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Developing Rigor and Reducing Prejudices in Grounded Theory Studies

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Abstract

The aim of this paper is to discuss issues associated with the rigor and credibility of grounded theory studies. Grounded theory methodology which is widely used in the business and management studies has been criticised for its presumed prejudices and credibility issues when it comes to consideration of pre- & post-study literature. This paper addresses all those key issues and provide an effective review to overcome such partisan views, and enhance rigor when conducting a grounded theory study. The authors provide a critical evaluation of their recently conducted empirical study with practical examples to highlight the key issues including commentary on the significance of theoretical sensitivity and reflexivity in grounded theory study. The authors also discussed the types of prejudices expected, and how building up rapport could support during data collection process. The paper aims to guide potential grounded theorists and doctoral researchers to improve rigor in their work and meet academic requirements satisfactorily. The paper will contribute theoretically by highlighting various issues in practice which have not been highlighted extensively in the literature previously.

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1. Introduction

Conducting an effective research study is dependent on an effective research design that must include and have rigorous understanding of applied procedures. Lincoln and Guba (1985) suggest qualitative researchers to use an emerging approach to inquiry, where data collection should be undertaken in natural conditions sensitive to individuals and places under examination; and then analysing that data helps to identify patterns or themes leading to the generation of theory. In such an emerging research design, ensuring trustworthiness in qualitative research is a vital component which helps dealing with the issues of biases and/or prejudices (Silverman, 2001). Guba (1980), while elaborating trustworthiness defined four criteria under which a qualitative study can be evaluated. These criteria are credibility, transferability, dependability and confirmability. Similarly, bias and/or prejudice which are often used interchangeably can occur during any phase of a research study, such as research design, data collection and analysis phases, as well as during the publication phase (Norris, 1997). Gerhard (2008) added that bias is present in a research study to some extent always; however, it depends how the researcher minimizes the impact of it on their design, process and conclusion.

In literature, there have been limited attempts made on highlighting the procedures that could ensure trustworthiness in a Straussian grounded theory approach. Khan (2014) tried to discuss the possible research design and processes of grounded theory study from a general perspective. Sikolia et al. (2013) highlighted the credibility issues, however, their discussion had been limited to show in-depth overview of the actions required to develop rigor in a grounded theory study. Similarly, some attempts had also been made by Lomborg and Kirkevold (2003) and Rolfe (2006) to discuss such concerns by making distinctions between realist vs non-realist perspectives. Cho and Lee (2014) on the other hand attempted to address such concerns by attempting to compare grounded theory with other qualitative research methods and methodologies. The problem found with those articles is their over dependence on the generic quantitative and qualitative research methods from literatures. Also, these papers did not discuss practical examples and experiences which could provide readers a detailed point of view around the issues in a grounded theory study in business and management context. Therefore, in this paper, we aim to provide an account of our experiences based on the application of Straussian grounded theory, and provide comprehensive guidelines to the potential researchers who aim to use this version for their research in future.

A word of caution to the readers here is that, the concerns of biasness, credibility, transferability, dependability and confirmability are approached differently depending on the selection of a specific research method, and the researchers ontological and epistemological positioning of the research. Generically addressing these concerns can be problematic, thus it is important to follow the guidance provided by specific authors of such specific research methods (Bryman et al, 2006). This paper focuses specifically on the application of Straussian grounded theory proposed by Strauss and Corbin (1990; 1998) and the suggestion in the paper does not apply to Glaserian grounded theory (Glaser, 1992, 1998). However, some suggestions may be applicable to constructivist grounded theory (Charmaz, 2006).

1.1 Context of the original study

Our original research study was based on identifying appropriate risk management practices where we developed a paradigm of Responsiveness to reducing risks and uncertainties in the Virtual-

Agile IT project environments in the business and management area. The research was initiated with the researchers' interest in the field of risk management. However, with limited knowledge of the literature, the first action taken was to delve in the literature. Data collection consisted of 33 semi-structure interviews, sample consisted of participants from seven different countries, namely, United Kingdom, Germany, Pakistan, UAE, Kuwait, Romania and USA. Interviews were analysed using the grounded theory guidelines under three key phases analysis of Open, Axial and Selective Coding. The research followed grounded theory procedures highlighted by Strauss and Corbin (1990; 1998; 2008) which included guidelines on the application of constant comparison and theoretical sampling. This was further applied from a philosophical stance of interpretivism paradigm and subjective epistemology.

Another word of caution for novice researcher here is that at the beginning stage of the research process, selection of grounded theory method alone is not enough; as before selecting an appropriate method researchers should carefully understand and align a specific research method in line with the aim and objectives of the research. It is important to remember that the purpose of grounded theory is to generate a theory (Strauss and Corbin, 1990; 1998; 2008), however, there are examples where researchers have adopted and adapted some procedures of grounded theory in other qualitative research papers. Furthermore, when undertaking grounded theory study, researchers should approach with caution: 1) Research paradigm and philosophical underpinnings; 2) theoretical sensitivity, and 3) carefully following the guidance on data collection and analysis as required for a grounded theory study. The following sections provides our views on each one.

