Increasing Transparency in Interpretive Research: Q-Method to Objectivize the Researcher’s Subjectivity

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Abstract

While research needs to be transparent, traceable and reproducible – data generation and interpretation often appear as a black box in qualitative research. Literature recommends reflective activities so the researcher is aware of his/her own subjectivity and thus decrease interpretation bias but their effect is limited. We suggest that Q-method offers a more transparent and direct way to capture the researcher’s subjectivity. The Researcher set up a longitudinal study, interviewing 3 participants over 10 weeks about Augmented Reality. Then the Researcher created a Q-study on the basis of the interview transcripts. All 3 participants proceeded to the study, as well as the Researcher who expressed what she thought was the opinion of each participants. All Qsorts were analysed together, allowing to capture shared representations. The results are interpreted regarding the ability of Q to capture the Researcher’s subjectivity in a transparent way and increase the quality of interview data interpretation.

Keywords
Q-method, Interviews, Phenomenology, Subjectivity, Objectivity

Introduction

Information Systems (IS) research has traditionally adopted a positivist lens to study technology use, and in spite of a turn recognizing the potential of qualitative interpretive approaches grounded in social constructivism, sociomateriality (Scott & Orlikowski, 2013), or phenomenology (Boland, 1985) to apprehend technology, the share of such research in major IS publications is still low. One can cite two main barriers to the diffusion of interpretive research in IS. First, interpretive research refers to a complex epistemological positioning, with a plethora of traditions and approaches that the researcher must choose from. These approaches are often described at a philosophical level, without much guidance on how to implement them. Recommendations have been issued by IS researchers regarding qualitative methods (Myers & Avison, 2002; Myers, 1997), and in particular interpretative methods (Klein and Myers, 1999). Klein and Myers (op.cit) have proposed a set of seven principles to follow in interpretive field studies and that pertain to modes of (1) hermeneutics, (2) contextualization, (3) interaction between the research and the subjects, (4) abstraction and generalization, (5) dialogical reasoning, (6) multiple interpretations, (7) suspicion. These principles are illustrated with examples of how to embed them into one’s thinking. While they serve as a useful guide to conduct interpretive fieldwork, they do not allow to establish transparent procedures for researchers to interpret data, and therefore do not allow to publish studies with traceable results. Second, interpretive research can be seen as biased by positivists: the process of interpretation seems to depend on the subjective and hidden choices made by the researcher and does not offer the possibility to reproduce the process of analysis.
This paper focuses on interpretive phenomenology. In theory, phenomenology calls to objectivize the researcher’s subjectivity in a quest for transparent results (Finlay, 2002; Gadamer, 1975). In practice, this is implemented through researchers’ diaries or the use of conversational analysis to deconstruct the process of knowledge creation and reveal the researcher’s prejudice (Roulston, 2016). Yet, such methods are not widely used by phenomenologists (Norlyk and Harder, 2010). They can also be criticized for on the researcher’s ability for self-introspection as the research is being carried out, or displacing the focus of research from the what to the how (Roulston, 2016). Other approaches are needed to objectivize the researcher’s subjectivity in a clear, reproducible, and rigorous manner.

Q-method (Stephenson, 1935; 1953) is a method aiming at capturing subjectivity. It shares commonalities with phenomenological research as it captures views from the participants’ perspective (Cordingley et al., 1997). Q allows, through a Q-factor analysis, to reveal the points of view present among a given sample and how individuals share them. We suggest that Q-method can be used to confront the points of view of participants in interpretive studies with the point of view of what the researcher believes to be theirs. In other words, that the researcher expresses in the Q study what he believes to be the point of view of each participant, and confront it to what the participants themselves express in their q-sort. Such an approach is to be implemented after the initial fieldwork is conducted. This paper details how such a methodology can be put to practice based on the example of an empirical study featuring phenomenological, interpretive, interviews on user experience of Augmented Reality.

Firstly, we present a brief overview of interpretive phenomenology. Secondly, we describe Q-method from the point of view of its philosophical positioning, process, and outputs. Thirdly we expose the research question addressed in this study. Fourthly, we explain the research design of a study where we have combined interviews and Q-method. Fourthly we present the results: the subjective points of view of participants and the Researcher’s subjectivity. Finally, the advantages and disadvantages of a combination of Q to interviews are discussed.

