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# **A Review of Common Research Methodologies Used in Social Sciences**

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## **Abstract**

This review will consider the research methodologies that are widely applied in the social sciences with a focus on their philosophical underpinnings, their use, their advantages, and their drawbacks. It addresses the issues of quantitative, qualitative, and mixed-methods research, and shows the role of each methodology in gaining the insight into the complex social phenomena. The review provides the description of the main data collection methods, such as the surveys, interviews, observations, and secondary data analysis, as well as the main ethical aspects of the research, such as informed consent, confidentiality, and safeguarding the vulnerable population. The latest developments in the form of big data analytics, artificial intelligence, digital ethnography, and open science practices are also discussed highlighting the necessity of growing flexibility of methods, rigor, and integration in modern social science studies.

*Keywords; Interpretivism, Positivism, Pragmatism, Quantitative Research, Qualitative Research.*

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## **1 INTRODUCTION**

The social science studies are important in the interpretation, explanation, and understanding of human behaviour, social interaction, institutional structures, and changes in the society. Sociology, economics, political science, psychology, education, anthropology, and social work

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are all disciplines which depend on systematic research methodologies in order to produce reliable and valid knowledge [1]. However, in contrast to natural sciences, controlled experiments prevail, social sciences, in turn, are associated with complex, dynamic, and context-specific human phenomena. Consequently, social sciences have a wide variety of research methods, which aim at capturing both measurable and subjective experiences [2]. The development of the social science research has over the years been shaped by philosophical arguments about the nature of reality, knowledge and scientific inquiry. Positivism traditions focused on objectivity, quantification and hypothesis testing, which resulted into the extensive use of quantitative methods [3], [4]. Conversely, interpretivist and constructivist views were that social reality is socially constructed and can be grasped best by a qualitative inquiry. More recently, pragmatic methods have promoted a combination of two or more methods to solve complicated research questions and have led to mixed-methods research [5]. With the ever-increasing complexity of social issues, poverty, inequality, governance, education reform, public health, and globalization being a few of them, there have been increased demands towards rigorous and context-specific research methodologies. The social science research is becoming more and more essential in the decision-making process of policymakers, practitioners, and academics and in the assessment of interventions. Thus, selecting the right methodology of research is very essential in determining the credibility, applicability, and relevance of research [6].

### **Philosophical Foundations of Social Science Research**

Social sciences have research methods that are entrenched in philosophical beliefs about reality (ontology), knowledge (epistemology) and the place of values (axiology). These foundations are critical in understanding of an appropriate research approach [7].

- 1. Positivism:** Positivism presupposes that social phenomena could be observed, measured and analyzed objectively like in natural sciences. Positivist scholars stress empirical observation, hypothesis testing and statistical analysis. Such paradigm has played a huge role in quantitative research methods like surveys and experiments.
- 2. Interpretivism:** The interpretation approach is a criticism of the positivism approach that focuses on the social reality as being subjective. It claims that the only way one can explain human behavior is by getting to know the meaning people place on their actions. Interviews and ethnography are the qualitative methods that have been closely linked with this paradigm.

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- 3. Pragmatism:** Pragmatism pays attention to practical solutions and research findings as opposed to philosophical purity. It is favourable to various approaches to research questions. Mixed-methods research is mainly based on pragmatism.

### **Quantitative Research Methodologies**

Quantitative research methods are popular among social sciences to investigate the relationships existing between variables and to test the hypothesis by means of numerical data [8].

- 1. Survey Research:** Survey research is where a sample population is studied and they fill in structured questionnaires. The attitude, behaviors and social trends are mostly studied using it. The use of surveys permits generalization of the results in case representative samples are employed.
- 2. Experimental and Quasi-Experimental Research:** Experimental research aims at determining causal relationships by controlling external variables through manipulation of independent variables. True experiments may be challenging in social sciences because of the ethical and practical limitations. Quasi experimental designs are often used in place of the experimental designs.
- 3. Statistical and Econometric Analysis:** The methods of advanced statistics, such as regression analysis, factor analysis, and structural equation modeling, are common in economics, sociology, and political science. These are techniques that increase the accuracy and elucidatory strength of quantitative studies.

