis for analyzing and discussing the nature of member validation in different stages of the case construction process.

The paper provides two propositions: First, member validation may increase the validity of case studies, provided it is used systematically. The “ladder of abstraction” framework proved useful for conceptualizing this approach. Second, member validation plays distinctly different roles in constructing the case on the different levels of abstraction.

1. Introduction

In qualitative research studies, some form of member validation is considered common practice [16, 22, 24]. Also referred by alternative terms such as member verification [17], member checks [8], or project reviews [7], this practice includes activities that allow stakeholders or case members to verify and possibly influence on case descriptions or

interpretations. These activities can be conducted in several stages throughout the data collection and analysis, and may take on different forms. Examples of different forms of member validation include distributing interview transcripts to informants for verification, presentation of case study report/summary to key stakeholders for approval prior to publication, and/or group meetings with informants for discussing different interpretations of the case material.

From a practical viewpoint, member validation is justified by the common-sense wisdom of asking the source of information to verify that it is exact and complete. Often, this may also be an explicit requirement for gaining access to the field in the first place. In addition, many researchers feel an ethical obligation to report results back to the practice field.

In research terms, the aim of member validation is to increase reliability and/or validity of the research findings. However, the nature and objective of member validation vary significantly for research conducted under different paradigms. In positivist qualitative research, member validation basically serves the purpose of verifying factual information and assuring that the researcher's understanding of the studied phenomenon as presented in the case report or similar account is “correct”, in an objective sense, to increase validity [24]. Consequently, member validation is often treated with caution and even some skepticism in methodology research literature, regarding this as a potential risk for undue influence from case participants on the outcome of the research study.

In contrast, in phenomenological and interpretive research case members play an active role beyond merely being “informants”. Boland [3] describes the methodological implications of phenomenology this way: “When the phenomenologist studies a person, she does not look *at* them, but *with* them in a dialogue searching for understanding. Understanding comes step

by step, layer by layer, as preconceptions, prejudices, and assumptions are recognized and seen through" [p.343]. Thus, for research conducted within this paradigm, member validation constitutes a natural part of the dialogue between researcher and informant, and development of an inter-subjective understanding of the phenomenon under study.

Despite being common practice in qualitative inquiry the actual process of member validation is often not documented in empirical studies. For example, in a survey of 183 positivist case studies from seven major information systems (IS) journals, only 15 % of the studies explicitly reported any form of member validation [7]. And in the few studies where this practice is reported, this tends to be only briefly mentioned "in passing", to document that standard methodological procedure has been followed but without explaining in detail how this was actually done and discussing how this may have influenced on the research outcome. A similar observation has also been made for qualitative organizational studies in general [14].

In this article we seek to contribute to a more explicit discussion on the concept of member validation in qualitative research studies. Building on the experiences from a longitudinal case study in an airline company, we discuss how member validation may play an important role in the process of constructing a case narrative. We also show how member validation may serve different purposes related to different levels of abstraction in this process. The following research questions guide our analysis:

- What is the significance of member validation in constructing a case narrative?
- What is the potential role of project members in this process?
- What are the limitations of the member validation process?

Our analysis is mainly conducted from an interpretivist stance, as our empirical case study was conducted within this research tradition. However, the implications from our analysis also have relevance for member validation practices as conducted within other research traditions.

The paper is structured as follows. Section 2 provides a summary of previous research related to member validation. Section 3 presents the framework for analytical abstraction that is used as a basis for discussion of member validation experiences from the case study, presented in sections 4 and 5. In section 6

we discuss the findings and implications from this analysis, and section 7 concludes the paper.

2. Research review

In our review of the research literature we found the topic of member validation to be very rarely addressed in information systems research. Most of the sources drawn upon have thus been identified in other disciplines such as social science research, organizational research, and nursing science.

When examining the literature on research methods we find differing perspectives on the role and nature of member validation. This can be seen to reflect the different paradigmatic orientations and epistemological perspectives in IS/social science research today, such as positivist, critical, linguistic and interpretivist [12, 18].