The need for more transparency in phenomenological research

Phenomenology considers the need to make the researcher’s subjectivity objective to strengthen its results (1), but data collection and interpretation are often seen as black box (2) given that the methods used to reveal the researcher’s subjectivity are limited to self-reporting exercises (3).

Phenomenology, subjectivity, and objectivity

Phenomenology looks at how one experience things, i.e how one is conscious of objects. It means that the epistemological stance that is adopted sees the process of construction of knowledge and consciousness of objects as subjective. Phenomenology requires from researchers to acknowledge their own subjectivity as well the subjectivity of participants to their studies. Indeed, perception is always mediated by the subjective and embodied vantage point of the individual, his intentionality. It is therefore impossible to know the things for themselves, to know the reality of an object. One can only know an aspect of the object, as seen by the perceiver. The perceiver is situated in history and time, so that his perception and interpretation is influenced by his environment. The ability of individuals to discuss objects shows it is possible to share understanding. Understanding is interpreting (Gadamer, 1975). The socio-historical bias that guides one’s interpretation is not seen as something to ignore, but must be acknowledged as it is ‘already there, ahead of us, conditioning our interpretations’ (Gallagher, 1992). In research, understanding results from a dialectic between the researcher’s preunderstandings and the research process, between the self-interpreted constructions of the researcher and those of the participant. The meaning of actions is ‘negotiated mutually in the act of interpretation, it is not simply discovered’ (Schwandt, 2000). The work of interpretation is to clarify conditions in which understanding takes place, but there is no procedure or method for the interpreter to bring on the text (Gadamer, 1975). Researchers must be aware of the subjective bias in their interpretation and test it against data, which echoes the principle of dialogical reasoning stated by Klein and Myers (1999). Researchers must strive to embrace subjectivity so as to expose it in an objective manner (Finlay, 2002).


Data collection and interpretation as a black box

Phenomenological literature highlights the need to increase the integrity of qualitative research by documenting how the Researcher influences data collection and analysis (Roulston, 2016). Indeed, interviews are presented as the main method for phenomenology. There is little guidance about how to conduct these interviews besides advice on making them as loose as possible, with the researcher asking for clarifications to what is said; and meeting participants at multiple times (Bevan, 2014). Phenomenological interviews can somewhat be compared with a discussion with participants, where the reaction and clarifications asked by the researcher shape the content of what is said. The researcher should strive not to impose his/her subjectivity during the interviews, and not to impose preconceptions when analysing transcripts. The relationship created with the participants as well as prejudice coming from prior knowledge or experience may make this difficult.

The opacity of current procedures to reveal researcher’s subjectivity

There is a methodological requirement to make this subjectivity apparent. Yet, there is a limited set of approaches available to that effect: researcher’s notes and working papers (Finlay, 2002), diaries (Nadin and Cassell, 2006). These approaches do not follow a rigorous mode of implementation but rather each researcher applies them in their own way. As a result, the quality of these notes depend on the openness and self-awareness of the Researcher. There is no possibility to verify the exhaustiveness and sincerity of these written forms of evidence - they are validated by the researcher him/herself. While they can participate in making the researcher aware of his/her subjectivity, they do not allow to document the whole process of interpretation. Such approaches do not provide a rigorous comparative analysis of the points of view of participants nor a grounded comparison with the point of view of the Researcher and cannot be launched late in the process. It even happens that such approaches are absent from phenomenological research or at least the methods and impact their implications are not necessarily mentioned in research papers (Norlyk and Harder, 2010). Approaches to achieve a hermeneutic reduction that is transparent and can be triggered late in the research process are needed to increase the quality of phenomenological and interpretive research. Q-method can be used to that extent.

Q: a method to make subjectivity transparent

We give a general description of the method (1), highlight its links with phenomenology (2) and ability to yield synthesis of participants’ points of view in a transparent manner (3).

General description of the method

Q-method (see q-method.org; Brown, 1993), was developed by the psychologist Stephenson (1935; 1953) as an approach to capture people’s subjective views of phenomena. In this case, subjectivity is conceptualized as what ‘emanates from a particular vantage point’ (Brown, 1993). Gauzente (2010) explains that Q-method arise from concourse theory and a methodological pillar (Q-sorting and Q-factor analysis). The concourse can be defined as the volume of available statements on a topic and is ‘the common coinage of societies large and small, and is designed to cover everything from community gossip and public opinion to the esoteric discussions of scientists and philosophers’ (Brown, op. cit.). Meanings exist for each individual and vary depending on circumstances, but can also be shared with others. To carry out a Q-study, one must start by generating these statements, which constitute the Q-sample. Stephenson suggests that initial qualitative interviews should be conducted to generate as many meanings as possible concerning one topic (Gauzente, 2013).

