Theoretical Sampling in Qualitative Research: A Multi-Layered Nested Sampling Scheme

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Abstract:
In qualitative research, novice grounded theorists are aware of expectations to use theoretical sampling yet they have vague idea of how to conduct theoretical sampling. An analysis of sampling pattern of the study using grounded theory and theoretical sampling revealed a systematic sampling scheme employing multiple techniques. The study was conducted using theoretical sampling; twenty-five in-depth semi-structured interviews were conducted with professors and postdocs across Germany. The analysis established that theoretical sampling is a complex multi-layered nested sampling scheme, which uses multiple sampling techniques simultaneously.

Keywords: Theoretical sampling, grounded theory, qualitative research

Introduction:
For a qualitative researcher first step of sampling is deciding their sampling strategy and based on this strategy they develop sampling models by selecting sampling schemes (Miles & Huberman, 1994; Patton, 1990). Onwuegbuzie & Leech (2007) define sampling scheme as “specific techniques that are utilized to select units” (p.239). A qualitative researcher also enjoys the freedom of selecting models such as Onwuegbuzie & Leech’s (2007) models namely, parallel sampling model, nested sampling model, and multilevel sampling model. Qualitative researchers can utilise a mix of twentyfour qualitative sampling techniques and sampling schemes that are available to them (Onwuegbuzie & Leech, 2007); in short, the guidelines for qualitative researchers are well defined.

On the other hand, literature on sampling in grounded theory is often simply stated as conduct theoretical sampling till theoretical saturation is achieved. Charmaz (2006) defined theoretical sampling as “seeking and collecting pertinent data to elaborate and refine categories in your emerging theory”(p.192). The focus in theoretical sampling is not on the sample but on what that sample has to say which will be helpful in the theory building.
process. Due to this unique perspective on sampling novice grounded theorists find themselves at loss. The novice grounded theorists have freedom to choose sampling techniques to obtain the relevant data, yet this freedom can cause ambiguity if not guided by experienced grounded theorists who are unfortunately not readily available.

The question at hand is how grounded theorists organise sampling phase of their research? Novice grounded theorists at the start of their research are usually clear that they are going to use theoretical sampling ‘to refine ideas’ (K. Charmaz, 2014, p. 519). They tend not to use sampling models to avoid forcing ‘preconceived ideas’ on data (Charmaz, 2014, p. 32); hence, compromising theoretical sampling (Glaser, 1978). Instead, they can utilise sampling schemes, which are flexible and versatile to suit the needs of the emerging theory. Strauss and Corbin (1998) presented three sampling strategies, which reflected that sampling strategies in grounded theory might not be an unusual occurrence. Taking cue from Strauss and Corbin (1998) this paper shares a retrospective sampling scheme used in this research to bring to light the fact that sampling in theoretical sampling is a complex phenomenon. And novice grounded theorists need to be aware of multiple sampling techniques (Qureshi, 2018), as well as a keen sense of when to employ them to successfully achieve theoretical saturation.

**Methodology:**

**Participants:**

Ten mentors and fifteen mentees participated in the study bringing the total of participants to twenty-five. The mentors and mentees were part of mentoring programs of their universities, these mentoring programs were focused on promoting young female scientists in German academia with the scope of encouraging them to aspire for professorship and stay in academia. The mentee were mostly female with exception of one male mentee who was added to the group as a deviant case. The mentors were a mix of female and male professors from different German universities.

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<th>Table 1 Participants’ Demographics</th>
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**Interview process and setting:**

In-depth semi-structured were conducted with mentors and mentees. Twenty-two face-to-face, one Skype and two phone interviews were conducted over a period of one year. The interviews were one hour to one-and-half hour long. For face-to-face interviews the interviewer visited the participants as per their convenience. To ensure safe environments the interviews were conducted in cafes or in offices of the interviewee as per their choice.

**Research question:**

An overarching question was investigated for this paper:

1. Do novice grounded theorists need to be aware of multiple sampling techniques and their procedures for conducting theoretical sampling?

**Analysis:**

The study was conducted using inductive qualitative case study approach and the data was analysed using Charmaz’s (2006) constructive grounded theory approach and Glaser’s (1978) grounded theory approach. The tri-stage analytic process consisted of Initial coding, Focused coding and Theoretical coding accompanied with memo writing and constant comparison technique. One of the emerging themes pertained to mechanics of conducting a research using grounded theory. The data from this theme was analysed using constant comparison and memoing to evaluate the role of novice grounded theorist awareness of the sampling techniques and time constraint, and how this knowledge impact successful completion of theoretical sampling. The memos and field notes of the researcher about the decision making process during theoretical sampling were analysed by comparing memos on decision making from
different waves of participation invites sending stage.