### **Qualitative Research Methodologies**

Qualitative research designs are based on in-depth comprehension of social phenomena through research of meanings, experience, and social situations [9].

- 1. Case Study Research:** Case studies entail an analysis of one case or few cases in real-life setting. The approach can be especially relevant in investigating social processes and institutional practices that are difficult to understand.
- 2. Interviews and Focus Groups:** Focus groups and interviews allow the researcher to gather high-quality and in-depth information on the outlook of the participants. Exploratory and interpretive studies usually require semi-structured and unstructured interviews.

- 3. Ethnography and Participant Observation:** Ethnography is a long term interaction with a social group or community to learn the cultural practices and social interactions. Participant observation enables one to have a first hand experience of social behavior.

### **Mixed-Methods Research**

In mixed-methods research, the quantitative and qualitative methodologies are combined in one study. This approach is a more holistic approach to research issues because it offers a mixture of numerical and cultural interpretation [10].

- 1. Sequential and Concurrent Designs:** Mixed-method designs may be sequential, one method is followed by another method, or concurrent such that both methods are collected at the same time. All the designs have various research functions and contribute to the methodological rigor.
- 2. Strengths of Mixed-Methods Research:** The existing empirical evidence indicates that mixed-methods research enhances validity, triangulation, and depth of analysis. It is applied especially in policy research and evaluation of a program.

### **Data Collection Techniques in Social Sciences**

The methods of data collection are different based on the research goals and methods [11].

- 1. Primary Data Collection:** Primary data are gathered by surveying, interviewing, observing and experimenting directly upon the participants. Primary data are those that give first hand information depending on the aims of the research.
- 2. Secondary Data Analysis:** Secondary data involve and consist of available data on such datasets, government reports, census and archival records. The secondary data analysis is also relatively cheap and facilitates longitudinal and comparative studies.

### **Ethical Considerations in Social Science Research**

We can take a peep into some of the significant ethical issues in social research [12].

- **Informed Consent:** One of the fundamental ethical principles of scientific studies of human population is informed consent. The researchers should get informed consent of participants, and warn them about the responsibilities and risks of research that are actual

or that are predictable. It is unethical to compel individuals to take part in the research or gather information on individuals without informing them of the reason. Informed consent may be interpreted as the voluntary decision of people to take part in research on being fully aware about the research and possible risks and benefits of the research. The fundamental aspects of the consent procedure involve complete information of the nature of the research and participation of people. It makes researchers disclose certain information concerning the purpose of research, potential benefits of involvement and, most crucial, potential risk involved in taking part in that research with their subjects [13].

- **Vulnerability of Research Participants:** Since the introduction of the concept of vulnerability in the Belmont Report of research ethics in the United States in 1979, it has also occupied a central position in research ethics guidance. It requires mindful research where there are chances that few of the participants may be vulnerable i.e. more likely to suffer damage or injustice. Some populations are said to be more vulnerable than others due to their specific circumstances or conditions in life. Within human subjects research, individuals or groups of people are vulnerable when they cannot protect their own interests adequately and independently, whether by their inherent qualities (e.g., age or immaturity), or circumstances (e.g., illness, imprisonment, poverty, etc.). The vulnerable populations involved in research need the extra protection that needs to be clearly defined. The process of informed consent is stricter when it comes to populations of special concern. As an example, there is a requirement to ensure that minors are accompanied by the consent of a legal guardian to take part in research. Prisoners also are considered vulnerable populations [14].
- **Anonymity and Confidentiality:** Anonymity is the process of hiding the identity of all the participants in any documents of the research. The issue of confidentiality is related to the right of access to the data that will be given by the participants. The ethical research practice in social research involves the anonymity and confidentiality of the participants. In cases where feasible, researchers seek to assure the participants that all attempts will be made to make the information they give could not be linked to them in the reports, presentations and any other form of presentation. Ethical duty of confidentiality is the duty of an individual or an organization not to disclose, use, modify, lose, or steal information entrusted to him or her or the organization respectively. Meeting the ethical obligation of confidentiality is vital to trust between the researcher and participant, and integrity of the research project [15].