2. Philosophical Considerations

One of the key considerations that should be made by any researcher are the considerations of epistemology and ontology. It is necessary to think about the perspectives the researcher is underpinned by in the research process and its impact on the research outcomes. Depending on the differences in the ontological and epistemological underpinnings, issues around prejudices, credibility, transferability, dependability and confirmability are approached differently. The authors undertook their study based on an interpretivist viewpoint, and applied philosophies of relativist ontology and subjective epistemology. Hudson and Ozanne (1988) argued that there is a belief that our assumptions were based on multiple realities, whereas Lincoln and Guba (1985) stated that these multiple realities rely on additional classifications for the elaboration of meaning which makes it challenging to interpret the stationary realities. Levers (2013) further added that the removal of human bias helps to lead to discovery of knowledge more appropriately whereas Poucher et al. (2019) mentioned that whatever the strategies researchers use should be aligned with the philosophical positions to enhance the quality of work.

Poucher et al. (2019) further advised referring to Corbin and Strauss (2008) work, and added that using reflexive journaling and conferring with critical friends throughout the research process can help to enhance quality levels. Corbin and Strauss's (2008) work is an enhanced version of the previous work by Strauss and Corbin (1990; 1998) where Corbin (Corbin and Strauss, 2008) recognised that there is no truth out waiting to be exposed, and that truth under no particular conditions can be completely realised or re-created by the researcher. Corbin (in Corbin and Strauss, 2008) further acknowledged her stance under subjective epistemology, and anticipates that it is not possible to distinguish 'who we are' as an entity from the research and the analysis we do. Corbin (2008) further identifies that due to epistemological underpinnings, the explanation

does not reflect from the relationship between the object and subject but is enforced by the subject. As the explanation or detail is obviously emerging out of the subject, epistemological underpinnings are evidently subjective. Hence, Corbin and Strauss (2008) concluded that the theory developed is no doubt investigator's unrestricted translation of the information that is unopposed by the external reality. Thus, the end result of the research is a theory based on the relative accounts of experiences of the research participants.

3. Theoretical Sensitivity

An important consideration for a grounded theory study is the consideration of theoretical sensitivity. Theoretical sensitivity can be considered as the personal quality and ability of the researcher to give connotation to the data, capacity to comprehend and quality of having awareness of the data (Strauss and Corbin, 1990). While conducting research, theoretical sensitivity may arrive from review of literature, professional or personal experiences (Strauss and Corbin, 1990). For our study, we tried to achieve theoretical sensitivity under three main phases: during the pre- and post- review of literature (pre literature review is not present in Glaserian version of grounded theory), data collection and analysis phases, and when assessing the trustworthiness of our research.

As per the Straussian grounded theory guidelines to develop theoretical sensitivity, initially we reviewed the literature to *limited extent* and gained familiarity with some of the previously available literature. The initial literature review helped us to 'sensitize' ourselves with what is in fact going on with the phenomenon under study and gain knowledge and understanding around the key approaches, concepts and theories that were in the substantive area of risk management.

The next step is the data collection and analysis where the researchers' further increase their theoretical sensitivity by collecting and analyse data, which provides them with key insights about the phenomenon to be explored. During the data collection and analysis we tried to keep a balance between our creativity and real situations by periodically stepping and asking different sort of questions of the data. These questions included, '*What should be the reality?*', '*Does what I believe is it really suitable to the context of reality?*' theoretical sensitivity here helped us to analyze situation and its association with the data in unique aspects; and to investigate the empirical evidence's potential for generating theory.

Lastly, the next area where researchers increase their theoretical sensitivity is at the post-literature review stage. During the post-literature review we compared our findings with the existing theories and approaches in depth. Theoretical sensitivity helped us to allocate appropriate concepts against our results to strengthen and mature our discussion. For example, having a sound knowledge of its implications in a grounded theory study, we enhanced theoretical sensitivity by using the correct research procedures under strict guidance of Strauss and Corbin (1990; 1998; 2008). We examined all the data collection and analysis procedures very carefully to achieve rigor in our study. Similarly, our pre- and post-interaction with the literature was limited and comprehensive respectively which helped to sensitize our knowledge with respect to what it was already available. Having a sound knowledge of procedures helped achieving practical results at the end which is considered 'crucial' by Creswell (2009).

4. The Process of Data Collection

The process of data collection and analysis in grounded theory study works concurrently as the researcher goes in the field to collect data, analyses it and then goes back to the field to collect more data based on his previous analysis (Glaser and Strauss, 1967; Strauss and Corbin 1990; 1998). Theoretical sampling and constant comparative method direct the researcher throughout the data collection and analysis process where to go and what to collect next. According to Cho and Lee (2014), the difference between grounded theory and other qualitative approaches is that grounded theory study analysis is based on saturation rather than the amount of data. We undertook the following decisions before entering into the field.

Decision 1: How and where to start?

The first step was to align our ideas and motives against the relevant literature and area of study. Theoretical sensitivity supported us to find the relevant area of the study, as Strauss and Corbin (1998) highlighted. We conducted initial literature review as a part of the methodological approach which helped to find gaps in knowledge. The purpose of conducting initial literature review was to develop basic insights of the current debates and research. At this point, a word of caution for the future researchers: interaction with the extant literature can increase pre-conceptions, therefore we interacted with the literature to a limited extent under the guidance of various grounded theorists (Glaser and Strauss, 1967; Strauss and Corbin, 1990; 1998 and Charmaz, 2014).