Then, respondents rank-order assertions according to the degree with which they represent their subjective view of one topic (Q-sorting) in a forced distribution matrix. Therefore, only a few statements can be ranked as highly positively or negatively representative, and a majority of statements will be ranked as neutral. Respondents (P-sample) have to make choices, which allow the researcher to access the structure of their point of view.

Finally, factor analysis is used to analyse the way participants ranked the statements in their qsorts. As a result, a map of the representations that people have is obtained, which helps to identify the different visions that people share. Factors identified through the analysis are viewpoints of the people defining the
factor. These factors are part of the universe of meaning and identifying such views is the objective of Q-method. The views that are identified are operant as they guide people’s behaviour and are not just a plausibility. Q-method is, in essence, a qualitative method and so is designed to deal with a small number of participants (Van Exel & De Graaf, 2005). Assessing the weight of each view is not the objective of Q-method and such a typological approach would be a misunderstanding of the underlying logic of the method. Comparing factors or views is thus possible, no matter how many people share the view (McKeown & Thomas, 2013).

**Q as a phenomenological method**

Q shares a lot of commonalities with traditional phenomenological methods (Shinebourne & Adams, 2007): it seeks meaning ‘through exploring subjective accounts of phenomena from participants’ perspectives, attempting to identify broad categories and common themes and a commitment to a collaborative engagement with participants.’ It is believed that Q has less researcher bias than other interpretivist method (Cordingley et al., 1997). The role of the Researcher is prominent in selecting the assertions that go into the Q-sort, while in other phenomenological approaches, the material comes from participants themselves.

**Q as a method for transparent research**

Q-method provides, as a result of the Q-factor analysis, different types of information: (1) the identified factors, (2) levels of variance explained and eigenvalue for the factors, (3) a correlation matrix which allows to see how the different views relate to each other, (4) a correlation matrix that allows to see how the Q-sorts of the participants score on each factor, (5) for each factor, the software gives the list of statements included in the q-sample and their z-score, which means one sees how each assertion is ranked to produce the view, (6) areas of consensus for each factor against each other and (7) arrays of differences in the same manner. Using this information, the researcher can describe how views were obtained, give an in-depth description of how each view is structured, and bring up nuances by comparing the views among themselves. At all stages, the description is anchored in the results of a mathematical analysis. The different pieces of information used by the researcher can be shared upon publication and the process of interpretation can be reproduced.

To summarize, compared to other qualitative research methods, Q is providing several distinctive features (Gauttier et al, 2016; Gauzente, 2013): (1) the method is transparent as the research process is reproducible; (2) the construction of operant factors relies on statistical analysis and explicit criteria casting aside researcher bias (at this stage); (3) the interpretation of qualitative data is open to contradictory analysis as the whole process is traced; (4) the richness of different viewpoints – together with nuances - is respected.

**Q and IS research: an unexploited potential**

Q has not been often used in IS research: 17 studies were identified by Gauttier et al. (2016), although IS researchers themselves advocate for a larger use of the method (Thomas and Watson, 2002). Gauzente (2013) explains that the purpose followed by the use of Q in IS is (1) profile identification and fit evaluation, (2) identification of structuring trends, and (3) deep understanding of attitudes and perception.

Integrating Q to other qualitative and interpretive studies might allow to increase the transparent character of these studies as well as to reveal IS objects of research in a new light.

**Research question**

The aim of this paper is to illustrate how the IS community can benefit from Q by using it in combination to other methods in interpretive research in order to provide a transparent assessment of the researcher’s subjectivity. It addresses the question of how Q-method can be combined to phenomenological interviews to ensure that the researcher’s interpretation of participants experience is rendered with as less distortion as possible?
Research design

The case we are using is the one of consumer experience of Augmented Reality (AR). The study was conducted with a sample of 3 participants: (1) a participant involved in Computer Science and virtual reality projects, (2) a participant studying digital humanities, (3) a participant studying business. All participants were women. They were between 19 and 35 years old. The participants were selected based on their willingness to use Augmented Reality and participate for 3 months. While two of them had some experience of research, they had no experience of the methods used, and none focused on AR as a topic of study.

