
ADVANTAGES AND LIMITATIONS OF UTILISING THEMATIC DATA ANALYSIS IN QUALITATIVE RESEARCH

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Abstract: *This literature review critically examines the core principles, methodological frameworks, and analytical procedures underpinning qualitative research, with a specific focus on thematic data analysis. It emphasizes the significance of methodological rigor, transparency, and systematic protocols necessary to establish research credibility and derive substantively meaningful findings. The review delineates three principal qualitative research designs—ethnography, grounded theory, and case study—including their theoretical origins, primary objectives, and applicability in exploring subjective experiential data and intricate phenomena. At the core of the discussion is qualitative data analysis, centering on Braun and Clarke’s (2006) six-phase thematic analysis framework: data familiarization, initial coding, theme searching, theme reviewing, theme defining and naming, and report production. The strengths of thematic analysis are examined, notably its methodological flexibility, cross-disciplinary applicability, and capacity for generating detailed, interpretive insights. Limitations are critically analysed, including issues related to replicability, validity, methodological ambiguity, and the necessity of researcher expertise. The review concludes by affirming thematic analysis as a versatile yet complex analytical approach that mandates meticulous application to enhance the trustworthiness and rigor of qualitative research.*

Keywords: *Qualitative research, Thematic data analysis, Ethnographic Research, Grounded theory, and Case study*

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INTRODUCTION

As qualitative research gains increased recognition and significance, it is imperative that such studies are conducted with meticulous rigor and systematic procedures to generate valid and meaningful findings. Ensuring the reliability of qualitative analyses requires researchers to demonstrate that data processing is conducted with accuracy, consistency, and comprehensiveness. This entails detailed documentation, systematic organisation of analytical techniques, and transparent reporting of methodologies to enable independent evaluation of the analysis's credibility (Nowell, et.al.2017).

In line with preceding assertion, Cleland (2017) posits that qualitative research endeavours to systematically investigate individuals' subjective experiences through clear, pragmatic, and analytical approaches, employing a deliberately designed methodological framework to address specific research inquiries. Furthermore, Moser and Korsrjens (2017) assert that qualitative research is a methodological approach employed to explore and interpret complex real-world phenomena in depth, emphasising non-numerical data. This approach primarily involves the systematic collection of subjective perspectives, experiential narratives, and behavioral observations. Its principal aims are to address research questions pertaining to "why" and "how" processes occur, rather than quantifying variables or determining frequencies.

Types of Qualitative Research

There are generally three main designs under qualitative research, these are presented as follows:

Ethnographic Research

This methodology originates from cultural and social anthropology, wherein the researcher adopts an immersive participatory role within the studied community. Such engagement facilitates an in-depth investigation of the social and cultural dynamics specific to the group. Data collection employs multiple qualitative techniques, aiming to produce a comprehensive ethnographic corpus that documents contextual behaviors, actions, and events. The primary objective of ethnographic methodology is to enable the researcher to experience and interpret the lived realities of participants, capturing their behaviors and interactions from an emic perspective (Grossoehme, 2014).

Grounded Theory

Grounded Theory is a qualitative research methodology that facilitates the generation of theoretical constructs directly derived from empirical data through iterative and systematic coding, categorization, and comparison procedures. (Ravindran et al., 2024). Developed by Glaser and Strauss in the 1960s, this approach is extensively utilised across disciplines such as nursing, health sciences, psychology, and education. (Tarozzi et al., 2020). The methodology begins with the collection of qualitative data such as semi-structured interviews or direct observations and proceeds through open, axial, and selective coding phases, enabling the emergence of substantive theories anchored in the data. (Noble et al., 2016). Contrary to hypothesis-driven research paradigms, grounded theory employs an inductive process whereby theory development occurs concurrently with data collection, guided by the principle of theoretical saturation. In addition, data collection, coding, and analysis cycles continue iteratively until theoretical saturation is achieved, signified by the cessation of novel information and the stability of categories, culminating in a comprehensive, data-driven theoretical framework. (Dillon et al., 2012).