A basic distinction can be identified between the view of member validation as an activity primarily intended to verify factual information, conducted post hoc and not influencing the research process, and the more extended view of member validation as a "formative" part of the research process, conducted as part of the interaction between the case informants and the researcher(s).

The former view can be found advocated in key textbooks on qualitative methods. For example, Yin [24] recommends member validation as a technique to verify the case study report: "The informants and participants may still disagree with an investigator's conclusions and interpretations, but these reviewers should not disagree over the actual facts of the case" [24, p.145]. Similar, Miles and Huberman [16] recommend the researcher to include member feedback in the research design. And related to IS positivist case research, Dubé and Paré [7] argue for more wide use of project reviews, "whether under the form of a formal presentation to key actors or a review of the case report itself [...], to corroborate the events presented in the case report" [p. 625].

In the Longitudinal Process Research, primarily associated to Pettigrew [20, 21], member validation plays an important role for ensuring that the factual information is correct and that the descriptions are meaningful for the practitioners. However, Pettigrew seems to accept that practitioners are co-builders in constructing the case description, thus also representing a more extended view on member validation.

Within the interpretive research tradition, Silverman [22] argues that since interpretive research builds on the actors' own understandings of the social world, member validation should be part of the research

process. Among their suggestions for evaluating interpretive research, Klein and Myers [10] proposed the “principle of interaction between the researchers and the subjects”, which calls for critical reflection on how the case story was socially constructed through the interaction with case actors.

According to the constructivist perspective, Guba and Lincoln [8] define member checks as “the process of testing hypotheses, data, preliminary categories, and interpretations with members of stakeholding groups from whom the original constructions were collected” [p. 238-239]. They regard this as the single most crucial technique for establishing *credibility*, the constructivist “parallel criterion” to internal validity, which focuses on establishing the match between the constructed realities of respondents and those realities as represented by the researcher and attributed to various stakeholders. They discuss how member checks can be both formal and informal, and may occur both during the data collection and analysis stage, and when the case narrative is developed. To distinguish member validation from triangulation, Guba and Lincoln [op.cit.] argue that while triangulation is limited to cross-checking factual data, member-checking processes are concerned with verifying that the constructions collected are those that have been offered by the respondents.

Several concerns have also been raised related to the principle of member validation. First, one may argue that member validation is an *external* activity in relationship to the research process, usually done *post hoc* and thus contributing little to the analysis [17]. Rather, as Silverman [22] points out, it generates a new set of data which may be interesting and relevant, but does not increase the internal validity of the case.

Second, when study results have been synthesized, the initial views of individual members are no longer there. Thus, to facilitate member validation the researcher may feel forced to present the findings too close to the initial data [17].

Third, one may suspect that project members, when reading the interview transcripts or case description may want to justify their actions [15], thus threatening the integrity of the initial data collection. This can also be related to “the principle of suspicion” proposed by Klein and Myers [10]. This principle addresses the problem of “false consciousness” at the part of the participants; underlying a seemingly unified account of something, the actors may be strongly biased by structures of power. This may produce distorted pictures of reality, which the researcher must see through.

Finally, the language used in communicating findings to informants may also represent a barrier in the member validation process, as exemplified by studies of “native cultures” in social anthropology [22]. In general, Miles and Huberman [16] thus warn that formatting the feedback is important, since case members may find it difficult to respond to scientific jargon.

As this brief research review has showed, member validation is generally seen as a useful technique to increase case study validity. Still, it is our view that the text books do not provide sufficient guidelines for how to benefit from this approach. At a more specific level there are a number of concerns, questioning both the nature of this activity and also its role in qualitative research. In the following we introduce an analytical framework that can be used as a basis for discussing the potential contribution of member validation in different stages of qualitative analysis.

3. Framework: The Ladder of Analytical Abstraction

In interpretive case study research the case story is *constructed* [11]. The case study artifact (the narrative) is the result of the researcher’s choice of sources and informants, and the time frame and scheduling of events. The case study artifact, as such, has no independent existence outside the researcher’s mind.