Decision 2: Locating Target Population

The next decision in getting the right data was linked to finding appropriate individuals. As we identified the substantive area for our research i.e., Virtual-Agile project environments, the next step was to determine the participants who can best contribute to this research by informing diverse aspects of the phenomenon under investigation. For this activity, we held 3 **pilot meetings** with some of the IT professionals and practitioners, where we came to know about the type of people to approach. We believe that those meetings helped to enhance the theoretical sensitivity and determine appropriate participants who could best contribute to this study. Later these meetings helped in identifying areas to pursue and provided differences in the viewpoints of individuals which later helped to theoretically sample future data collection and analysis process.

Decision 3: Interviewing as Primary Data collection strategy.

Turner (1986) and Creswell (2007) suggests that while undertaking the grounded theory study, use of observations, face to face interaction, and unstructured or semi-structured are all relevant strategies and well-suits with the nature of the study. Ideally, use of all different types of data can help to capture more insights about the phenomenon. However, the reason for selecting specific type of data collection can simply be pragmatic or it can be due to restrictions of the application of a research method. In our research, theoretical sensitivity together helped us to decide on interviews as the only primary method for exploring in-depth knowledge about the phenomenon. Our justifications consisted of the following:

1) Previous research favours more interviews as a method: Through the literature review it was released that several authors like Manuj and Mentzer (2008), Sbaraini et al. (2011), Moe and Smite (2008), Dorairaj et al. (2012) have used in-depth interviews in their grounded theory research.

2) Issues of time and location constraints: We looked for various strategies that can be used to gather relevant data in our study. This included getting data through observations, focus groups or carrying out Delphi study. We found that observations could be time-consuming and required us to be a part of those settings or situations where we could take descriptive and lengthy notes of the undergoing risk management practices. We tried to look for relevant documents for observation, however, we found out that those reports were confidential and could not be shared with the third parties. Further, focus group or Delphi study could have been beneficial, but as the data was collection occurred in various regions and countries via information and commutation technologies, it was difficult for us to conduct a conference call ensuring that all the participants were present. We didn't omit this possibility and decided to use this method if the suitable information was not found. The last possibility of data collection left which suited with the grounded theory principles was one-to-one interviewing method which aimed to uncover in-depth beliefs and experiences of the participants. Hence, semi-structure interviewing was found the most appropriate strategy for our study as Khan (2014) advised that semi-structure with open-ended questions are preferred in any qualitative type of research and used widely in grounded theory studies.

4.1 Changing nature of unit of analysis.

According to Strauss and Corbin (1990), the unit of analysis in grounded theory study is the conceptualization of the data. The events, happenings or actions occurring, points towards a central phenomenon which can be recognised as the researcher moves along the process. Here it is important to mention that interviewing or any data collection in grounded theory research differs to the one in qualitative research. In qualitative research, we assume a set targeted sample and a set unit of analysis to pursue. In a grounded theory research, the unit of analysis is not fixed, rather it tends to change depending on the various discoveries perused during the data collection and analysis stage. Further the changing nature of unit of analysis also causes the researchers to pursue other types of samples or delve into other areas of the population which may not have been identified or selected in the beginning of the research process. In grounded theory research, the data guide us. The samples should be selected based on participants' direct or indirect links to the phenomenon or the field of study. However, similar to qualitative research in our research we followed a strict guideline and ask specific questions whether open or closed types from our participants whereas in grounded theory study the interview questions are updated based on the data analysis.

4.2 Sampling Strategy

Although grounded theory guidelines strictly require researchers to adopt theoretical sampling, but choosing the right sample is a critical decision in the grounded theory study. Punch (1998, p.193) suggested that 'We cannot investigate everyone, everywhere doing everything. Sampling decisions are required not only about which people to interview or which events to observe, but also about settings and processes. We based our sampling on two main types, i.e. purposeful and theoretical. Initially, purposeful sampling helped us to determine appropriate individuals who could participate in the study. For example, the first three interviewees were selected based on their experience, qualification and relation to the phenomenon of investigation, i.e. professionals, experts working in the IT project environments.

Then later on theoretical sampling was used (e.g. after interview no.3). This meant that data guided us to select suitable participants for the study, e.g. at the end of third interview we got an understanding that in order to acquire knowledge about risk management practices in Virtual-Agile projects, people having experience of Scrum or Extreme programming based methodology could help. Similarly, interview questions were updated based on the data evolved. Few additional questions were inquired from the participants which helped to saturate the categories and sub-categories. Theoretical sampling progressively and systematically tailored data collection to help generation of an emergent theory. In the beginning of the data collection, it was tentative that the data would be collected across various boundaries and regions but with respect to the number of interviews and the nature of our study, it was realised that collecting data from various organisations and diverse regions would help ensuring richness and rigor in the data gathered. Additionally, while selecting the sample there was no intention to get data from any specific region or country. We focused on to locating appropriate sample using the above strategies. We ensured every time that the participant must meet the defined criterion instead of targeting any specific region or country.

5. Rigor and Biasness

In order to achieve rigor and reduce biasness in our data collection, we realized the need of biasness literacy to counter unexpected prejudices during our discussion with the participants. However, Norris (1997) acknowledges on the other side that there is no definite solution or paradigm to avoid bias completely and errors in qualitative research. Norris (1997) further elaborates that biasness can be reduced to authenticate the research process by following methodological processes and procedures. We understood few of the following concepts to reducing the biasness during our data collection:

- **Acquiescence Bias**, also known as ‘Yes-saying’ or friendliness bias occurs when a respondent agrees with the point of views of the researcher as per situation, time, place and condition (Dodou and Winter, 2014). During data collection, we tried to avoid acquiescence bias by asking several questions in between the interviews to ensure that respondent elaborates his thoughts with an honest and confined point of view. For example, using the ‘5 whys’ technique helped to get deep insights of a problem or issue.
- **Confirmation bias** is one of the persuasive forms of biases in research where a researcher develops a hypothesis or belief in his mind and uses respondents’ information to authenticate that belief (Nickerson, 1998). Confirmation bias was reduced using constant comparison process of the grounded where the responses of one participant was compared with the responses of next participant. Similarly, confirmation bias was avoided by peer reviewing where the findings of the research were shared with the people from academia to get feedback on the results.
- **Leading questions and working bias** was avoided by asking a variety of questions in between the conversations. Leading questions and working bias is a type of bias where a researcher when asking question to respondent puts some words in respondents’ mouth which could lead to a conclusion which is different to respondents’ belief and experience (Malhotra et al., 2004). During our data collection and analysis process, we avoided leading questions and working bias by asking very simple and straightforward questions to our respondents. Where an explanation was needed, we explained them about the philosophy behind the question. For example, when asking few participants ‘what type of project

environment you have worked in', we elaborated the types of project environments available such as virtual and distributed, then provided some explanation about distributed/virtual format and use of agile methodologies.

5.1 Building Rapport during Conversations

Building rapport was a great concern for our research study. Bartkowiak (2012) suggests that building of trust and understanding helps to disclose secret information. Without gaining the trust and understanding, the participants might fabricate and do not prefer to share the exact information which could be a great risk to the reliability of the data (Molden, 2011). According to Churches and Terry (2007), trust is difficult to maintain in qualitative studies. Trust is mostly related to securing the information afterwards the interview. The participants get a sense of worry that how the information or experiences would be used later in the research. We believed that for overcoming this challenge, the first step is to formally invite participants for contributing to the research study. We undertook the following strategies for gaining trust:

- We sent invitation to participants from our official account with participant information sheet, consent form and abstract of the research. We presumed that this would have created a factor of trust on the participant side. Similarly, few of the participants in response got back and mentioned that they would require an understanding of what would be inquired of them during the interviews; recognising if they are the appropriate persons or not. For this purpose, we conducted a pre-interview discussion for around 15-20mins via video link or telephone call. We observed that this enhanced participants' interest about involving in the research study and they felt more confident about their expected contribution.
- Similarly, respecting all the participants, being flexible, genuine and sincere helped us to build rapport for our study. Keeping an environment of respectfulness was the first priority as we thought that participants may get affected by this component. We tried to remain conscious during conversations and respectfully acknowledge the responses of participants. Agreeing on the right time for the interviews was a bit tough as we had to chase the participants most of the time. In this regard, we fully gave the authority to each participant to decide on a time of his/her choice and then get back to us when ready. If the participant was not able to get back, we used to send reminders.
- Similarly, during the interviews we tried to be active listeners and responded to the participants' viewpoint by giving verbal cues, such as yah, right, absolutely (Hull, 2007). Then keeping an eye contact also helped us to boost rapport building process. Similarly, we warmly welcomed and provided gestures of gratification to participants so that the discussion environment may be fruitful.

We believe that during the data collection phase we tried to neglect resistance to increase the rapport. We did this by showing gestures of thankfulness and respectfulness. Similarly, there were also few negative cases where we didn't get access to the participants. This may be the reason of lack of understanding and trust which we were not able to show to our respondents. One of the examples can be of one of the respondents with whom we tried to get in contact with an experienced participant who was based in the United Kingdom. We chased him for around two years but couldn't get access to him. The participant always committed to participate in the research study but in real he never fulfilled his words. Similarly, another case was approaching the participants through LinkedIn which is a well-known professional networking forum; we were not

able to get any response from that platform; we believed that may be due to lack of trust as no one wanted to share information. We believe that these examples are useful to share as this may provide novice researchers an overview of the challenges, they are expected to face during data collection.

5.2 Issues of Reflexivity

Lincoln and Guba (1985) labelled reflexivity as the researcher's attitude approaching analytically towards a knowledge building process or an impact of the researcher at each stage of the research process. We dealt with the issue of reflexivity very effectively throughout our research study. Malterud (2001) suggested that researchers' philosophical position and assumptions determines what and how they desire to investigate about a phenomenon; the analytical methods they estimate for the investigation; the findings they considered utmost suitable, and the shaping and announcements of the results. The perceptions of the researchers help in conducting the research study both for qualitative or quantitative types.

