

THE RIVALRY BETWEEN QUANTITATIVE AND QUALITATIVE TECHNIQUES IN SOCIOLOGICAL RESEARCH: A DISCOURSE

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Abstract

This paper examined quantitative and qualitative techniques as applicable to sociological research. It reviewed their characteristics, merits and problems and decried seeming rivalry and tendency for some sociologists to view the two approaches in opposition. It argues that although either quantitative or qualitative technique may have comparative advantage in some specific research circumstances, yet the two techniques are mutually inclusive and complement each other in sociological inquiry. The two techniques are therefore relevant for fuller appreciation of social reality.

Keywords: Rivalry, Quantitative, Qualitative, Research, Mutual co-existence, Complementary

Introduction

The Discipline of Sociology and Methodological Controversy: An Introduction of crucial importance to disciplines in the natural and social sciences is the need for studies to be anchored on well articulated, relevant, systematic and replicable methodology. This constitutes a foremost criterion for acceptance of research findings and ensures disciplined, non-haphazard approach to the serious business of research undertaking.

The commitment of the discipline of sociology to the tenets of scientific method has continued to deepen and attract followership since the days of Auguste Comte. Okolocha (1988) acknowledges that a number of sociologists have joined Comte in his advocacy of scientific sociology, the veritable queen of sciences. The logic, standardized procedure, empiricism and objectivity which underlie scientific method have over the years helped sociologists to answer many substantive questions about human social behaviour and social conditions. The scientific approach has been instrumental to the ability of sociologists to understand, explain, predict and control social phenomena.

Nonetheless, there has also been unresolved controversy regarding the suitability of certain techniques of inquiry to the sociology discipline. First, there is the debate between positivists and subjectivists regarding the extent to which the logic of scientific method (as applicable in the natural sciences) could be usefully applied without variations to all subjects under investigation in the field of sociology. For instance, while Durkheim (1938:13) argued that social facts which he identified as subject matter of sociology could

be investigated objectively as external things using natural science methods, Hughes (1980) and Shutz (1963) in their separate works favored distinct methods for the social sciences, sociology inclusive.

For Hughes (1980:67), human social behaviors were always imbued with values. He argued that reliable knowledge of a culture could only be gained by isolating the common ideas, the feelings, or the goals of a particular historical period. It was these that made each act subjectively meaningful. He emphasized that an observer as a human being studying other human beings, had access to the cultural world of others through some form of imaginative reconstruction or empathy.

Similarly, Berger (1972:189) cautions against scientific neutrality and objectivity in sociology noting that in addition to values which are inherent in the scientific enterprise of sociology itself, the discipline has other traits that assign it to the vicinity of the humanities if they do not indeed indicate it belongs fully with them. Alemika (2002:32) adopts a completely different and not too critical approach to either sides of the debate. He notes that although positivist methodology is dominant in sociology and political science, subjectivist methodology is also employed by a large number of scholars within the two disciplines. This underscores the relevance and complementary role of both methods to the discipline.

The interest in disengaged, value-free and non-ideological sociology which gained further momentum after World War II (Friedrich, 1970) stimulated the platform for the rivalry or contest for supremacy between quantitative and qualitative techniques in the discipline. Interestingly, the end to this rivalry or debate appears not in sight as scholars have increasingly shown commitment and loyalty to either quantitative or qualitative methods. This is because of their different convictions about the suitability and ability of a particular technique to yield valid and reliable results in the specific circumstance dictated by the subject matter of investigation.

Against the backdrop of the highlighted controversy, the objectives of this review paper are

- i. To examine the meaning, distinguishing features and necessitating subject areas for quantitative and qualitative methods in sociology.
- ii. To account for the current position and results of the rivalry between the two methodological approaches in sociology
- iii. To identify the areas of strength and weakness of quantitative and qualitative methods when each of them is used exclusively.
- iv. To x-ray possible areas of agreement and co-operation between the two approaches and review the outcomes of such co-operation in the recent past.
- v. To examine the factors or subjects that impose preferences for either methods in Sociology and Anthropology.

Overview of Qualitative Methodology in Sociology

Hammersley (1981) quoted in Nwanunobi (2002: 38) described the qualitative method as the range of research techniques using unstructured forms of data collection,

both interviewing and observation, and employing verbal description and explanations rather than quantitative measurement and statistical analysis

Ezeah (2004:62) sees qualitative research as basically involving data in the form of words, pictures, descriptions or narratives which are collected where few cases are involved. Neill (2007) notes that in contrast to quantitative research which involves analysis of numerical data, qualitative method involves analysis of data such as words (e.g. from interviews), pictures (e.g. video) or objects (e.g. an artifact).

Purpose of Qualitative Methodology

The primary aim of qualitative method is to achieve a complete, detailed description of the phenomenon under study. It aims at interpreting the situation and to understand the different context of similar events or the different perspectives of actors in the circumstance. Qualitative method is particularly suitable for investigation and description of social life. Nwanunobi (2002:38) observes that advocates of qualitative methodology see it as a great asset to social research. He notes that the reduction of concepts to quantifiable variables (as in quantitative method) is likely to distort the essence of social life being studied. For him, qualitative methodology is sufficiently equipped to study local and small-scale levels of group interactions where there is need to understand the diverse strands of social participation.

On his part, Neill (2007) opines that the purpose of qualitative inquiry is to generate rich data in the form of words, pictures or objects. He adds that this will be achieved through a detailed and time-consuming research process in which the researcher tends to become subjectively immersed in the subject matter.

Arguments Supporting Qualitative Inquiry

A lot of arguments have been advanced by scholars in support of qualitative method. Marshal and Rossman (1980) summarized the salient points of these arguments as follows:-

- Human behaviour is significantly influenced by the setting in which it occurs; thus one must study that behaviour in situations. The physical setting e.g schedules, space, pay and rewards and the internalized notions of norms, traditions, roles, and values are crucial contextual variables. Research must be conducted in the setting where all the contextual variables are operating.
- The research techniques themselves, in experimental research, (can) affect the findings. The lab, the questionnaire, and so on, (can) become artifact. Subjects (can become) either suspicious or wary, or they (can become) aware of what the researchers want and try to please them. Additionally, subjects sometimes do not know their feelings, interactions, and behaviors, so they cannot articulate them to respond to a questionnaire.
- One cannot understand human behavior without understanding the framework within which subjects interpret their thoughts, feelings and actions. Researchers

need to understand the framework. In fact the 'objective' scientist, by coding and standardizing, may destroy valuable data while imposing her world on the subjects.

- Field study research can explore the processes and meaning of events.

Features of Qualitative Design

The features of qualitative design derive from its aims, supporting arguments and overall philosophy. In their separate works, Merriam (1988), Glesne and Peshkin (1992) and Creswell (1994) outlined some of the features of qualitative approach as follows:-

- a. It holds that the nature of reality is multiple, socially constructed, time and context bound.
- b. Qualitative researchers are concerned primarily with process, rather than outcomes of products.
- c. Qualitative researchers are interested in meaning; how people make sense of their lives, experiences, and their structures of the world.
- d. The qualitative researcher is the primary instrument for data collection and analysis. Data are mediated through this human instrument, rather than through inventories, questionnaires, or machines.
- e. Qualitative research involves fieldwork. The researcher physically goes to the people, setting, site, or institution to observe or record behaviour in its natural setting.
- f. Qualitative research is descriptive in that the researcher is interested in process, meaning, and understanding gained through words or pictures.
- g. The process of qualitative research is inductive in that the researcher builds abstractions, concepts, hypotheses, and theories from details.
- h. Inquiry is value bound unlike quantitative approach which is value free.

Level of Application of Qualitative Method

Whereas Neill (2007) opines that qualitative techniques are recommended during earlier phases of research projects, Nwanunobi (2002:39) contends that the technique is applicable to the three levels - preliminary, principal and evaluation or validation levels of scientific research. He stressed that at the preliminary stage, qualitative method is used in the formulation of operating concepts and at the principal level as the main research tool while at the final stages of research, it enhances the further appreciation of the end product.

Qualitative method is suitable for investigation of various aspects of culture and the analysis of informal, sensitive or complex relationships which could not be quantified. It is ideal in situations where quantitative techniques could exclude important details of the phenomenon being studied.

Apart from the disciplines of Sociology and Anthropology, qualitative methodology is also used in other social sciences like Political Science and Psychology.

Strengths and Weakness of Qualitative Methods When Used Exclusively

The strengths of qualitative techniques in Sociology are embedded in the key assumptions and the arguments in favour of the method which we have earlier discussed.

However the most important benefit of the technique lies in its ability to address most of the short-comings of the quantitative method in the study of social life. For instance, by using the researcher as the tool or instrument of research, qualitative technique guards against error arising from use of wrong or incomprehensible tool which may be strange to the respondent.

Another advantage of qualitative technique lies in its preference to exploring the processes and meanings of events. Rather than emphasize standardization; it focuses on the peculiar framework or setting within which subjects interpret their thoughts, feelings and actions. This is because it appreciates that human social behaviour is significantly influenced by the setting in which it occurs. By conducting research in the setting where all the contextual variables are operating, qualitative method is able to pick the minute details of social life which could be missed by other methods.

However, a major challenge to qualitative method is that the researcher's inability to blend or his over-involvement in the activities of the study population, have negative implications for the creditability and reliability of his findings. Secondly, the emphasis on subjective interpretation could derail the argument and breed partiality and sentiments. In the process, substantial parts of the evidence (depending on what elements are of the interest to researcher) could be swept under the carpet.

Neuman (2000:76) notes that qualitative method is too subjective and relativist. It treats people's ideas as more important than actual conditions and focuses on localized, micro-level, short-term settings while ignoring the broader and long term context.

Types of Qualitative Methods

The following are the types of qualitative methods which are however not mutually exclusive:

- (a) **Participant Observation** This is a qualitative method of investigation of small group where the researcher becomes a member of the group he studies for a period of time. The observer must in addition master the language of the host - group and should preferably focus on groups that are of the same sex with him or her. Whether participant observation is employed for descriptive, structural and contrastive assignments (Obikeze 1990:64), the researcher's position has not only a physical proximity but also a strong psychological element to it (Nwanunobi, 2002:41).
- (b) **Focus Group Discussion** This method gather data on subject of study from a carefully selected group of 8-12 persons. The researcher facilitates discussions but avoids leading the group or imposing his views on them. The criteria for selection of members ensure that there are no bottlenecks to free discussions within the group.
- (c) **Documentary Sources** This is a secondary source of data collection. There are three major types
 - (i) **Official Documentary Sources** Encompasses documents in the custody of governments, archives, corporate bodies and organizations. Documents here are classified as restricted to the members of the public. They could be labeled 'Classified', 'Confidential', 'Secret', 'Top secret' etc.

- (ii) **Public Documentary Sources** They are restricted and could be obtained from appropriate vendors. Examples are journals, books, census reports, periodicals, and official statistics of various types.
- (iii) **Personal Documentary Sources** These include family records, dairies, memoirs and other documents that are private property of individuals. Such documents should be used with caution as they could be distorted or deliberately loaded with data that boost the image of their owners.
- (d) **In Depth Interview** In this method, detailed interview is administered on few individuals identified as possessing detailed knowledge of the subject of study. For instance, leaders of a group under investigation could be interviewed in depth using a guide. -Clinical interviewø used by psychiatrist, social workers, and medical officers and -investigative interviewø use in crime investigation come under the ambit of in-depth interviews.

Other types of Qualitative Method Include:

- (e) Case Studies and case histories.
- (f) Projective Techniques.

Overview of Quantitative Methodology in Sociology

Quantitative research involves analysis of numerical data. According to Obasi (2002:79), quantitative method is a scientific way of investigating phenomena that are amenable to empirical measurement and verification. It deals with quantities and relationships between attributes.

Assumptions of Quantitative Research

Quantitative methodology is rooted in the positivist tradition. This tradition argues that there is a common objective reality across individuals which can be verified through the scientific method (ie social facts have an objective reality).

On the basis of its positive disposition, the method also assumes that human behaviour and attitudes can be measured using numbers which are exposed to statistical applications. For them, the key to understanding social life is to focus on issues that can be observed, measured and verified.

Aim /Purpose of Quantitative Method

The aim of quantitative method is to classify features, count them and construct statistical models in attempt to explain what is observed. It wants to generalize, predict and offer causal explanations to events in social life of groups.

Features of Quantitative Methods Obasi (2002:80) summarized the major features of quantitative methodology as follows:-

- There is belief that common objective reality exists across individuals, and this can be tested subject to laws of scientific method.
- There is belief in the regular occurrence of social realities which researchers should discover.

- There is insistence on observation and verification of empirical phenomena.
- There is emphasis on measurement and quantification that permit statistical analysis.
- There is emphasis on the adoption of appropriate techniques that permit quantification.
- Value neutrality is the guiding principle.
- There is emphasis on systemization of knowledge.

Strengths and Weaknesses of Quantitative Methodology When Used Exclusively

A major strength of quantitative method is that inquiry is value free. The researcher tends to remain objectively separated from the subject matter from the beginning to the end.

Secondly, precise measurement and hypothesis testing which are fundamental to quantitative approach enhance the appreciation of causal linkages and generalizability of findings.

On the other hand, one of the most important criticisms of quantitative methodology is that it reduces human beings to mere statistical figures. It fails to deal with the meanings of real people and their capacity to feel and think. It also ignores the social context of research and as such is anti-humanist

Types of Quantitative Methodology Obasi (2002:80) lists examples of quantitative method to include survey method, Experimental method, Quasi-Experimental Method and use of statistical method.

- (a) Survey Method** This is research that has to do with overview of a large population. It could take the forms of total survey, sample survey, cross-sectional survey and longitudinal survey (Ezeah 2004:20-21). In surveys, data is acquired from the population through questionnaire or interview schedules. Such data is subsequently analyzed statistically.
- (b) Experimental Method** This involves a deliberate manipulation of related variables and population samples to ascertain the relationship of one to another (Anikpo, 2006:40). The features of experimental method include the following:-
 - There are experimental and control groups
 - Presence of independent and dependent variables
 - Pre-testing and post-testing measures
 - Random assignment of people into experimental and control groups.
- (c) Quasi-Experimental Method** This method does not strictly follow the standardized experimental strategy. It allows researchers to test for causal relationships using diverse scientifically inclined approaches.
- (d) Use of Statistical Method** This is a method that depends on secondary information either published in form of statistical documents or as unpublished statistical records.

SUMMARY TABLE ON “QUANTITATIVE VERSUS QUALITATIVE RESEARCH”

The table is based on the submissions of Neil (2007), Neuman (2000), Creswell (1994) and Merriam (1988)

QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
<p>Approach</p> <ul style="list-style-type: none"> • Begins with hypothesis and theories • Manipulation and control • Use of formal instruments • Experimentation • Deductive • All aspects of the study are carefully designed before data is collected • Component analysis • Seeks consensus, the norm • Reduces data to numerical indices • Abstract language in write-up • Procedures are standard and replication is assumed. • Measures are systematically created before data collection and are standardized • Inquiry is value ófree • Objective- seeks precise measurement and analysis of target concepts. • Theory is largely causal and deductive 	<p>Approach</p> <ul style="list-style-type: none"> • Ends with hypothesis and grounded theory • Emergence and portrayal • Researcher as instrument • Naturalistic • Inductive • The design emerges as the study unfolds • Searches for patterns • Seeks pluralism, complexity • Makes minor use of numerical indices • Descriptive write-up • Research procedures are particular and replication are very rare • Measures are created in an ad hoc manner and are specific to individual researcher • Inquiry is value-laden • Subjective óindividualsø interpretation of events is important • Theory can be causal and non-causal
<p>Tools</p> <ul style="list-style-type: none"> • Researcher uses tools such as questionnaires to collect numerical data. 	<p>Tools</p> <ul style="list-style-type: none"> • Researcher is the data gathering instrument
<p>Nature of Data</p> <ul style="list-style-type: none"> • Data in the form of numbers and statistics • Data is efficient but may miss contextual details 	<p>Nature of Data</p> <ul style="list-style-type: none"> • Data in the form of words, pictures or objects • Data are rich, time óconsuming and less generalizable
<p>Researcher Role</p> <ul style="list-style-type: none"> • Detachment and impartiality • Objective portrayal 	<p>Researcher Role</p> <ul style="list-style-type: none"> • Personal Involvement and partiality • Empathic understanding

QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
<p>Assumptions</p> <ul style="list-style-type: none"> • Social facts have objective reality • Primacy of method • Variables can be identified and relationships measured • Reality is single • Etic (outsider's point of view) 	<p>Assumptions</p> <ul style="list-style-type: none"> • Reality is socially constructed • Primacy of subject matter • Variables are complex, interwoven and difficult to measure • Reality is multiple • Emic (insider's point of view)
<p>Purpose /Aim</p> <ul style="list-style-type: none"> • The aim is to classify features, cut them and construct statistical models in attempt to explain what is observed. • Generalizability • Prediction • Causal explanations 	<p>Purpose/Aim</p> <ul style="list-style-type: none"> • The aim is a complete, detailed description • Contextualization • Interpretation • Understanding actors' perspectives.
<p>Advance knowledge on inquest</p> <ul style="list-style-type: none"> • Researcher knows clearly in advance what he/she is looking for 	<p>Advance knowledge on Inquest</p> <ul style="list-style-type: none"> • Researcher may only know roughly in advance what he/she is looking for.
<p>Approach</p> <ul style="list-style-type: none"> • Begins with hypothesis and theories • Manipulation and control • Use of formal instruments • Experimentation • Deductive • All aspects of the study are carefully designed before data is collected • Component analysis • Seeks consensus, the norm • Reduces data to numerical indices • Abstract language in write-up • Procedures are standard and replication is assumed. • Measures are systematically created before data collection and are standardized • Inquiry is value free • Objective- seeks precise measurement and analysis of target concepts. • Theory is largely causal and deductive 	<p>Approach</p> <ul style="list-style-type: none"> • Ends with hypothesis and grounded theory • Emergence and portrayal • Researcher as instrument • Naturalistic • Inductive • The design emerges as the study unfolds • Searches for patterns • Seeks pluralism, complexity • Makes minor use of numerical indices • Descriptive write-up • Research procedures are particular and replication are very rare • Measures are created in an ad hoc manner and are specific to individual researcher • Inquiry is value-laden • Subjective individuals' interpretation of events is important • Theory can be causal and non-causal

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Current Position of “Quantitative-Qualitative Rivalry” in Sociology and the Benefits of Co-Existence and Co-Operation

Although Lincoln and Guba (1985) perceive quantitative and qualitative approaches as incompatible, other scholars are increasingly de-emphasizing antagonistic relationship between the two methods. There is a new realization that overly focusing on the debate of “quantitative versus qualitative” erroneously frame the methods in opposition. The correct position is that the two approaches are not necessarily mutually exclusive; hence the need for social scientists to develop skills in both realms than debating which method is superior.

Secondly, it is now known that it is wrong for quantitative researchers to apply their standards to qualitative research or vice versa. Each functions within different assumptions. Finding faults with one approach with the standards of another does little to promote understanding. Each approach should be judged on its theoretical basis. At the same time, the fact that the two methods actually complement each other in social research, make dissipation of energy in search of contrasts unnecessary. Campbell quoted in Mills and Huberman (1994:40) underlines the complementary nature of quantitative and qualitative research when he states that “all research ultimately has a qualitative grounding”. Nwanunobi (2002:38) similarly acknowledges that qualitative and quantitative methods could be used singly or in combination with the other depending on the nature of research.

Co-operation between quantitative and qualitative methods will yield the following benefits.

- i. Promotes mixed method research which exposes the minutest details of subject of investigation.
- ii. Researchers will enjoy the benefits of numbers and words simultaneously.
- iii. The tendency for people to adhere to the method that is most consonant with their socialized worldview without critically examining their relevance in the present circumstance will be a thing of the past.
- iv. Different approaches allow us to know and understand different things about the world.

Conclusion

The rivalry between quantitative and qualitative research has been perennial and full of thought provoking debates especially in the social sciences. Apart from distinctive features of the two methods, scholars appear to polarize themselves in three major groups according to the nature of their allegiance to the two methods.

There are those who believe strongly in either quantitative or qualitative and see the two approaches as incompatible. A third group which represent the current shade of opinion understands that the two methods could be used singly in specific circumstances where they have comparative advantage. They could also be combined by a skilled researcher.

Notwithstanding methodological differences, quantitative and qualitative techniques are mutually inclusive and complement each other. Combination of the two approaches in Sociology will enhance fuller appreciation of embodiments of social life of groups.

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