The case is constructed through a certain progression, a “ladder of analytical abstraction” [6, 16], illustrated in figure 1. Starting with the interviews and other text, the first level is concerned with summarizing and coding of the data. The next level is focused on identifying themes and trends in the data, identifying the important concepts and variables. At the third level the researcher aims at delineating the “deep structure” of the case, identifying patterns and building explanations.

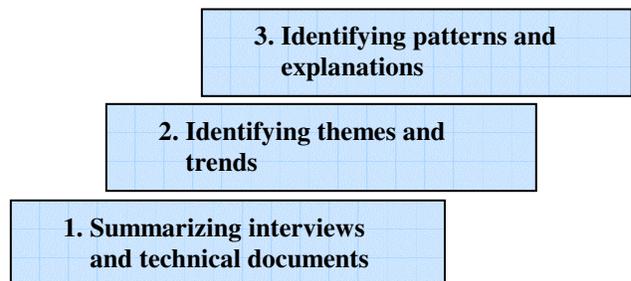


Figure 1. Steps of analytical abstraction, after Carney, [6]

Climbing this ladder of abstraction is a process of transformation; raw data is transformed to concepts and variables, which again is synthesized to larger explanatory frameworks. From a validity perspective each step constitutes a threat, because the researcher's preferences and biases may influence the choices. How do the central concepts emerge? Where do the patterns come from? While the researcher may use sound methodological principles for qualitative research [10] and analytical techniques such as forward-chaining and backward-chaining [20, 21], a heavy responsibility resides with the researcher. We will argue that these transformations are important to understand and that member validation can play an important role in this process.

The ladder of abstraction should not be taken too literally. It may give the misleading impression that case construction is linear and algorithmic, while it is usually non-linear, iterative and experimental. However, as will be demonstrated in the following sections, the ladder of abstraction as an analytical tool enables us to frame our case presentation and discussion.

4. Case study

The empirical basis for this paper is a longitudinal case study conducted by the first author, focusing on the challenges of socio-technical integration in information systems development projects. The theoretical point of departure was socio-technical research of IS innovation in organizations [1] and actor-network theory [9, 13].

4.1 Case overview

The case organization was an international airline developing an e-business solution. The researcher conducted two workshops and 20 interviews with central stakeholders and IS developers, and was given access to project documents. At the outset it was agreed that the project managers (one from the business side and one from IT) should read the draft publications to approve whether the airline could be identified in the publications from the project. As will be explained in the next section, the member validation process resulted in such approval. However, in this article we have chosen to anonymize the case company, as the focus here is more on the interaction with the members than on the actual results of the case study.

In 2000, acknowledging the commercial potential of Internet booking, the airline decided to establish a web-based marketing channel in all important markets,

including Europe, Asia and Americas. To support this new business process, a new content management and publishing solution was needed. A project was initiated, with the aim of establishing this new channel. Further goals of the project was also to enable the marketing editors with an easy tool to publish materials and campaigns, without the need for using html coding, and to integrate this new system with the booking systems.

The development project was structured in five iterations, building on the Rational Unified Process. After two disappointing iterations, where the developers failed to convince the marketing editors of the need of system, the problem was temporarily solved by the business manager becoming IT project manager. The project concentrated successfully on internal technical issues, postponing integration. This was addressed in an extended last iteration, where the social and technical integration challenges were solved by improvisation. After a hectic finish the system was taken into use by the international airline with relative success.

4.2 Data collection and analysis

Data was collected in accordance with the principles of Longitudinal Process Research [19, 20, 21], i.e.:

- Engaging with the research site at several times during the study, to collect data reflecting changes over time.
- Participant observation, to understand the actors' language and problem solving, and to make sense of different situations.
- Collecting systematically different types of data, to secure validity.

The case was researched in four phases over a period of 18 months, as illustrated in table 1. Data collection included interviews, workshops, project documentation, technical documents, software demos and participant observation from meetings.