Thoughtfully considering the reflexivity prevented us from prejudices to a great extent and misrepresenting insights of the data which could be influenced by the preconceived concepts or ideas. We tried to be self-aware throughout the research process and were able to consult literature without influencing it on the data. McGhee et al. (2007) mentioned that in grounded theory study, reflexivity is attained by carrying out a conscious reflective process, in which the concepts should emerged from the data itself using constant comparative method rather accomplished from preconceived ideas. Charmaz (2014) added that reflexivity provides an accountability of researcher's experiences, philosophical positions, and interests that influenced the research. Corbin and Strauss (2008) believe that reflexivity is an essential part of the grounded theory process, where a researcher gives meaning to his investigation depending upon the philosophical orientations and professed a degree of relevance. Reflexivity also provided us an opportunity to appreciate and know about previously published literature in the relevant area, without supposing that the notions revealed in the initial review of literature. Similarly, in the critical evaluation phase, literature helped us to analyse the arguments from the results and then helped to highlight significances and weaknesses of the findings. Consequently, while writing up, the issues of reflexivity were appreciated at every point, so the readers could be able to identify the processes and phases involved in the research journey.

5.3 Memo-writing and Field Notes

We used memo-writing as one of the key techniques to capture our thoughts during the data analysis. Birks and Mills (2011) advocates that memo-writing process depicts researcher's self-awareness and makes personal assumptions more explicit. McGhee et al. (2007) mentioned that after conducting a research study Corbin identified in her self-reflection that when writing the memos, she was more influenced by the emotional responses of the data rather conceptualisation the responses of the participants. Corbin and Strauss (2008) further advocate that this process allows the researchers to analyse the data again and increase the truthfulness and trustworthiness of the results. Data is always there to be analysed in research, but ideas are fragile and when they hit the mind, they should be noted down straight away (Glaser, 1978). The memos are always modifiable as the more information is emerging from the data.

We preferred to write memos when coding was taking place as it helped us to record our feelings and beliefs about the phenomenon during analysis. According to Strauss and Corbin (1998), memos are not considered only as ideas, but the process helps the researcher to keep track of the all the categories, propositions, and multiplicative questions emerged during the analytical process. Memos were generated against each category or situation varies in length and nature according to the research situation and coding stages. We generated the memos throughout our research study which helped us to formulate and strengthen our findings at the end. In respect of the qualitative research, we also recorded field notes during the interview sessions. Crotty (1998) specified that field notes is one of the techniques which is commonly applied by qualitative researchers to keep a record of ideas, notions and thoughts evolved during the course of interviews. Field notes also supported us while selecting the participants under theoretical sampling, where we consulted those notes when approaching the participants. The process of memo-writing and field notes if omitted during the grounded theory study, a great deal of conceptual detail is lost or left undeveloped (Strauss and Corbin, 1990).

6. Actions for Ensuring Trustworthiness in Research

Qualitative researchers face critique to demonstrate trustworthiness in their studies especially when it comes to satisfying the academia requirements. Strauss and Corbin (1990) suggest seven several criteria by ensuring which quality of research can be achieved in a grounded theory study. These criteria mainly relate to general research process by following which we can achieve rigor. For example,

- Criterion#1 - How was the original sample selected? What grounds? Relates to interviewing mainly which we addressed during the data collection phase when initially purposeful sampling and later theoretical sampling were used to locate target participants.
- Criterion#2 - What major categories emerged? Relates to data analysis phase when descriptive and Invivo coding was done which later took the form of concepts and grouped into categories in all the three stages of open, axial and selective coding.
- Criterion#3 - What were some of the events, incidents, actions, and so on (as indicators) that pointed to some of these major categories? and
- Criterion#4 - What were some of the events, incidents, actions, and so on (as indicators) that pointed to some of these major categories? relates to data analysis phases particularly where we analysed and conceptual the events, interactions and happenings against the developed categories and linked them based on their properties and dimensions. Properties and dimensions were determined from the words of the participants or can be acknowledged from the data incidents. Properties and dimensions are the wide-ranging characteristics identified from the data in which the action, events or happenings take place.
- Criterion#5 - What were some of the hypotheses pertaining to conceptual relations (that is, among categories), and on what grounds were they formulated and tested? and
- Criterion#6 – Were there instances when hypotheses did not hold up against what was actually seen? How were these discrepancies accounted for? How did they affect the hypotheses? relates to constant comparison and theoretical sampling where we analysed the codes, concepts and categories against already developed categories with respect to the number of interviews being conducted. There were some instances where we needed to

refer back to the dataset and revise our questions for the next interview to be able to saturate the categories.

- Criterion#7 – How and why was the core category selected (sudden, gradual, difficult, easy)? On what grounds? also relates to data collection and analysis procedures where we analysed the data, update/added few questions and inquired from the following participants. This helped to gradually recognise our phenomenon of ‘Responsiveness’.

6.1 Credibility

We believe that credibility in all the qualitative studies including grounded theory study is the backbone of ensuring trustworthiness. Lincoln and Guba (1985) suggested that credibility is the most significant characteristic in establishing the trustworthiness of qualitative research. There have been several criteria defined in literature to judge the credibility of qualitative research, however we used the following criteria to determine trustworthiness for our study.

○ *Member checking*

Member Checking is one of the most unique characteristics to strengthen a study's credibility. Member checking depends upon two criteria: checks relate to the accuracy of the data and verification of the emerging findings. Regarding checking accuracy of the data or captured articulations, the verbatim transcriptions as per recorded audio were sent to the participants for their verification to ensure that their speech or words have been accurately apprehended and have not been misunderstood. In regard, a suitable deadline was provided to each participant and if by that time, they were unable to respond, the transcript was considered as accurate and used for further analysis. Similarly, a section was provided at the end for each participant to confirm their agreeability towards the transcribed data.