A quasi-experimental set-up has been implemented in order for participants to experience different applications of Augmented Reality. Participants were asked to use augmented reality applications of their choice over the course of 10 weeks. To stimulate them, 5 applications were suggested for use: two were related to make-up, one was related to jewellery, and two to home decoration. Participants tried the applications in their own natural surroundings, at home, on their own devices. All chose to use their smartphones, and not tablets.

Data was first collected in 2016. First, interviews were conducted. We chose to follow Bevan’s protocol for phenomenological interviewing as being based on a discussion of technology experience and descriptive-interpretive phenomenology. He suggests a first interview about participants’ context related to the object of study, a second about the phenomenon one is investigating, and a third interview to wrap up the experience. The interviews were not heavily structured as the phenomenological approach requires to ask about how one experience a phenomenon, and then ask questions to clarify what was said by the interviewee. In our study, participants had to be confronted to AR multiple times so we met each participant 5 times as follows:

1) The first interview was dedicated to understanding the lifeworld of participants and their attitudes towards augmented reality, technology, shopping, marketing;
2) A week later, participants were asked to describe their first experience with augmented reality and focus on their impression from the technology;
3) Two weeks later, participants were asked to describe their experience with two more applications and focus on their impression from looking at the product with the technology;
4) Two weeks later, participants were asked to describe their experience with two more applications and focus on their impression from looking at the product with the technology;
5) Two weeks later, participants were asked to reflect on their experience.

As a result, 15 interviews were conducted the researcher spent over eight hours with the participants. The duration of the interviews for Participants were of 45; 36; 36; 48; and 43 minutes. Participant 2 was interviewed for 46; 20; 42; 36; and 55 minutes. Finally, interviews with Participant 3 lasted 33; 16; 17; 20; and 27 minutes.

After this, data analysis started. A plethora of approaches for phenomenological interview analysis exists. The Researcher identified Hycner’s approach (1985) as fitting from an epistemological point of view. It was also practical enough to be implemented. This approach features (1) a generic step of immersion with the data through transcriptions and listening to the data, followed (2) by a step of analysis with identification of meaningful units. These two steps are iterative. Then, the researcher proceeds to (3) a reduction to descriptions of experiences (3), which can be amended by the participants (4). These steps were followed as closely as possible but required small adaptation to integrate Q to the process of interpreting interviews. First, after the 15 interviews, the Researcher transcribed the data. The interviews were listened to a second time, and general units of meaning were underlined. The process was such that first all interviews of participant one were listened to and analysed, then participant two, then participant three. A list of 121 units of meaning was established, which was narrowed down to a list of 66 units of meaning relevant to the research question on the dimensions of consumer experience of Augmented Reality. The statements were chosen based on the frequency each topic was discussed by each participant, as well as their significance to allow each participant to be able to articulate their experience in the sorting, without missing key elements. The Researcher ranked the statements from the perspective of each participant, as she had interpreted each point of view on the basis of the interviews. This allowed the researcher to assess the possible redundancies in the statements.

Then, the statements were then proposed to participants as statements to be ranked in a Q-study. The participants were first asked about the relevance of the statements and whether any significant aspect of
their experience had been left aside. All participants judged the list exhaustive. They didn’t identify redundancies a priori. Participants were asked to rank the statements in a q-sort matrix (see Table 1).

<table>
<thead>
<tr>
<th>Totally in discordance with my view on AR</th>
<th>Don’t agree or disagree</th>
<th>Totally in accordance with my view on AR</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5</td>
<td>-4</td>
<td>-3</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Statements</td>
<td>9 Statements</td>
</tr>
<tr>
<td>10 Statements</td>
<td>9 Statements</td>
<td>7 Statements</td>
</tr>
<tr>
<td>6 Statements</td>
<td>6 Statements</td>
<td>4 Statements</td>
</tr>
<tr>
<td>3 Statement</td>
<td>4 Statement</td>
<td>3 Statement</td>
</tr>
</tbody>
</table>

Table 1. Q-sort statement distribution

For practical reasons, the statements were printed on separate cards that the individual could sort on a table or by pinning them on a wall, as was easier for them. This made sure participants had visibility over the final sorting they would submit. After they had completed the ranking, participants were asked to summarize their point of view, and comment on the ranking they had produced. Finally the Q-analysis was run on all 6 Q-sorts, and allows to highlight the variation and similarities among participants, as well as the impact of the researcher’s interpretation. The analysis of results allowed to highlight units of relevant meaning and to produce concise summaries of experience.

Results

The Q factor analysis revealed 4 factors, explaining 83% of variance (see Table 2). The first factor is composed of the Q-sorts of Participant 2 and of the Researcher when proceeding to q-sort from what she believed to be the point of view of Participant 2. The second factor includes the q-sort of Participant 3 and the q-sort filled in by the Researcher with the point of view of Participant 3. The third view is based on the q-sort filled in by Participant 1. The fourth factor results from the q-sort the Researcher filled in for the point of view of Participant 1.

<table>
<thead>
<tr>
<th>Q-factor</th>
<th>View #1</th>
<th>View #2</th>
<th>View #3</th>
<th>View #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q-sort involved</td>
<td>Participant 2; Researcher P2</td>
<td>Participant 3; Researcher P3</td>
<td>Participant 1</td>
<td>Researcher P1</td>
</tr>
<tr>
<td>% of variance explained (Total=83%)</td>
<td>27</td>
<td>24</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 2. Summary of Q-factor analysis results

Looking at the factor matrix with loadings for the different factors (Table 3) highlights that participants’ point of views are distinct from each other. This indicates that all participants have made their own opinion of the technology, indicating the Researcher didn’t introduce subjective bias.
Increasing Transparency in Interpretive Research with Q-method

The different views are very briefly described below. They stem from the structure of the factors as given by the software used for analysis (here, PQmethod) looking at the z-score of the statements in each view. The scores have been replaced by the rank the statements have, if transposed to the distribution matrix used for sorting. Given the format of this paper, it is impossible to provide all the data that was available to the Researcher to perform this interpretation, but data is available upon request.

**View #1 – Augmented Reality doesn’t allow to visualize products in a realistic manner**
The first point of view on Augmented Reality is driven by a lack of perceived usefulness from the technology. The statement ‘Augmented Reality makes our lives easier’ is ranked (-4). The idea of Augmented Reality itself is not rejected, rather the affordances of the technology are not satisfying for the purpose of previsualising and buying products. This perception is explained by the inadequacy of some technical affordances. Some applications are difficult to use (+4) and more scaffolding is required to improve the experience. The purpose of Augmented Reality is ‘merely to give you an idea of how it looks like, it is a representation of how it might be’ (+3).

**View #2 – Augmented Reality is a useful tool for online shopping**
Participant 3 sees technical requirements such as interactivity (+5) or 3D (+5) as must have for Augmented Reality to be satisfactory. She is demanding, and ‘it has to be done to perfection to work’ (+4). When it does, then it enhances consumers by making their lives easier (+4); it allows to save time (+3), allows to imagine things (+3), to try more products than one usually would (+3). The IKEA app, which other participants disliked for not taking into account real measurements, is still seen as useful to imagine interior designs (-5).

**View 3 – Augmented Reality could be done better**
In this view, one accepts Augmented Reality but finds the technology limited. Indeed, more information is needed to make a purchase decision (+5), and Augmented Reality doesn’t replace proper testing of products (+5). The technology could be improved, and as the participant put it ‘It is not that hard to do Augmented Reality nowadays’. The quality of AR pictures is an issue (+5). It doesn’t have ‘to be done to perfection to work’ (-3) as ‘it will never be like reality’.

**View 4 – With the current level of technology, Augmented Reality is a no go**
This point of view shows an attitude of rejection of Augmented Reality, based on the limited character of the affordances it provides. This is a view by which one would go to the store (+5), and where Augmented Reality instore installations are not seen as helpful. Augmented Reality doesn’t make life easier (-3), as it doesn’t provide enough information to make a decision (+3). It might just ‘make it easier to imagine things’ (+2).