Case Study Design

A case study constitutes an in-depth, contextualized analysis of a singular event, individual, or phenomenon over a defined temporal span within a real-world environment. Such methodologies are predominantly employed to identify and dissect complex medical or socio-economic issues. Researchers utilise case studies to examine social challenges including substance dependence, commercial sex work, socioeconomic deprivation, and unemployment (Zamawe, 2015). Notably, case study research can be grounded in quantitative data, such as statistical metrics, or qualitative data derived from personal narratives and observational insights.

Qualitative Research Data Analysis

Qualitative data analysis involves systematically examining non-numeric data to identify patterns, themes, and underlying meanings. This process facilitates the transformation of extensive qualitative datasets into interpretable information that yields meaningful insights. (André, 2020). The analysis is conducted through rigorous and deliberate methodologies, including thematic analysis, grounded theory, content analysis, and narrative analysis. (Ting, Turner, Memon, & Gong, 2024). The selection of an appropriate analytical approach is critical and should be aligned with the research objectives, overall study design, and the epistemological assumptions underpinning the research paradigm. (Ting, Turner, Memon, & Gong, 2024).

In line with the preceding assertion, one of the widely used qualitative data analysis method is concerned with thematic data analysis. Ahmed, Mohammed, Nashwan, Ibrahim, Abdalla, Ameen, & Khedhir, (2025) assert that thematic analysis is a systematic qualitative research method employed for identifying, analysing, and interpreting patterns of meaning (themes) within textual data. It offers a structured yet flexible framework for detecting, examining, and comprehending the latent and manifest themes present in a dataset. Since its initial publication, the Braun and Clarke six-phase thematic analysis framework has been extensively applied across disciplines including health research, education, and social sciences (Campbell, et.al 2021).

Dawadi (2020) offers insight in the six steps involving the qualitative thematic data analysis:

Phase One: Familiarisation with the Data

The initial phase, focused on data familiarization, involves researchers systematically examining the dataset to enhance their understanding of its structure and content. During this process, they identify and categorize potential emergent themes and estimate their potential variability and frequency. This stage is critical, as it establishes a foundational framework for subsequent analytical procedures, ensuring a rigorous and informed exploration of the data.

Phase Two: Generating Initial Codes

The initial phase of data analysis, encompassing an in-depth familiarization with the dataset, facilitated the identification of preliminary insights. However, a subsequent review of the transcripts prior to coding is essential to ensure comprehensive understanding. Consequently, a researcher should conduct a meticulous re-examination of the transcripts and perform systematic coding of the entire dataset. The coding functionality within NVivo proved instrumental, enabling the assignment of multiple codes to salient segments, including phrases, sentences, or entire paragraphs.

Phase Three: Searching for Themes

This phase, as articulated by Braun and Clarke (2006), commenced with the generation of a comprehensive list of codes identified within the dataset. The primary objective was to systematically identify and interpret patterns and interrelationships both within and across the coded data (Chamberlain, 2015). Subsequently, the codes were analyzed to determine how they could be hierarchically organized into broader, more abstract themes, facilitating higher-level thematic synthesis (Braun & Clarke, 2006).

Phase Four: Reviewing Themes

At this stage, all thematic categories, including overarching master themes, primary themes, and subordinate sub-themes were deliberately integrated to enhance the initial thematic groupings and to facilitate a more structured presentation. According to Braun and Clarke (2006), themes should undergo iterative review to ensure internal coherence and consistency, as well as external distinctiveness, thereby enabling clear differentiation between individual themes.

Phase Five: Defining and Naming Themes

This phase aims to enhance the specificity and conceptual clarity of the identified themes by precisely delineating their core constructions and elucidating the overarching relationships among them. It also encompasses the mapping of each theme to relevant data subsets. According to Braun and Clarke (2006), a theme should maintain manageable scope and avoid excessive complexity.