Another feature of *member checking* is the validation of the emerging concepts and the interpretations after it was developed (Lincoln and Guba, 1985). This strategy has also been suggested by Brewer and Hunter (2006) and Miles and Huberman (1994) for carrying out member checks. In such type of credibility check, we after developing initial findings went back to the respondents and got a formative feedback to evaluating the interpretations of our findings. This provided a formal opportunity to respondents who participated in the data collection process to assess the results of the study. We believe that it is an additive feature which proves or disproves the investigator's assumptions about a phenomenon which has been examined. Further, Strauss and Corbin (1990; 1998; 2008) suggested that grounded theory itself consists of the principles of data validation. For examples, constant comparison helped comparing different emerging concepts against those concepts which had been previously generated.

We used some of the qualitative principles in our study to fulfil academic requirements, therefore member checking criteria included going back to the participants, getting formative feedback and validating the findings. Participants were randomly approached again, and the aim was to allow a maximum number of participants to respond so that the member checking process could be performed comprehensively. Five participants agreed to have a Skype meeting while one of the participants who was based in the UK preferred to have a face-to-face meeting. Similarly, another method implemented was sending an abstract of the findings including some structured questions to participants so that whoever

did not manage to come for a live meeting might be able to give formal comments about the work produced. A total number of six participants were sent the structured questionnaire with appropriate findings.

For live meetings, in order to avoid bias, we contacted several participants from various regions. Skype interviews were for around 25–35 minutes. A structured style interview approach was used so that feedback could be attained on specific aspects, in relation to the codes, concepts and categories generated. For the Skype meetings, we also shared personal computer screen with the respondents so that they could read, understand and go through the results in detail. The final framework was showed to the participants where we described about the working concept of the developed phenomenon. Similarly, in the face-to-face meeting with one of the UK participants, a brief summary of the findings was given to the respondent beforehand to read, and when ready, a formal session of discussion was initiated. All the meetings were recorded as evidence..

- ***Tactics to help ensure honesty of informants.***

Another factor which helps to attain credibility in qualitative research is to ensure honesty in the informants' attitude. Every participant who was approached was given an opportunity to express their consent for participation in the study to ensure that the participant genuinely wanted to participate in the study without any restrictions. In this regard, all the 33 participants selected were sent a Consent and Information sheet via email before the data collection sessions. This allowed storing records of each participant with their original signatures, both electronic and handwritten. Additionally, before the proceedings of the interview sessions, we highlighted the terms and conditions, mainly getting their willingness to participate and informing them of their right to withdraw at any stage of the interview or research project. Similarly, it was also mentioned that the data shared will be kept highly confidential and would be shared with the relevant persons keeping in view the privacy policy. This provided each participant a secure and free environment to talk, providing them maximum opportunities to express their thoughts and experiences about the phenomenon.

6.2 Transferability

The second aspect to assess the trustworthiness in qualitative studies was to address the subject of transferability. According to Merriam (1998), transferability, which is like external validity, is the range to which the results of the research can be applied or transferred to other contexts or settings. Lincoln and Guba (1985) further recommend providing thick descriptions of the phenomenon. Thick description in qualitative research provides robust and detailed account of researchers' experiences during data collection process. Thick description includes researcher's experiences during interaction with the cultural and social contexts. This also includes highlighting several aspects of the social world providing a detailed and richer understanding of the research setting. The issue of transferability was dealt very constructively during data collection and analysis process such as generating memos, adhering to reflexivity issues, building up rapport during conversations etc. This helped to authenticate and validate the information collected from participants and use them from further analysis.

6.3 Dependability

Dependability, another method to ensure trustworthiness was used to confirm whether if the work is repeated using the same procedures, methods, participants and context, the output can come out as similar as the original study (Shenton, 2004). Fidel (1993) argued that qualitative studies always face problems of showing dependability due to the changing nature of the phenomenon under study. Shenton (2004) further explained that the research design should be elaborative enough to demonstrate the procedures so that a future researcher may use the same kind of methods to generate similar results. The issue of dependability was dealt in detail where we elaborated the process of data collection and analysis. This includes a description of decisions and steps undertaken to initiate the study, e.g. enhancing theoretical sensitivity, reflexivity, defining the unit of analysis and the major sources of data collection. Similarly, all the descriptions related to participant selection criteria, sampling techniques, interview questions and their versions, and then discussion of each emerging category with examples related to the emergence of various concepts should also be elaborated. The memo-database should be generated which represents the thoughts and ideas recorded against every sub- and main category during the analysis helping later to generate the theoretical framework. Similarly, the coding procedures (such as open, axial and selective) must be elaborated in detail to show when and where the categories evolved and how they emerged from the data to take the form of a model. This also adheres to the validation procedures suggested by Strauss and Corbin (1990) as discussed above. Hence, we suggest generating a reflective account in detail from which the work can be repeated, however, some variations are expected due to the individuals' own experience, understanding and interpretations of the original data.

6.4 Confirmability

We used confirmability as other criteria to ensure rigor in our study. According to Miles and Huberman (1994), confirmability is the extent to which an investigator accepts their own biases during the research study. He further advises that the researcher must be able to demonstrate that the results produced are the opinions and ideas of the original respondents, rather than their own preferences or interpretations. However, Shenton (2004) further added that it is crucial to address this issue to demonstrate an audit trail which gives the reader an opportunity to review the decisions made step by step during the investigation. For our research study, the issue of confirmability was addressed extensively where we showed evidence against the emergence of various concepts, categories and core category. This includes sharing detailed information and evidence from the data for each concept and category evolved with original participant quotations. Critical evaluation of our results using literature also helped to attain confirmability in the generated concepts and categories. Discussion over various aspects of the framework with the help of other authors' views helped to signify our interpretations and understanding of the phenomenon.

Another aspect to show confirmability is the ability to demonstrate an audit trail. For our study, we maintained and secured all the records which can be useful to help generating an audit trail. This included all the records of meetings and decisions undertaken, all the interview audio recordings, transcriptions, contacts with participants through emails and social networking websites, records of memos and field notes, records of open, axial and selective coding procedures, records of how the process of constant comparison was performed, records of journal databases, records of participation in academic conferences and presentations, records of validation in the

form of audio recordings and feedback forms, signed consent forms pre- and post-findings: all the material was secured for evidence if in case was required by any of the academic bodies.

7. Conclusion

Overall, our paper has highlighted various issues which help to understand the complexities involved within a Straussian grounded theory research (other versions of grounded theory may have different complexities). We acknowledge that criticism to grounded theory research is reasonable enough, however, there was a need to elaborate on the issues previously. Applying grounded theory principles require understanding of its procedures in detail which are elaborated in this paper. We intend to reduce confusion and simplify the grounded theory process in many ways: 1) provide an understanding of the issues such as reflexivity, theoretical sensitivity, sampling and interviewing strategies etc. 2) necessary actions to reduce prejudices and 3) ensure rigor and trustworthiness in grounded theory study.

We have contributed theoretically in the literature by highlighting various issues which were not discussed extensively, and there existed a confusion for grounded theorists for achieving rigor in their study. We aim to fulfil the gaps identified from the studies of Sikolia et al. (2013), Lomborg and Kirkevold (2003), Rolfe (2006) and Cho and Lee (2014) mainly and address issues in the areas of business and management. The practical implications of this paper are linked to academia where the novice and potential doctoral researchers can benefit from the discussion to satisfying various academic requirements, such as pre-considering Straussian grounded theory as a approach, using the information presented here to prepare for viva voce defence etc., and for experienced researchers/supervisors to manage their supervisees.

References

- Bartkowiak, J. (2012) 'NLP in qualitative research', *International Journal of Market Research*, 54(4).
- Birks, M. and Mills, J. (2011) *Grounded Theory: A Practical Guide*. London: Sage.
- Brewer, J. and Hunter, A. (2006) *Multimethod research: a synthesis of styles*, Newbury Park. Thousand Oaks: Sage.
- Bryman, A. Becker, S. and Sempik, J (2006) Quality Criteria for Quantitative, Qualitative and Mixed Methods Research: A View from Social Policy, *International Journal of Social Research Methodology*, 11(4), pp.261-276
- Charmaz, K. (2014) *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. London: Sage.
- Cho, J. Y. and Lee, E. (2014) 'Reducing confusion about grounded theory and qualitative content analysis: similarities and differences, *The Qualitative Report*, 19(32), pp. 1-20.
- Churches, R. and Terry, R. (2007) *NLP for Teachers : How to be a Highly Effective Teacher*. UK: Crown House Publishing Ltd.
- Creswell, J. (2007) *Qualitative Inquiry & Research Design*. London: Sage.
- Creswell, J. (2009) *Research Design: Qualitative, Quantitative, and Mixed Approaches*. Thousand Oaks, CA: Sage.
- Crotty, M. (1998) *The foundation of social research: Meaning and perspective in the research process*. Sage. Thousand Oaks.
- Dodou, D., and de Winter, J. C. F. (2014) 'Social desirability is the same in offline, online and paper surveys: A meta-analysis', *Computers in Human Behavior*, 36, pp. 487-495
- Dorairaj, S., Noble, J. and Malik, P. (2012) 'Knowledge management in distributed agile software development', *Proceedings - 2012 Agile Conference, Agile 2012*, pp. 64-73.
- Engward, H. & Davis, G. (2015) Being reflexive in qualitative grounded theory: discussion and application of a model of reflexivity. *Journal of Advanced Nursing* 71(7), pp. 1530- 1538
- Fidel, R. (1993) 'Qualitative methods in information retrieval research', *Library and Information Science Research*, 15, pp. 219-247.
- Flick, U. (2009) *An Introduction to Qualitative Research*. 4th edn. London: Sage.
- Gerhard T. (2008) 'Bias: considerations for research practice', *American Journal of Health System Pharmacy*. 65(22), pp. 2159-2168.
- Glaser, B. and Strauss, A. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine.

Glaser, B. (1978) *Theoretical sensitivity: Advance in the methodology of grounded theory*. Mill Valey: Sociology Press.

Glaser, B. (1992) *Basics of grounded theory analysis: Emergence vs forcing*. Mill Valey: Sociology Press.