Phase	Activities	Documentation
Initial activities	Initial meeting with three managers. Document collection.	Summary of business and project objectives
Early project phase	A workshop with project and business project managers, to get the broad picture. Individual interviews	The primary artifact was a graphical illustration of how stakeholders and components were included into the project
Late project phase	Group interviews with project group Individual interviews	Interview summaries
After system in production	Group interviews Individual interviews	Final project reports, user evaluations

Table 1. Data collection in the airline case

The data was coded in an Atlas database. Interview summaries, project documents and technical reports were coded following the guidelines of Miles and Huberman [16]. Then a systematic search for relationships in the data was conducted, based on the following guidelines for data analysis [19]:

- Comprehensive analysis; to identify underlying structures and patterns of the organizational process.
- Temporal analysis; to aid in contextualizing findings by placing events and situations in a narrative structure.
- Member validation; to ensure that the case description and researcher’s interpretation were considered correct and meaningful to the organizational actors.

Being an interpretive case, data collection and analysis were conducted in an iterative mode; one observation would often trigger a new interpretation, which again could lead to a new question and/or possibly a new stakeholder. The purpose of member validation in this case was not only to ensure the correctness of the case description; it also acknowledges and illustrates the social construction of the case [10]. The case description was built gradually over time, in a process of learning and also negotiation between the researcher and the stakeholders. The next

section presents the activities related to member validation in the case project.

5. Member validation in the airline case: correcting, commenting and competing

Member validation in the airline case was carried out in three steps. First, the documented socio-technical network from the workshops was sent to the participants for comments and corrections. Then, at the end of the case study there was a long validation session with technical and business stakeholders to review the final report. And lastly, the research papers that were published were also sent to the project managers and business line managers for comments.

We will analyze these steps using the ladder of abstraction framework, as illustrated in table 2. The table lists the three levels of analysis with the related documentation produced, the function of member validation for each level, and the atmosphere characterizing the interaction between researcher and members. The first step is concerned with time line, actors and events, at a low level of abstraction. The next step is constructing the case description, at a higher level of abstraction, focusing on relationships and themes. The third step is concerned with the research papers, at a high level of abstraction, focusing on socio-technical process patterns and explanations.

Level of analysis (abstraction level)	Documentation	Function of member validation	Atmosphere of interaction (researcher /members)
Summarizing interviews and technical documents	A graphical illustration of the actor network + interview summaries	Correcting errors	Relaxed
Identifying themes and trends	Case description	Commenting on interpretations	Engaged
Identifying patterns and explanations	Research papers	Competing on implications	Tense

Table 2. Member validation at three levels of analysis

In the following we discuss these three levels in more detail.

5.1 Summarizing interviews and technical documents

The case was gradually constructed over the whole period of data collection. An early event was a half-day workshop with the important stakeholders, with the aim of establishing a time line for the development project and a model of the actor-network. The time line included the activities that initiated the project, the actual project milestones, and the iterations. The actor-network model illustrated the step-wise enrollment of stakeholders and technology into the project. Both artifacts were updated throughout the study over 18 months, and were used to structure the findings and analyze changes over time.

The graphical representations were sent to the workshop participants for comments. A number of corrections were given, concerning factual issues such as dates, people and technology. Summaries of workshops and interviews were commented on much the same way, focusing on factual errors. In addition, there were suggestions for other stakeholders to interview, and other documents to draw upon.

The atmosphere of this interaction was generally quite relaxed. Although the graphical actor-network representation was somewhat complex, the comments were all to the point, and errors were easily corrected.

5.2 Identifying themes and trends

The case findings were described in a final case report. It covered the timeline and actor-network, but concentrated on interpretations of the case. Prominent themes were the interaction between the development team and the marketing editors, and also the integration challenges in the projects.

The final case report was discussed at a formal validation session, in which several stakeholders from both the project and the business organization participated. The discussion focused on interpretations of concepts and events, and the validation meeting resulted in a number of changes.