**Results:**

It was found that theoretical sampling is a complex sampling scheme that utilizes multiple sampling techniques at the same time and a novice grounded theorist who is aware of different sampling techniques can facilitate successful completion of theoretical sampling by maintaining a balance between sampling needs of the emerging theory and time constraint in contacting desired sample population (see in figure 1 below).

**Multi-Layered Nested Sampling Scheme in Retrospect**

![Multi-layered Nested Sampling Scheme](image-url)

*Figure 1 Multi-layered Nested Sampling Scheme developed in retrospect*
Discussion and conclusion:
The focus in theoretical sampling is not on whom to interview rather it is on what data needs to be obtained and for this purpose, anyone who can provide this data is the best candidate. This wide scope sampling requires a keen knowledge of different sampling techniques for successful theoretical sampling.

One aspect that makes theoretical sampling successful is the researcher’s ability to identify and locate appropriate sample. During this study, it was apparent that theoretical sampling was non-random sampling more specifically it was purposive-convenience sampling. Abrams (2010) posit purposive sampling strategies are predetermined but they have the flexibility to change if required for the progress of the study (Devers & Frankel, 2000). Similarly, Luborsky & Rubinstein (1995) described convenience sampling as a technique with open period of recruitment and pre-defined population. Since both purposive and convenience sampling were constantly used hence based on these definitions the term purposive-convenience sampling was used in the study. It can be defined as sampling scheme in which the purpose, target population and setting is predefined but has the flexibility to change depending on the accessibility, availability and willingness of the participants to take part in the study. Using purposive-convenience sampling during theoretical sampling assists grounded theorists in locating target population that can provide relevant data.

In addition, the researcher’s ability to understand the importance of versatility makes theoretical sampling a complex yet successful scheme. Experienced grounded theorists understand that data requirements keep changing as the theory development process proceeds, therefore it is pertinent that researcher keep abreast with the needs of the data and change sampling techniques as and when required. As seen in Figure 1 above seven waves of participation invites were sent and each wave consisted of multiple sampling techniques. For instance, in the first wave of interviews the participants were contacted using purposive-convenience sampling. This was important because after the first wave a concept started to emerge and to explore this emerging concept fully diverse sampling techniques was employed.

Furthermore, complexity of theoretical sampling becomes evident when researchers use cases from opposite side of the spectrum to add depth and nuance to the research. Silverman’s (2006) three features of theoretical sampling also include choosing deviant cases. Neuman (2013) defined deviant case sampling as “differ from dominant pattern, mainstream, or predominant characteristics of other cases” (p. 275). In this research, two deviant cases were employed in the theoretical sampling scheme along with a steady growth of study participants to observe the deviations from the norm (see Figure 1 above). These were a male mentee and a mentor who belonged to industry rather than academia. Both cases added new perspective to the study, for instance most of the issues raised by female mentee were also the issues raised by the male mentee. And the concerns of the mentor from industry where slightly different from academia hence their style of dealing with situations was also different. Hence, including deviant cases in theoretical sampling scheme are necessary for a healthy representation of all available cases. They add a deep layer of meaning to the data being analysed and enhance understanding of the phenomenon under study.

Similarly, researchers conscious of sampling techniques would also take advantage of homogenous sampling including it in the theoretical sampling scheme to explore participants’ views and to listen to their stories. This would allow an in-depth analysis of similarities and differences in the participants’ narratives (Noy, 2008), as was the case in this study. And stratified-purposeful sampling of mentors, to capture and analyse variances of mentors’ experiences from mentees’ perceptions were also part of the study’s sampling scheme (Patton, 1990; Abrams, 2010). Employing homogeneous and stratified sampling between same group of participants (mentees) and then comparing
them to the other group (mentors) not only provided a wide range of views and stories but it also enhanced the authenticity of the research.

Moreover, another sampling technique used in the study was snowball sampling. Usually it is used to contact difficult-to-access or hidden populations, the researcher identifies participants who could give rich information and then ask them to suggest names and contacts further participation selection (Tracy, 2013). The target population for the study was professors and post docs, who are the elite group, and getting them to participate in the study was a challenging task. Although snowball sampling was used from the beginning, however, only one contact could be established due to snowball sampling. Despite the low turnout due to snowball sampling it is safe to conclude that snowball sampling can result in good sampling population.

As can be seen in Figure 1, these sampling techniques were being used some times simultaneously and sometimes in combinations. The changing needs of the data demands quick thinking and efficient planning along with skillful balancing of sampling techniques and time constraints. A successful grounded theorist is one who understands this complexity of theoretical sampling and prepares consciously to successfully conduct theoretical sampling.

References:


