



The Strengths and Weaknesses of Research Methodology between Qualitative and Quantitative Approaches

¹Dr. Neelam Das, M.D.S., Assistant Professor, Department of Periodontology, Rama Dental College, Hospital & Research Centre, Kanpur Uttar Pradesh- 208024

Corresponding Author: Dr. Neelam Das, M.D.S., Assistant Professor, Department of Periodontology, Rama Dental College, Hospital & Research Centre, Kanpur Uttar Pradesh- 208024

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Abstract

Qualitative Research (QR) approaches are increasingly being employed in health and healthcare research, and they can be used to analyze, examine, or get a deeper knowledge of particular elements of human beliefs, attitudes, or behavior through personal experiences and viewpoints. Qualitative research is gaining popularity, and it's being used increasingly in social and cultural health-care investigations. Unlike quantitative research, which is deductive and analyses occurrences in terms of trends and frequencies, qualitative research use description to determine a phenomenon's meaning. Its purpose is to develop concepts that aid in the comprehension of natural phenomena, with a focus on the meanings, experiences, and perspectives of the participants. Qualitative research methodologies include Observation, documentary analysis, in depth interviews and focus groups. It interprets the information that people bring to study, allowing us to better understand social phenomena in natural contexts such as their own area, in their own language, and on their own terms, with a focus on the meaning, experience, and perspective of all participants. Qualitative research methodologies appear to be a viable option for addressing the issues that are

critical for today's etiological research, and they are already in use by researchers. In some ways, qualitative research complements quantitative research because it looks at more complicated phenomena and regions that quantitative research alone may not be able to cover.

Keywords: Ethnography, Grounded theory, focus groups, Phenomenology, Qualitative research.

Introduction

The word “research” is originated from the French word “researcher” which means to search and search again. Research is a scientific process that involves collecting, organizing, and analyzing data in a systematic and structured manner in order to answer a research question, solve a problem, or produce new knowledge with the purpose of making the research useful in decision-making. Earl Robert Babbie, an American Sociologist defined research as a systematic inquiry to describe, explain, predict, and control the observed phenomenon.^[1]

Qualitative research (QR) methodologies are now widely used in studies of health and healthcare's sociocultural dimensions, as well as in the creation and assessment of health policy.^[2] Beginning with the introduction of grounded theory and new publications in ethnography in

the 1960s, qualitative research has seen constant expansion. The number of books, publications, and papers related to qualitative research has increased in the last 20 years, and more researchers, particularly health-care professionals, have changed to a more qualitative paradigm, adapting and customizing these approaches to their specific study needs. [3]

Definition

The phrase "qualitative research" refers to a variety of methodological approaches aimed at producing "an in-depth and interpretive understanding of the social world" through learning about people's social and material conditions, experiences, viewpoints, and histories. [4]

Qualitative research approach enables researchers to ask a variety of research questions and investigate and comprehend phenomena from various perspectives. Rather than asking questions like "what is the prevalence of," "is there a substantial difference between," or "what are the strongest predictors of," researchers focus on the "what," "why," and "how" of a phenomenon. [2]

Some examples of qualitative research questions are

✓ How can social media influence a teenager's body image?

✓ Why do people continue to smoke despite the proof of the adverse effects of smoking being all around them and known by smokers?

✓ 'What are the barriers to using dental services for those persons who aren't using them or aren't registered with a dentist?'

✓ Quantitative methods will not be able to answer this. We must investigate people's thoughts and experiences in order to answer this topic. [2]

Difference between quantitative and qualitative research

Quantitative research relies on numerical, logical and statistical data and facts and thus it is an objective method of inquiry whereas qualitative research uses subjective style of inquiry which relies on human and social sciences to discover how people think and feel. Quantitative research deals with the cause-and-effect relationship between variables, whereas qualitative research deals with exploration and discovery of concepts employed in ongoing processes. [5] Qualitative research is explanatory in nature, whereas quantitative research is conclusive. Quantitative research employs a deductive strategy, whereas qualitative research employs an inductive strategy. Quantitative studies use quantitative data, whereas qualitative studies use verbal data. Among the methods used, Structured procedures like questionnaires and surveys are used in quantitative research, whereas approaches like in-depth interviews, group discussions, and so on are used in qualitative research which are unstructured in nature. [6]

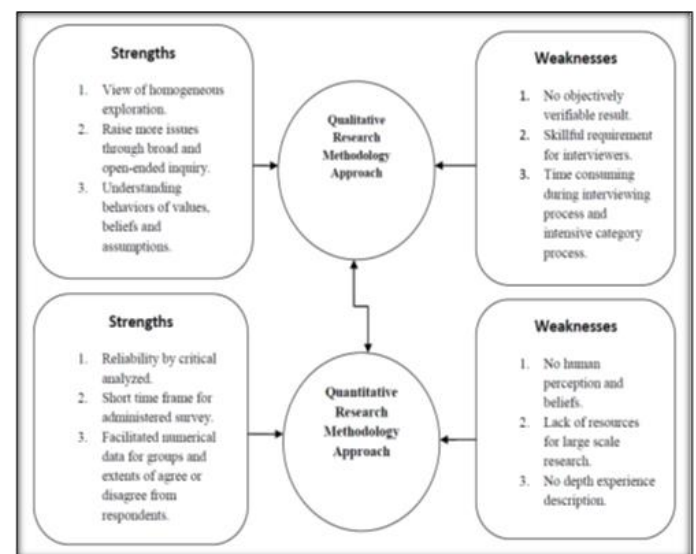


Figure 1: The model of strengths and weaknesses of qualitative and quantitative research methodologies

Advantages of qualitative research

One advantage of qualitative approaches in exploratory research is that they allow study subjects to react in one's

own terms in place of being forced to choose from pre-arranged responses, as quantitative methods do. Open-ended inquiries can elicit replies that are not demeaning and culturally appropriate to the subject, as well as ones that the researcher was not expecting and is explanatory. Another benefit of qualitative approaches is that this allows the researcher to explore original replies by the study subjects by inquiring why or how they responded in the first place. The investigator must clearly listen to what participants say, engage with the participants in such a way that it is comfortable and appropriate for their personalities and styles, and use "probes" to get them to intricate on their responses. [7]

The below mentioned are some of the benefits of qualitative research

- It allows us to follow unanticipated ideas during study and successfully examine methods, as well as increase your sensitivity to surrounding aspects.
- Complexities and intricacies in the research subjects can be avoided.
- It intensifies the ability to study social significance of phenomena.
- Data available helps in creating research frameworks.
- Interviews aren't constrained by a list of questions and can be diverted in real time by researchers.
- As the information is extracted from human observations and experiences, they are more captivating and powerful.
- More substance is available for the development of new ideas.
- As soon as possible, the study direction and framework might be updated.
- It enhances the likelihood of producing empirically backed novel ideas and theories, as well as in-depth and longitudinal investigations of leadership phenomena, as

well as increased relevance and interest among practitioners. [8]

Disadvantages of qualitative research

- It isn't statistically significant.
- Data is more difficult to evaluate, prove, and keep.
- Data is typically collected from a limited number of individuals or instances. So it is difficult to share the findings and consequences with a larger audience. [9]
- Due to the bulk volume of data, lengthy interpretation and analysis are required.
- The influence of the researcher can have a negative impact on the data collected.
- During the study process, unseen data can disappear.
- Replicating outcomes can be tricky and cumbersome.
- Difficult decisions may necessitate longer research duration. [10]

Characteristics of qualitative research

- They capture data in real time and at a glance where participants are having issues.
- Data is gathered in a variety of ways, including interviews, observations, and documents.
- Assists in the resolution of difficult situations by reducing them down into relevant inferences that are simple to read and comprehend.
- Allows participants to develop trust in the researcher, resulting in raw and unadulterated data. [11]

Types of qualitative research

1. Ethnographic Research
2. Case study
3. Grounded theory
4. Phenomenological method
5. Narrative method
6. Historical method

Ethnographic research

According to Cameron, ethnography is “learning from people”. Ethnography is defined as “The systematic process of observing, detailing, describing, documenting, and analyzing the life ways or particular patterns of a culture (or subculture) in order to grasp the life ways or patterns of the people in their familiar environment”.^[9]

The goal of ethnographic research is to track a full picture of the social group being investigated by documenting features of its cultural and social system.

The history, religion, economy, politics, and environment of the stud group could all be considered. Ethnography is a qualitative method for addressing a certain type of research issue.

Ethnography, according to Le Compete and Schensul, should be used to:

- ✓ Define a problem when it isn't apparent what the problem is.
- ✓ Define a problem, when the problem is complicated and ingrained in diverse systems or sectors.
- ✓ Ethnographic study clarifies the range of settings where an issue or scenario now occurs when not all of the available settings have been fully identified, known, or understood.
- ✓ When the elements associated to a problem are unaware by the people, Ethnographic research find out them to understand, and treat the problem through further research or experiments.^[12]

Limitations

- 1) The ethnography method has its limitation in terms of sample size. Because of the time spent in observing people and conducting extensive prolonged interviews, the sample size is severely limited.
- 2) Data collecting is time-consuming and meticulous.

3) The ethnographic method makes it harder to generalize. When studying a particular culture, it is not possible to implement the study findings to outside population in whom the study is not conducted.

4) The conclusions are based on cultural responses; the findings cannot be applied outside of the study area.^[5]

Case study

Case study is defined as “Researcher explores in-depth a program, an event, an activity, a process, or one or more individuals”.^[13] Case studies are categorized as quantitative or qualitative research based on the study's purpose and design. The design of case study is in depth interviews of single or group participants. These were one of the primeval sorts of qualitative research to be used in the field. It is carried out utilizing a variety of methods, including questionnaires, interviews, observations, written testimonies, and audiovisual materials. A case study can be used in a situation like when a researcher wants to study a classroom which is offered by a technology based new curriculum.^[9]

Grounded theory

In 1967, two sociologists, Barney Glaser and Anselm Strauss, published a book named "The Discovery of the Grounded Theory," which was based on real-life observations. Grounded theory was adapted from this book. The grounded theory was characterized by these two authors as "The theory that was produced from evidence that was collected in a methodical manner and assessed during the study process. Grounded Theory (GT) is a research method that focuses on the development of theories that are "grounded" in evidence that has been systematically gathered and assessed." Grounded theory is used for studying human behaviors and social interactions which are referred to as social processes. Grounded theory, on the other hand, starts

with data collection based on a question rather than the goal of testing a hypothesis. ^[14]

Phenomenological method

Phenomenology is defined as the study of the shared meaning of a phenomenon's experience for a group of people. Phenomenology is the study of things in its most basic form (phenomena). The main goal of the method is to put forward a description of the nature of the issue. ^[13]

Phenomenology is a form of investigation into people's daily lives. When the research is focused on one or more people's personal life experiences with a concept or phenomenon, this strategy is utilized. A phenomenologist is a person who studies subjective experiences. Participant observation, In-depth interviews with open-ended questions and conversations and focus workshops are the methods used to collect data in phenomenological method. Researchers can also look at diaries, journals, art, poetry, and music for written records of their experiences. ^[15]

Narrative method

It's an approach that entails analyzing the narrative text's qualities, as well as, more recently, the meaning of inter-human relationships in social, historical, and cultural settings. Rather than checking for patterns that arise from an account, it concentrates on the sequential unraveling of someone's story, with an emphasis on people. It is time consuming and usually only involves a limited number of cases. Narrative method is used when the study matter of interest is biographical or a life history, or an oral history or when the study focuses classrooms and pupils, or stories about organizations. ^[9]

Historical method

Historical research is one strategy for detailing how and where the study originated, how it derived over time, and where it stands now. Historical method or historiography

is the study of historical facts. Historical research is defined by F.N. Kerlinger as "Critical investigation of events, development, and experiences of the past, careful consideration of past testimonies from the perspective of information sources validity and subsequent interpretation of the concerned testimonies".

Source of data includes

- 1) Primary sources - firsthand information or direct proof - are one type of historical data source. These are original documents that have been discovered in archives.
- 2) Secondary sources - These serve as a supplement to primary sources, as they come from a time period following the reported times, events, or facts.
- 3) Official records like data collected from registries, government organizations or other institutions,
- 4) Private materials which include daily diaries, auto biography, etc. ^[9]

Qualitative research methodologies

- 1) In Depth interview
- 2) Focus Group
- 3) Observation
- 4) Documentary Analysis

In-Depth Interview

In-depth interviewing is a qualitative research technique that requires conducting in-depth individual interviews for a tiny group of respondents to understand about their viewpoints about a specific topic, program, or situation. When we need comprehensive information about a person's beliefs and behaviors, or we want to analyze extensively into a novel topic, in-depth interviews are helpful. An in-depth interview is a one-on-one method of gathering information. An interviewer and an interviewee converse about a specific topic in depth. ^[16] The interviewer uses a semi-structured interview guide to get

insight into the situation. Face-to-face or — in some situations — over-the-phone in-depth interviews are possible.^[17]

Focus group

Focus group is defined as "a group conversation on a specified topic organized for research objectives, which is supervised, observed, and documented by the researcher." A successful focus group relies on interaction. This method entails an interactive discussion between six to eight pre-selected participants, overseen by an expert moderator who concentrates on a certain set of subjects. This strategy generates a wide range of viewpoints on the research topic in 60–90 minutes by creating a comfortable environment in which participants feel free to share their true feelings. A group of 6-10 people, generally 8, gather to investigate and debate an issue. The group discusses the subject and disseminate their thoughts, ideas, information, and perspectives.^[17]

Observation

Observation is "the methodical description of events, actions, and artifacts in the social setting chosen for research," according to the definition. Observation entails systematically studying study subjects in their natural environments to learn about their behavior and interactions with one another. In this case, the researcher functions as a study instrument, watching and interviewing participants in ordinary situations.^[2]

Documentary analysis

This method makes use of documents that have been solicited for research purposes. This could include people keeping a diary for specific study notes or works that previously exist like magazines and books. In today's world, this strategy has developed to include the usage of websites. Minutes from meetings, departmental policies, publications from national and provincial groups, and

newspaper stories are examples of primary materials that a researcher could examine for data.^[18]

Analysis of data

Because the acquired raw data only provides a description, qualitative research frequently yields a great amount of data to analyze. In order to interpret and explain data, the researcher must be able to conduct systematic searches and meticulous detection. In qualitative research, data analysis is the process of meticulously searching and organizing interview transcripts, observation notes, and other non-textual resources gathered by the investigator in order to gain a deeper understanding of the phenomenon. Unlike quantitative research, which frequently employs statistical analysis, qualitative research deals with large amounts of non-numerical data, necessitating the employment of a clear classification and indexing system in order to answer the overall research issues. In general, there are two ways to qualitative data analysis: Researchers must choose a data analysis method that is appropriate for their study questions and data. The deductive approach is usually utilized in investigations where the researcher already has a framework in mind for analyzing the data. In contrast to the preset framework, the inductive approach derives the theme framework from actual obtained facts.^[19] In qualitative research, thematic analysis is the most widely utilized method. The characteristic of qualitative data analysis is the inductive process, which implies shooting questions of the large data gathered from diverse sources about a phenomenon. Preparing data, reading and reflecting, coding, categorizing and generating themes/conceptual models or theory are all steps in data analysis.^[20]

Conclusion

Qualitative research is becoming more important in understanding the social, cultural, and economic aspects that influence an individual's health and health care, as well as the health of the population as a whole. The utilization of qualitative research in the field of health care helps to broaden the evidence base and practice by allowing researchers to address crucial research issues that are difficult to effectively answer using qualitative methodologies alone. Combining quantitative and qualitative methodologies can help you gain a deeper understanding of any phenomenon. The adoption of QR into practice, on the other hand, will only be successful if the findings are founded on strong scientific techniques and result in conclusions that are easily comprehended. For the conduct of qualitative health research and its inclusion in systematic reviews, certain norms, standards, and practices have been developed. However, health researchers are less familiar with these, as many still regard quantitative studies, particularly the randomized controlled trial, as the "gold standard" of research.

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