Special care was taken to analyze the instances where data was contradictory, for example when developers and user representatives had different accounts of what had happened. For example, there was a disagreement about the results of the first two workshops. The project group had followed the plan, involved users and tried to model the use cases graphically, and judged the workshops to be useful. The marketing editors, on the other hand, had felt that the communication between the project and the users

was poor, and that the use cases were very theoretical and not related to their work process.

The written project documents provided support for the project group view: they had really done what the methodology called for. In a second interview this was discussed with the editors, and they gave two explanations. First, they did not really have time to participate, and were not well prepared for the sessions. Second, they were used to another technology (Frontpage) which gave them more freedom in the design, and they regarded the new solution as a step backwards.

Both accounts were documented, which was accepted by both sides. This conflict of interpretation became input to a higher level of analysis: enrolling stakeholders from the business process was not successful, in spite of it being done "by the book", i.e. by management approval and formal planning. The project group had failed to convince the editors of the need for a new solution.

Integration issues included the gradual enrollment of both stakeholders and technology into the project, and the project managers' response to the complexity of the process. An observation was that project managers tended to respond with "project encapsulation"; i.e. to concentrate on internal project activities instead of addressing external problems.

Two case stakeholders had strong objections to this notion of "project encapsulation", which they felt was not an accurate description, and also that the notion made the project manager appear somewhat defensive in the situation. In an e-mail response they wrote that what had actually happened was that they were *forced* to postpone some of the technical and stakeholder integration, because of factors they did not control. The alternative would have been to stop the whole project.

The researcher agreed to this. But how should it be interpreted? The researcher argued that the event that the plan could not be followed should not be interpreted as an accident or merely as bad luck, but rather as an indication that something was not working properly. Would it be fair to say that the dependency of too many actors *forced* the projects into a certain degree of encapsulation?

No, they answered, because the decision was deliberate, and the risks were assessed. But was encapsulation an unintended *effect* of that decision, then, the researcher asked. And so on... This argument was not really solved, but rather negotiated in the case report, where we gradually agreed on sections and sentences.

The atmosphere in the validation meeting and the following e-mail exchanges was polite but quite

engaged. E-mails typically started with “I do not agree with your interpretation of this event...” An interesting aspect was that the members started to use the vocabulary introduced in the report, as the example of “project encapsulation” described above.

5.3 Identifying patterns and proposing explanations

This level was concerned with the implications of the case. These were discussed in several academic papers that were written on the basis of the case materials [4, 5]. The papers were written in an academic style, including research reviews and theoretical discussions. They focused on the more general aspects of socio-technical integration, and used the case as an example of integration patterns.

It had been agreed in advance that all papers should be subject to approval by the airline prior to publication. Rather unexpectedly, the papers triggered considerable response. After receiving the first draft paper, lists of new issues were brought up by three central stakeholders: the two project managers and one IT manager.

The first in a series of e-mails started:

“You cannot be allowed to publish accounts on this company that are not true...”

The objections included for example:

“You write that important business needs were not part of the requirements. This is not because we did not know, but because of corporate priorities. The number of use cases was reduced after the 9/11 attacks.”

“My opinion is that we really did aim for socio-technical integration. The reason this was not achieved was that the marketing editors did not prioritize the workshops. This was not a Big Bang pattern project”.

“You do not seem to realize that a project manager continuously has to balance the risks of such a complex project with many dependencies.”

In total twelve different issues were raised. The researcher wondered why these had not been mentioned at the long and quite engaged validation

meeting some months before. One explanation may be that the theoretical perspectives of the paper had reframed their interpretations of their own experience. The concepts of “socio-technical integration” and “Big Bang project” had been introduced in the papers, and they were now used by the members in their arguments.

The researcher wrote a long email addressing each of the twelve issues raised. In ten of the issues a new text was suggested, including and negotiating the view from the stakeholders. Two issues were defended. The final responses to this were without the tension of the past exchanges, and the new version was accepted for publication with full disclosure of the company.

6. Discussion

In this section we discuss the findings and implications from our study, as related to our initial research questions.

6.1 Significance and role of member validation

We based our analysis on the ladder of analytical abstraction framework (Fig. 1). A key observation is that member validation plays an important, but quite different role, at the various levels of abstraction. We propose the following three findings.

First, at the lowest level of abstraction member validation is important as a means to verify factual information. This typically includes chronology, stakeholders and events. The role of project members here is to correct errors and give additional information. As shown in section 5.1 the process also gives important input for data collection, for example by pointing to a new stakeholder. This finding is congruent with Locke and Velamuri [14] who found that member validation is an occasion for generating new data.

Second, at the medium level of abstraction (identifying themes and trends), member validation is important for constructing the case narrative. Focus for this phase is the case study report, which provides a case story, and where the researcher introduces his/her key terms. The terms to a large extent decide the framing of the case and perspective of the interpretation, and the members may, or may not, identify with these terms.

While member validation at the lower level of abstraction takes the form of factual corrections, the process at the second level may be one of *negotiation*. As the airline case illustrates the resolution of disagreement is negotiated through the *text*, working on terms and sentences, discussing nuances and

exceptions. This is also exemplified by Locke and Velamuri [14], referring to a dissertation project where the Vice President of an Indian case company responded with a 36 page response to a case study draft of 42 pages, thus initiating an extensive iterative process of drafts and detailed responses going back and forth over a period of two months.

For the researcher, the aim is to reach agreement on a case study artifact, while for the members the aim may be to justify and defend their own actions. From an interpretive view the last aspect is not a methodical problem, provided that the researcher has a number of sources to build on. Thus, we disagree with other researchers that this strategy invalidates the research [15, 17]. Rather, we argue that if the researcher cannot reach agreement on the case description with key stakeholders, this represents a real threat to the internal validity of the case study. If we accept that stakeholders are co-constructors of the case study, it is unreasonable that their interpretations should be disqualified.

Third, at the higher level of abstraction the focus is on the *implications* of the case study. The role of the members is now more discursive. While the researcher draws on related research to assess the external validity of the case, the project members will draw on their previous experience and on industry sources. The examples cited in section 5.3 illustrate this, as they refer to the general conditions of projects and project managers when defending their positions. This contributes to make the discourse informed and balanced, as an opportunity for learning for both sides.

In the airline case, the project members also used terms from the draft papers, such as “socio-technical integration”. This indicates that the project members were influenced by the researcher’s framing of the case, thus bringing in some elements of action research [2] in this validation process.

The idea that project members engage in the discourse of implications may sound unfamiliar. However, with an increasing pool of highly educated respondents we consider this as a natural development. The context of the airline case study is a modern corporation with highly qualified members that share with the researcher not only large parts of the terminology, but also the aim of improving their software development process. This suggests that the area of validity for the process described here is a context of shared language and aims between the researcher and the members. This issue is discussed further in the next section, when we address potential limitations to member validation.

Table 3 summarizes our findings regarding significance of member validation, and the role of project members in this process.

Project phase	Role of project member	Significance of member validation
Data collection	Verifying facts Generating new data	Increasing internal validity
Case study report	Negotiating the case report	Co-constructing the case
Research publishing	Participating in informed discourse	Increasing external validity

Table 3. Summary of findings

6.2. Some caveats and limitations

As we have already touched upon, there are several possible limitations to the process of member validation as described in this paper.

A reasonable objection to the last suggestion in table 3, that the members engage in *informed discourse*, is how the researcher can ensure that the member engagement in phase 3 really is informed discourse and not simply post-hoc rationalization of the data? As Weick has shown, managers tend to make sense of their actions only when they realize the consequences of them [23]. This implies that member checks conducted at a late stage in the analysis may be “contaminated” by post-hoc rationalization, and thus actually threaten the validity of the case.

This is an important issue, and our reply is that it must be addressed in the research design. The short answer is that “truth is the daughter of time”.

The three different roles of member checks illustrated in table 3 cannot be chosen arbitrarily. They are mutually dependent parts of a longitudinal study, where data collection is performed throughout the study. Thus, when the researcher gradually constructs and interprets the case, (s)he must keep track of the temporal dimension. Project members may describe events and issues quite differently during a long project. When the researcher puts this puzzle together, the phenomenon of post-hoc rationalization should be known and addressed in the analysis.

For example, in the list of objections cited on the previous page, one was:

“My opinion is that we really did aim for socio-technical integration. The reason this was not achieved was that the

marketing editors did not prioritize the workshops. This was not a Big Bang pattern project”.

Both terms, *socio-technical integration* and *Big Bang project*, were introduced by the researcher; they were not part of the project vocabulary. They were used by the members to reframe their sensemaking of the project, claiming that they were aiming for a gradual and socio-technical integration. However, the researcher could document that the structure of the project (which did not allow for continuous interaction between the business and technical actors) did not support the claim. The researcher knew this fact from project documents and from earlier (member checked) interviews.

What, then, does the claim signify? It signifies a learning process through informed discourse, involving two elements: The project member has realized that projects (in general) should not have a Big Bang structure. The researcher has realized that the reason they still have is not because the project manager wants it, but because (s)he is forced to by external circumstances.

The potential distance between researcher and case members regarding culture, background, and terminology may represent a barrier in the process of member validation. However, we have argued in the previous section that in IS research this problem can often be considered less than in other social science disciplines, in that there is a shared language and in some cases also a shared goal between researchers and members. Obviously, in this respect the research context is very different from, say, the study of a New Guinean tribe regarding the relationship between members and researcher. Thus, we argue that this limitation can be regarded as more influential in other disciplines than in IS research [20].

Some practical concerns are related to the time frame and scope of the activities of member validation, and the access to different informants and stakeholders. Most often, time is a scarce resource both for the researcher and the case members. Time constraints may thus limit the possibility for the informants to do an in-depth review of the material, and the feedback (if any) may thus be limited to correcting factual errors. As we have experienced in several of our other research projects, the engagement from and interaction with case companies during member validation may therefore often be much less than in the airline case presented in this article.

Also, the case company may decide that the member validation process is to be handled by the primary contact person thus serving as a gatekeeper in the process of verifying the researcher’s interpretation

against those of the informants. In such cases, the member validation may run the risk of being overly influenced by concerns for the organization’s renome, rather than the goal of discussing potential differing perspectives on the case events [8, 14]. Thus, the opportunity for using member validation as a source to additional data may also be lost.

7. Conclusion

The analysis reported in this paper has illustrated that member validation, if used systematically, may contribute significantly both to the construction of a case and to its validity. Our key contribution lies in explicating the varying significance of member validation through different phases of an interpretive case study, and the related roles of the case members in this process.

In the data collection phase, members may increase internal validity by verifying facts but also play an important role in generating new data. In the phase where the case study report is finalized, the role of project members is to negotiate the text, thereby co-constructing the case and its interpretation. And in the last phase of writing and publishing research papers, the role of members is more discursive, assessing the conclusions in an industry context and thus contributing to increase the external validity of the study.

We have also addressed potential limitations to member validation, related to the possible influence of post-hoc rationalization, the degree of shared language and context between researcher and members, and practical concerns related to the conduct of the member validation activities.

This study also contributes to illustrate the complexity involved in member validation, which requires careful fieldwork and analysis. In this respect, we argue that there is a need for more explicit focus on the practices related to member validation, compared to what have been reported in earlier qualitative IS research. We thus hope that our results may have bearing for research practice, and that our analysis may help qualitative researchers to engage more systematically in using member validation to increase the validity of their studies.

There is also a need for further research on the practices related to member validation in different forms of qualitative inquiry. This may take the form of both descriptive and/or normative research, and may address in more detail the possible variation in these practices among different qualitative research

approaches such as ethnographic studies, action research, and critical studies.