Glaser, B. (1998) *Doing Grounded Theory: Issues and Discussions*. Mill Valey: Sociology Press.

Guba, E.G. (1980). Criteria for assessing the trustworthiness of naturalistic inquiries. *ECTJ*, 29, 75.

Hudson, L. A. and Ozanne, J. L. (1988) 'Alternative Ways of Seeking Knowledge in Consumer Research', *Journal of Consumer Research*, 14(4), pp. 508–521.

Keshlaf, A. A. and Riddle, S. (2010) 'Risk Management for Web and Distributed Software Development Projects', *Internet Monitoring and Protection (ICIMP), 2010 Fifth International Conference on*, pp. 22–28.

Khan, S. N. (2014) 'Qualitative Research Method: Grounded Theory', 9(11), pp. 224–233.

Levers, M.-J. D. (2013) 'Philosophical Paradigms, Grounded Theory, and Perspectives on Emergence', *SAGE Open*. doi: [10.1177/2158244013517243](https://doi.org/10.1177/2158244013517243).

Lincoln, Y. and Guba, E. (1985) *Naturalistic Inquiry*. Thousand Oaks: Sage.

Lomborg, K. and Kirkeveld, M. (2003) 'Truth and validity in grounded theory – a reconsidered realist interpretation of the criteria: fit, work, relevance and modifiability. *Nursing Philosophy*, 4(3), pp. 189-200.

Malhotra, N. K., Hall, J., Shaw, M. and Oppenheim, P. (2004) *Essentials of marketing research: An applied orientation*. Pearson Education: NSW

Malterud, K. (2001) 'Qualitative research : standards , challenges , and guidelines', *The Lancet*, 38, pp. 483–488.

Manuj, I. and Mentzer, J. (2008) 'Global Supply Chain Risk Management Strategies ', *International Journal of Physical Distribution and Logistics Management*, 38(3), pp. 192-223

McGhee, G., Marland, G. R. and Atkinson, J. M. (2007) 'Grounded theory research: literature reviewing and reflexivity', *Journal of Advanced Nursing*, 60(3), pp. 334–342.

Merriam, S. (1998) *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.

Miles, M. and Huberman, A. (1994) *Qualitative Data Analysis: An Expanded sourcebook*. California: Sage.

Moe, N. B. and Šmite, D. (2008) 'Understanding a lack of trust in global software teams: A multiple-case study', *Software Process Improvement and Practise*, 13, pp. 217–231.

Molden, D. (2011) *How To Manage with NLP*. 3rd edn. Great Britain: Pearson Education

Limited.

Nickerson, R.S. (1998) 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises', *Review of General Psychology*, 2(2), pp. 175-220

Norris, N. (1997) 'Error, bias and validity in qualitative research', *Educational Action Research*, 5(1), pp. 172-176

Poucher, Z. A., Tamminen, K.A., Caron, J. G. and Sweet, S. N. (2019) 'Thinking through and designing qualitative research studies: a focused mapping review of 30 years of qualitative research in sport psychology', *International Review of Sport and Exercise Psychology*, DOI: [10.1080/1750984X.2019.1656276](https://doi.org/10.1080/1750984X.2019.1656276)

Punch, F. (1998) *Introduction to social research: Qualitative and Quantitative approaches*. New Delhi: Sage.

Rolfe, G. (2006) 'Validity, trustworthiness and rigour: quality and the idea of qualitative', *Leading Global Nursing Research*, 53(3), 304-310.

Ryan, B., Scapens, R. and Theobald, M. (2002) *Research Method & Methodology in Finance & Accounting*. 2nd edn. London: Thomson.

Sbaraini, A. *et al.* (2011) 'How to do a grounded theory study: a worked example of a study of dental practices', *BMC Medical Research Methodology*, 11(1), pp. 1-10.

Shenton, A. (2004) 'Strategies for ensuring trustworthiness in qualitative research projects', *Education for Information*, 22(2), pp. 63-75.

Shrivastava, S. V. and Rathod, U. (2015) 'Categorization of risk factors for distributed agile projects', *Information and Software Technology*, 58, pp. 373-387.

Sikolia, D., Biros, D., Mason, M. and Weiser, M. (2013) 'Trustworthiness of grounded theory methodology research in information systems', *MWAIS Proceedings*, Normal, IL., viewed 06 March 23. <
<https://pdfs.semanticscholar.org/547e/315879d8cfc12045a73d723b9df3639db5bf.pdf>>

Silverman, D. (2001) *Interpreting qualitative data: Methods for analysing talk, text and interaction*. 2nd edn. London: sage.

Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Thousand Oaks: Sage.

Strauss, A. and Corbin, J. (1998) *Basics of qualitative research: Techniques and procedures for developing grounded theory*. 2nd edn. Thousand Oaks: Sage.

Strauss, A. and Corbin, J. (2008) *Basics of qualitative research: Techniques and procedures for developing grounded theory*. 3rd edn. Thousand Oaks: Sage.

Turner, B. and Martin, P. (1986) 'Grounded Theory and Organizational Research.pdf', 22(2), pp. 141-157.

Vijayaraghavan, P. K., Sundararajan, S. and Bhasi, M. (2014) 'Case study on risk management practice in large offshore-outsourced Agile software projects', *IET Software*, 8(6), pp. 245–257.