Phase Six: Writing Report

The final phase of the analysis comprised the composition of a report detailing the findings. According to Braun and Clarke (2006), a thematic analysis report must demonstrate the validity and precision of the analysis to the audience. Consequently, considerable effort was dedicated to constructing a coherent, systematically organised, and logically structured summary that accurately represented the narrative conveyed by the data, both within individual themes and across multiple themes. This was achieved by integrating sufficient supporting evidence, including specific examples or quotations, to effectively substantiate the core concepts and interpretations articulated by the analyst.

ADVANTAGES OF QUALITATIVE THEMATIC DATA ANALYSIS

Qualitative thematic analysis is a robust and versatile research methodology that enables comprehensive and detailed insights across diverse research contexts through systematically organised yet adaptable analytical procedures. This approach offers several key advantages:

Majumdar (2019) asserts that it facilitates the development of explicit descriptions and interpretations grounded in thematic patterns, providing considerable methodological flexibility. Kiger and Varpio, (2020) describes it as an effective and adaptable qualitative research tool. Furthermore, Fuchs (2023) emphasizes its utility in enhancing theoretical development and generating nuanced interpretative frameworks. Alhojailan & Ibrahim, (2012) highlights its capacity to support both inductive and deductive pattern recognition, thereby accommodating complex relational analysis.

LIMITATIONS OF QUALITATIVE THEMATIC DATA ANALYSIS

Qualitative thematic analysis encounters several methodological challenges related to reliability, validity, and systematic implementation. Key issues include but are not limited to the following:

Replicability Concerns: Constantinou et al. (2023) highlight that standard thematic analysis requires extensive development of a comprehensive codebook and the involvement of multiple coders performing intercoder reliability checks, which is particularly complex when analysing large textual datasets.

Validity Concerns: Brooks et al. (2018) emphasize ongoing debates about the validity, reliability, and trustworthiness of qualitative analyses. Enhancing robustness may involve employing mixed methods, soliciting participant feedback, and maintaining transparency in procedural documentation.

Methodological Ambiguity: Kiger & Varpio (2020) note that thematic analysis is frequently misunderstood due to ambiguous philosophical foundations, complicating its proper application and acceptance within scholarly research.

Expertise Requirement: assert that effective application of thematic analysis necessitates trained researchers and should be adapted flexibly to align with specific research questions, rather than adhering to rigid procedural protocols. (Majumdar (2019).

Thus, researchers must carefully navigate these challenges to ensure the rigor and dependability of their qualitative research outcomes.

CONCLUSION

Qualitative research constitutes a robust and essential methodological approach for the in-depth exploration of human experiences, social phenomena, and contextual realities that are insufficiently captured by quantitative methodologies. Utilizing fundamental designs such as ethnography, grounded theory, and case studies, qualitative inquiry offers structured yet adaptable frameworks for generating richly detailed, contextualised insights into the mechanisms and rationales underlying real-world processes. Central to this paradigm is the systematic analysis of non-numerical data, with thematic analysis emerging as a predominant and versatile technique, notably exemplified by Braun and Clarke's (2006) six-phase framework. Thematic analysis provides notable advantages, including methodological flexibility, interdisciplinary applicability, and the capacity to produce nuanced, data-driven interpretations that contribute to theoretical development and practical understanding. Nonetheless, it is subject to limitations such as challenges in achieving methodological replicability, ongoing debates regarding its validity and trustworthiness, conceptual ambiguity, and the necessity for skilled implementation. Mitigating these limitations requires adherence to rigorous protocols such as transparent documentation, intercoder reliability assessments, participant validation procedures, and alignment with explicit epistemological stances to ensure the credibility and dependability of findings. Ultimately, the robustness of qualitative research, and thematic analysis specifically, derives from adherence to principles of rigor, reflexivity, and transparency. When executed with meticulous regard for these criteria, qualitative investigations generate meaningful, trustworthy insights that enhance scholarly discourse and inform evidence-based practices across disciplines



1/2026

including health sciences, education, and social sciences. As qualitative methodologies continue to evolve, researchers are encouraged to integrate their interpretive depth with systematic rigor to generate knowledge that accurately reflects the complexities inherent in human phenomena.

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