<table>
<thead>
<tr>
<th></th>
<th>View 1</th>
<th>View 2</th>
<th>View 3</th>
<th>View 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 2</td>
<td>0.9272X</td>
<td>-0.0669</td>
<td>-0.1100</td>
<td>-0.0004</td>
</tr>
<tr>
<td>Participant 2 Researcher</td>
<td>0.8471X</td>
<td>0.1208</td>
<td>0.2148</td>
<td>0.2409</td>
</tr>
<tr>
<td>Participant 1</td>
<td>0.0414</td>
<td>-0.0898</td>
<td>0.9689X</td>
<td>0.1644</td>
</tr>
<tr>
<td>Participant 1 Researcher</td>
<td>0.1553</td>
<td>0.0373</td>
<td>0.1848</td>
<td>0.9304X</td>
</tr>
<tr>
<td>Participant 3</td>
<td>0.0535</td>
<td>0.7868X</td>
<td>-0.0743</td>
<td>0.3486</td>
</tr>
<tr>
<td>Participant 3 Researcher</td>
<td>-0.0130</td>
<td>0.8950X</td>
<td>-0.0388</td>
<td>-0.1916</td>
</tr>
</tbody>
</table>

Table 3. Factor Matrix with an X indicating a defining sort
Technical features are among the major preoccupations: ‘lighting conditions are very important’ (+4), ‘some of the apps were oversaturated’ (+3), ‘interactivity is a must’ (+3), and 3D information must be present (+2).

The discrepancy between sorts for Participant 1

Proceeding to the Q-study has allowed to highlight a discrepancy between the way the Researcher had interpreted the point of view of Participant 1 and the way Participant 1 express her view in the Q-sort. This is explained by the double identity of Participant 1, who is both an expert in computer graphics for virtual reality and a regular consumer, and the fact that Researcher proceeded to the ranking thinking technical features were the center of attention of Participant 1. Yet, the participant proved to be less critical towards the technology than expected and tried to specify how it could help in shopping. The participant proceeded to the q-sort ‘more like me as a consumer’ and realised ‘some of the technical things I was talking about like the lighting conditions are not that important’. It was more important for the participant to show she wouldn’t trust Augmented Reality to make decisions with it just yet as she is ‘risk averse’.

Looking at the array of differences between statements allows to understand better what is the difference between the two factors. It is more salient around statements such as ‘you don’t need Augmented Reality in usual stores, you can try things on anyway’, ‘Augmented Reality for furniture is a better idea than Augmented Reality for make-up (...)’ as the participant appears open to combinations between Augmented Reality and instore experience, but also thinks that Augmented Reality is not enough to assess products, while the Researcher thought the participant was reluctant to a combination Augmented Reality and instore and made a difference between categories. The difference in anchoring the point of view in a consumer vs expert approach is also revealed by the gap in ranking assertions like ‘Augmented Reality is not really new for me’, slightly negative for the participant but strongly positive for the Researcher, or ‘it has to be done to perfection to work’, negative for the participant, but positive for the Researcher. As the participant had been insisting on the effect of Augmented Reality on imagination and how it helps imagining things, the Researcher emphasized this advantage of the technology in the ranking (positive), while in reality the participant settled on a neutral view on this statement.

Discussion

The use of Q on the basis of interview comes with two main limits which pertain to the selection of the statements featured in the Q-sample and the impact of their formulation on the q-sorts.

First, selecting the verbatim going into the Q-sample is a difficult task for the researcher: statements need to represent all experiences, to be formulated in such a way they can be understood out of the context of the interview and by individuals who didn’t formulate them, they need to keep the nuances of what has been discussed in-depth during interviews while being different enough. The interview post Q-sorting can help to identify statements that participants found similar enough and their strategy to rank them. It is also different for participants to rank an important amount of statements, so that a trade-off between exhaustive and manageable Q-sample might have to be found. While participants explained having no difficulty assigning meaning to all columns in the distribution matrix, one must consider the burden of ranking 66 statements when looking at the results.

Second, the way statements are formulated can be a source of bias: while keeping the participants’ formulations allows not to alter the meaning of the phrases, participants are bound to recognize what they have said and might be biased towards ranking to the extremes what they have said in the interviews. Such a phenomenon did not appear in this study: a significant number of topics had been raised by all participants and some participants saw others’ verbatim as theirs. Some participants changed their minds on things they had said themselves. Yet, to increase the robustness of Q to assess subjectivity, future research should look at the impact of the origin of the statements on the way Q-sorts are filled in.