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8. References

- [1] Avgerou, C. (2002). "New Socio-technical Perspectives of IS innovation in Organizations". In (ed.) Avgerou, C. and LaRovere, R. L.: ICT innovation: Economic and Organizational Perspectives. Cheltenham, Edward Elgar.
- [2] Baskerville, R. L. (1999). "Investigating information systems with action research." *Communications of the Association for Information Systems* 2(19): 1-19.
- [3] Boland, R. (1985). "Phenomenology: A Preferred Approach to Research On Information Systems". In (ed.) Mumford, E.: *Research Methods in Information Systems*, North-Holland.
- [4] Bygstad, B. (2004). "Controlling Iterative Software Development Projects: The Challenge of Stakeholder and Technical Integration". *Proceedings of the Thirty-Seventh HICSS, Big Island, Hawaii*.
- [5] Bygstad, B., Nielsen, P. A. and Munkvold, B. (2005). "Four Integration Patterns: IS Development as Stepwise Adaptation of Technology and Organisation". *European Conference of Information Systems, Regensburg, Germany*.
- [6] Carney, T. F. (1990). *Collaborative inquiry methodology*. Windsor, Ontario, Canada, University of Windsor, Division for Instructional Development.
- [7] Dubé, L. and Paré, G. (2003). "Rigor in Information Systems Positivist Case Research: Current Practices, Trends, and Recommendations." *MIS Quarterly* 27(4): 597-635.
- [8] Guba, E. G. and Lincon, Y. S. (1989). *Fourth Generation Evaluation*. Newbury Park, CA., Sage Publications.
- [9] Hanseth, O. and Monteiro, E. (1996). "Inscribing Behaviour in Information Infrastructure Standards." *Accounting, Management and Information Systems* 7(4): 183-211.
- [10] Klein, H. K. and Myers, M. D. (1999). "A Set of Principles for Conducting and Evaluating Interpretive Field Studies In Information System." *MIS Quarterly* 23(1): 67-94.
- [11] Kvale, S. (1996). *Interviews. An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA, Sage Publications.
- [12] Lacity, M. C. and Janson, M. A. (1992). "Understanding Qualitative Data: A Framework of Text Analysis Methods." *Journal of Management Information Systems* 11(2): 137-155.
- [13] Latour, B. (1987). *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA, Harvard University Press.
- [14] Locke, K. D. and Velamuri, S. R. (2006). "Member Checking Challenges." Working paper, College of William and Mary, USA.
- [15] McDonnell, A., Lloyd Jones, M. and Read, S. (2000). "Practical considerations in case study research: the relationship between methodology and process." *Journal of Advanced Nursing* 32(2): 383-390.
- [16] Miles, M. B. and Huberman, A. M. (1994). *Qualitative Data Analysis*. Thousand Oaks, Sage Publications.
- [17] Morse, J. M., Barrett, M., Mayan, M., Olson, K. and Spiers, J. (2002). "Verification Strategies for Establishing Reliability and Validity in Qualitative Research." *International Journal of Qualitative Methods* 1(2): 1-19.
- [18] Myers, M. D. (1997). "Qualitative Research in Information Systems." *MIS Quarterly* 21(2): 242-242.
- [19] Ngwenyama, O. (1998). "Groupware, Social Action and Emergent Organizations: On the Process Dynamics of Computer Mediated Distributed Work." *Accounting, Management and Information Technologies* 8(2-3): 127-146.
- [20] Pettigrew, A. M. (1985). "Contextual Research and the Study of Organizational Change Processes". In (ed.) Mumford, E.: *Research Methods in Information Systems*, North-Holland: 53-78.
- [21] Pettigrew, A. M. (1990). "Longitudinal Field Research on Change Theory and Practice." *Organization Science* 3: 267-292.
- [22] Silverman, D. (1985). *Qualitative Methodology & Sociology*. Brookfield, Vermont, USA, Gower Publishing.
- [23] Weick, K. (1995). *Sensemaking in Organizations*. Thousand Oaks, CA, Sage.
- [24] Yin, R. K. (1994). *Case Study Research*. California, Sage Publications.