Types of qualitative research | analysis

Qualitative research is associated with the interpretive philosophy (Denzin and Lincoln, 2005). This is because researchers need to draw meaningful conclusions from the subjective and socially constructed data that has been collected about the phenomenon under study. This type of research is sometimes referred to as naturalistic since researchers usually operate in natural settings and would therefore need to establish trust, encourage participation as well as acquire meaning and in-depth understanding (Saunders, Lewis and Thornhill, 2012 p 163). Similar to quantitative research, qualitative research may also be used within the realist and pragmatic philosophies.

The nature of the qualitative data collected has implications for its analysis. Several qualitative research begin with an inductive approach where a naturalistic and emergent research design is used to develop a richer theoretical standpoint already existent in the literature. It is worth noting however, that some qualitative research designs, commence with a deductive approach which use qualitative procedures to test already existing theoretical perspectives (Yin, 2009). The inductive approach may also involve some elements of a deductive approach as the researcher seeks to develop a theoretical position then test its applicability through subsequent data collection and analysis. In practice however, most qualitative research are abductive in approach, combining elements of both the inductive and deductive approach (Suddaby, 2006)

In order to develop a conceptual framework, qualitative researchers study participants' meanings and the relationships existing between them. They make use of a variety of data collection techniques as well as analytical

procedures. Non- probability sampling techniques are usually used and data collection is non-standardized since questions and procedures are likely to be altered while others may emerge during both naturalistic and interactive research processes (Reichertz, 2007).

Variety of qualitative research strategies share ontological and epistemological roots and common characteristics. Each strategy has a specific scope, emphasis and a particular set of procedures. Some of the major strategies are action research, case study research, narrative research etc (Ketokivi and Mantere, 2010)

According to Taylor & Gibbs (2010), qualitative data come in several forms. They could be structured texts (writings, stories, survey comments, news articles, books etc), unstructured text such as transcription, interviews, focus groups and conversation.

In the paragraphs that follow, five types of analytic procedures for analyzing qualitative data such as content analysis, template matching, analytic induction, pattern matching and thematic analysis are critically discussed with a focus on their suitability, advantages and disadvantages.

2. 0 BODY

2. 1 CONTENT ANALYSIS

Content analysis is a method for analyzing written and oral textual materials which is used sparingly by organizational researchers (Insch, Moore and Murphy 1997). Krippendorf (1980) defines it as 'an approach to the entire range of communicative and symbolic media, including verbal dialogues, films, advertisements, cartoons, theatre and political speeches. From these,

researchers seek to make inferences about other phenomena that are of interest.

Content analysis is 'an observational research method that is used to systematically evaluate the symbolic content of all forms of recorded communication' (Kolbe & Burnett, 1991 p. 243). In this type of analysis, a set of categories are established. The numbers of instances or frequencies that fall into each category are then counted (Silverman, 2006). A key requirement in this type of analysis is that categories need to be sufficiently precise to enable different coders arrive at the same conclusion when the same set of data are analyzed (Krippendorff, 1980) in order to establish reliability and validity. Some examples of material that can be content analyzed are political speeches, themes in popular songs, trends in newspapers, ideological tone of editorials, answers to open ended survey questions, themes in advertised messages etc.

Conceptual and relational analyses are the two types of content analysis (Krippendorf, 1980). Whereas conceptual analysis involves choosing a concept, probing and adding up its frequency of occurrence, relational analysis on the other hand commences with the identification of concepts in one or several texts. However, this type of content analysis goes a step further to identify any meaningful relationship between these concepts (Palmquist, Carley and Dale 1997).

The theoretical basis of content analysis is unclear and its conclusions can often be trite (Silverman, 2006). Furthermore, it can be overly time consuming, subject to increased error, difficult to automate or computerize

and often disregards the context that produced the text as well as conditions prevailing at the time the text was produced (Insch, Moore and Murphy 1997; Atkinson, 1992: 459).

Nonetheless content analysis produces valuable historical and cultural insights gained from the analysis of texts, allows for closeness to texts which can be alternated between specific categories and relationships and again statistically analyzes the coded form of the text (Zhang and Kuo, 2001). Equally important is the fact that content analysis allows for both quantitative and qualitative operations, it looks specifically at communication via texts or transcripts and therefore gets at the central aspect of social interaction (Kulatunga, Amaratunga and Haigh, 2006b).

2. 2 TEMPLATE ANALYSIS

This is another method of qualitative data analysis that combines both the deductive and the inductive approach. This is because it starts with a list of themes in advance based on relevant theory or research evidence from the onset of the research. This predetermined list of themes is then amended as data is collected and analyzed. This provides structure to the process of data analysis as well as assist the researcher to segment the text meaningfully and manageably (Reynolds, 2003).

The template approach permits the ordering of codes and categories in a hierarchical manner. For example, the process of analyzing interview scripts or observation notes will lead to revision of some themes or codes leading to changes made to their place in the hierarchical order. New codes or themes can also be included when a relevant issue has been identified for which

there is no existing code, an old code has been deleted or the order of a code has been altered or reclassified to a different code (King, 2004). These actions would however, have to be verified as well as its actions explored in relation to previous coding activity (Lewins &Silver, 2006).

Template analysis makes it possible to draw inferences from common experiences within samples as well as determine the frequency of occurrence of the anticipated themes in respondents accounts (Reynolds, 2003). Next, it also helps the researcher to select key themes to explore as well as identify emergent issues that arise through the data collection and analysis process which were otherwise not included at the beginning of the research project (King, 2004). Besides, findings can be easily related to existing theory (Reynolds, 2003).

Inspite of the above, Reynolds (2003) posits that template analysis focuses on content rather than on the structure of the narrative. Moreover, the selected templates may provide broad rather than fine- grained categories.

Andriotis (2010), Au,(2007) and Brooks and King (2012) are some examples of research that have made use of template analysis.

2. 3 PATTERN MATCHING

Pattern matching is a deductive method of qualitative data analysis which involves the prediction of a pattern of outcomes based on theoretical propositions (Yin, 1994). This prediction or testing consists of matching an 'observed pattern' (a pattern of measured values) with an 'expected pattern' (a hypothesis), you then engage in the process of data collection and

analysis comparing them in order to determine whether they match or do not (Hak & Dul, 2009).

The researcher using this approach would need to develop a conceptual or analytical framework, utilize existing theory and subsequently testing the adequacy of the framework as a means to explaining one's findings. If the pattern predicted through the framework matches that which is in the data (literal replication), the researcher would have found an explanation if possible threats to the validity of one's conclusions are discounted. It is also possible however, to get contrasting results but also for predictable reasons also known as theoretical replication (Amaratunga, Baldry, Sashar and Newton, 2002; Yin 2003)

Another variation results where the variables are independent of each other. The researcher would need to identify several alternative explanations to explain the pattern of expected outcomes. Out of these expected outcomes, only one may be valid hence the rest may be discarded. A match between any of these predicted explanations is evidence to suggest that indeed this is an explanation of your findings. Related pattern of outcomes in other similar cases is further evidence that the explanation is correct (Yin, 2003).

Another pattern-matching procedure which involves the attempt to build explanation while in the process of collecting data and analyzing them as opposed to testing predicted explanations is the Explanation building method (Yin, 2009). This method is similar to analytic induction however, it is designed to test a theoretical position although in an iterative manner. Yin posits that while his approach is similar or related to explanatory case

studies, Glaser and Strauss's (1967) hypothesis-generating approach favors exploratory studies. The explanation -building procedure involves devising a theoretically based position (which would be tested later), the collection of data which is then analyzed and compared with the already devised theoretically based position.

However, amendments can be made to the theoretically based position with regards to the initial case study. More data is then collected again and compared to the findings of the revised theoretical position. Further amendments are made until a satisfactory explanation is derived.

In as much as pattern matching is the core procedure in every theory-testing study, it lacks precision and has the risk of some interpretive discretion on the part of the researcher as well as being labor intensive. (Yin, 1994).

Hyde (2000) is an example of research that has made use of pattern matching.

2. 4 ANALYTIC INDUCTION

The method of analytic induction was formulated in 1934 by Florian Znaniecki in order to identify universal propositions and causal flaws. Johnson (2009: 165) defines it as 'the intensive examination of a strategically selected number of cases so as to empirically establish the causes of a specific phenomenon'. This means that the process of collecting and analyzing data to gain insight into a research topic or phenomenon of interest consists of repeated steps to arrive at a valid explanation and/or conclusion.

Rather than beginning the search for explanation by using already existing theories or categories determined in advance, this method of analysis carefully but intensely examines the phenomenon of interest. This method may be juxtaposed with template analysis and is an inductive version of the explanation -building procedure.

To explain the phenomenon of interest, data collected from initial case studies and observations (i. e through exploratory interviews and observation) are analyzed. Categories are then analyzed and the relationship between them recognized to enable the development of an initial definition of a proposition (Saunders, Lewin and Thornhill, 2012)

A purposive case study is then conducted to test this initial proposition which also involves further exploratory interviews or observation which might result in a redefinition or narrowing of the scope of the phenomenon understudy. At this stage, if an explanation of the phenomenon has still not been reached, further case studies may be conducted until a valid explanation is found (Ryan and Bernard, 2000: 787).

Practically, in order to develop a true explanation of the phenomenon of interest, several redefinitions are necessary. This leads to the development of in-depth well grounded explanations since there is continuous collection and analysis of rich and thorough data (Ryan and Bernard, 2000).

On one hand, there have been claims that the thorough and rigorous use of analytic induction might lead to unassailable explanations resulting in all negative cases being either accounted for by the final revised explanation or excluded by the redefinition of the phenomenon being studied. On another

hand, analytic induction has however been criticized because of issues relating to its limited representativeness and generalizability (Blacker, 2009). This results because the final explanation of the phenomenon of interest will be grounded completely in the cases from which data was collected. Thus the ability to predict under similar conditions or characteristics may be lost (Saunders, Lewis and Thornhill, 2012). It may therefore be viable to subsequently test these explanations in similar but different settings.

2. 5 THEMATIC ANALYSIS

Thematic analysis is another qualitative data analytic method which most researchers consider very useful in capturing the intricacies of meaning within a data set (Guest 2012). It is used for 'identifying, analyzing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail. However, frequently it goes further than this, and interprets various aspects of the research topic.'(Braun & Clark 2006 p. 79). Themes are patterns across data sets that are necessary for explaining a particular phenomenon and are associated to a specific research question (Daly, Kellehear and Gliksman, 1997. These themes therefore become the categories of analysis (Fereday and Muir-Cochrane, 2006). Thematic analysis involves familiarization with data, the generation of initial codes, search for themes among codes, review of themes and the definition and naming of themes before the production of the final report (Braun & Clark 2006).

Thematic analysis is suitable for the interpretation of data and is preferable when samples are predetermined and defined before the study or research commences (Alhojailan, 2012). It also offers flexibility to begin analysis at anytime during the project even when no association has been found

between the collected data and the result of the procedure (Frith & Gleeson, 2004).

Above all, it is flexible in that, one can approach research inductively or deductively. (Hollardson, 2009; Hayes, 2000).

Thematic analysis differs from other analytic methods that seek to describe patterns across qualitative data and does not require the detailed theoretical and technological knowledge of approaches such as 'thematic DA, grounded theory, interpretive phenomenological analysis and thematic decomposition analysis (Braun & Clarke, 2006). .

Thematic analysis is flexible. Through its theoretical freedom, it can provide a rich and detailed yet complex account of data (Braun & Clarke, 2006). Thematic analysis can be a realist or essentialist method which reports experiences, meanings and the reality of participants, or it can be a constructionist method, which examines the ways in which events, realities, meanings , experiences and so on are the effects of a range of discourses operating within society (Braun & Clark, 2006).

Thematic analysis can be a method that works both to reflect reality and to unpick or unravel the surface of 'reality', that is, 'contextualist' (sitting between the two poles of essentialism, constructionism and characterized by theories such as critical realism (Willig, 1999).

However, thematic analysis has been criticized as being too flexible, descriptive, labour intensive, subject to researcher bias. Also, it has limited generalizability, and poses difficulty when used to establish reliability and

validity. It is worthy to note however that many of the above disadvantages are dependent on poor analyses and or inappropriate research questions and not the method itself (Hollardson, 2009; Hayes, 2000).

SUMMARY AND CONCLUSION

This essay has critically assessed several methods of qualitative data analysis by looking at their suitability, advantages and disadvantages. These methods were content analysis, template analysis, pattern matching, analytic induction and thematic analysis. These methods are all similar in that, they can be used to analyze qualitative data as well as get in-depth meaning from participants' opinions or even written and unwritten texts. Whereas pattern matching is based on the deductive approach, the other four are based on the inductive approach.

For example, content analysis and pattern matching can be used to analyze secondary data such as an organization's annual report, texts etc. Thematic analysis and analytic induction can also be used in action research to analyze primary data collected using semi-structured, in-depth and group interviews. Template analysis though similar to content analysis makes use of predetermined categories which are then modified throughout the research process.

These methods however have a general flaw. They usually lack generalizability due to the small sample usually involved and are labor intensive since acquiring meaning is the key issue in qualitative research , data is collected continuously until a plausible explanation is reached.

Thematic analysis for instance can be used to sample the views of religious leaders towards suicide since they play a key role in the suicide prevention process. Purposively sampled clergy (e. g 10 years work experience, above thirty-five years etc) can be interviewed using a semi-structured questionnaire. The use of this type of questionnaire would enable the researcher probe further on key issues should the need arise during the interview. Data obtained can be thematically analyzed based on occurring themes to get a valid explanation of the attitudes of religious leaders towards suicide.

Finally, it is necessary that one's choice of a method of data analysis needs to be guided by the methodology to be employed in that piece of research as well as its underlying epistemological assumptions. It is worthy to note that some analytical methods are linked directly to certain methodologies while others are linked to several. More precisely, how they are used will differ from one to another.