Breaking down the experience of individuals into a limited set of statements is not neutral: the context of the statement fades away, and participants can project their own ones onto it. Statements have to be focused on one meaning, making it difficult to keep statements where participants link ideas. Yet, sometimes the way the participants construct meaning and associate these ideas is of interest to the researcher. As participants rank statements in a forced distribution matrix, the results of the analysis do show how statements were ranked among each other. Yet, this does not fully encapsulate this notion of relationship between ideas. Another adjustment to the way the statements are formulated concerns
emotions: the laughter, admiration, reject that accompanied a statement when uttered during the interview is not necessarily present in the statement for Q-sorting. The reduction of hours of interviews into the statements is bound to limit one’s interpretation of the data. However, traditional methods of interview analysis, and also in phenomenology, require a reduction to units of meaning and summaries. Further applications of Q in conjunction with interviews are required in order to document this passage from transcript to statements and methodological guidelines on this key step should be established.

Third, this paper presents an application of this method for a sample of 3 participants and 15 interviews. The ability for the Researcher to have interpreted the data for 2 participants in the same manner that they have synthesized their point of view can be explained, up to a certain extent, by the limited number of participant profiles to keep in mind and analyzed. Replicating this approach with a bigger sample would allow to identify whether sample sizes play a role in this or whether the mere process of going through a thorough analysis embodied by the steps required from Q-method (creation of the Q-sample, analysis of each participant alongside a limited amount of statements) demands that the Researcher is very precise in the analysis. In any case, the key result is not to have paired the points of view of Participants and what the Researcher interpreted for each, but in the process involved, even after seeing the results from the Q analysis. Indeed, the Researcher is led to reflect on why there is a discrepancy if one arises, so the analysis can be readjusted and the Researcher becomes fully aware of misinterpretations or maybe pre-conceptions about a participant.

Fourth, this study shows the outputs of the Research sorting the statements from the point of view of participants, but the way the Researcher proceeded to the q-sorting each time remains untracked, so the full process of analysis is not revealed.

The use of Q also presents a series of advantages. Firstly, it allows to submit parts of the analysis to participants several times: a first analysis of interviews goes into the Q-sample, which is submitted to participants who can already at that stage indicate whether elements structuring their experience disappeared. Then, the participants are presented the results of the Q-study, and the final description of their experience. Secondly, it allows to identify which elements of the experience are seen as predominant, of higher importance, by participants. Indeed, the sorting procedure forces participants to make choices and articulate the structure of their point of view in an unambiguous manner. Interviews cover the breadth of participants’ perspectives and allow to highlight links between elements of experience, but they hardly provide a clear representation of individuals most agree with and what is more important for them in a structured manner as with Q. In our case, Q allowed to identify the priorities of Participant 1 in a way other than the one the Researcher had initially chosen. Q allowed to refocus the attention of the Researcher on what is seen more important by the participants, for a more accurate interpretation of their experience.

Using Q also allows the Researcher to be present what the participants have chosen to be more representative and more important by effect of the ranking procedure. This is difficult to obtain through interviews, as interviewee do not hold all thoughts in a comparative way. Q allows the Researcher not to only highlight from text analysis what (s)he believes to play a more important role for the participants, but to show pointing at the z-scores of the statements how participants prioritized some statements over the other in what they see as representative or not. This means that the phenomenological approach, presenting data from the perspective of participants, can be respected and presented to the community in a more robust manner.

Besides, the role of Q is different than the role of researchers’ diaries: it intervenes after data is collected and as a formal interpretive process is engaged. Further reflexion on the complementarity of these approaches should be carried out.

**Conclusion**

Despite the literature calling for approaches to objectivize the researcher’s subjectivity in interpretive research, the approaches used until now were dependent on the ability of the researcher to reflect on his/her opinion. Q is based on factor analysis, which provides a numerical and rigorous way to evaluate the different points of views. This study has shown that the use of Q can increase the transparency of the researcher’s subjectivity in relation to participants’ experiences and points of view. It also raises questions on how to make subjectivity objective, especially given that subjectivity is implied through the creation of the q-sample, opening new research avenues. There is value in undertaking such an exercise to become
aware of possible bias. While it might seem that the desired result of the exercise is to show an alignment between participants’ point of views and the researcher’s interpretation, it can be that showing misalignment allows the Researcher to realize how (s)he deviates from the participants’ points of view to redirect his analysis. The process by which this is to happen is however still opaque. The use of Q to increase transparency in interpretive method is opening Pandora’s box, as questions around the transparency of this procedure itself arise.

References


Stephenson, W. 1953. The study of behavior; Q-technique and its methodology.