- **Conflict of Interest:** Conflict of interest could occur when activities or situations put a person or institutional in actual or potential or perceived conflict between the duties or responsibilities in regards to research, and personal or institutional or other interests. These are interests that may be business, commercial or financial. Conflict of interest should be considered during research since it can compromise the research integrity and the security that the research participants will receive. The participants also may not be respected due to conflicts of interest that may taint the principle of Justice [14].

### Emerging Trends in Qualitative and Quantitative Research Methodologies

Over the past few years, there are a number of new tendencies that influence how researchers conduct their studies using a blend of established procedures and new approaches that allow exploring their studies in a deeper and broader scope [16].

#### ○ Quantitative Research Trends

- **Big Data Integration:** The method enables deeper observations of the patterns, trends, and correlations in the data.
- **Machine Learning and AI:** Machine learning algorithms and artificial intelligence (AI) are being added by quantitative researchers to automate the process of data analysis.
- **Replicability and Open Science:** Scientists are becoming transparent and open and they are sharing data and methods as they seek to make their results verifiable and help to make scientific knowledge robust.
- **Mixed Methods Research:** By noting the weakness of quantitative methods alone, authors are now beginning to apply a mixed methods approach by combining quantitative and qualitative methods.

#### ○ Qualitative Research Trends

- **Digital Ethnography:** The Internet communities continue to increase, and qualitative researchers are increasingly resorting to digital ethnography in order to observe and comprehend the social behaviour in the digital environment.
- **Visual and Arts-Based Methods:** Qualitative researchers are seeking innovative methods of collecting and describing data. Alternative methods of expression can be

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found in visual means (photo and video) and arts-based ones (storytelling and drawing) and the visual ones present engaging, subjective experiences.

- **Narrative Analysis and Storytelling:** It is shifting to narrative analysis and giving prominence to the strength of storytelling in the research of the qualitative research. Scholars are realizing the importance of personal experiences and presenting social phenomena too complex to describe by narratives in a more comprehensible and interesting way.
- **Reflexivity and Positionality:** It is a growing understanding that the researcher has a role in influencing research process and results. The qualitative researchers are now putting more focus on reflexivity, where they recognize their biases and subjectivities which may affect the research process and results.

To sum up, the changing nature of qualitative and quantitative research approaches is characterized by the integration of the conventional and novel methodologies. The world around us is becoming transparent, and researchers are adopting new technologies, and innovating on how best to learn the intricacies of the world around us. Such trends lead to the constant improvements of methodologies of research in different fields [17].

## 2 LITERATURE REVIEW

(Luitel, 2025) [18] Elucidates the emphasis, precision, and utilization of qualitative research within the realm of economic issues, underscoring its significance in investigating intricate economic phenomena and offering comprehensive, human-centered insights to analyze economic behavior and cognition. This article's goals are to provide readers a fundamental grasp of qualitative research, especially how it differs from quantitative research, and to give them a quick overview of the three methods used in qualitative research. It covers a variety of qualitative methods, such as phenomenology, ethnography, and grounded theory, and it has illuminated many facets of data gathering and interpretation. This article concludes with a discussion of ethical considerations and serves to guide researchers in understanding the subjective dimensions inherent in "economic and social science inquiries".

(Emon, 2024) [10] investigates the comparison of qualitative and quantitative research approaches in social science studies. The study also emphasizes the new trend of mixed-methods research, which combines the two approaches and offers a more thorough framework for addressing challenging research issues. Mixed-methods research provides insights into both

broad patterns and individual experiences, enabling a more comprehensive knowledge of social phenomena by integrating the advantages of both methodologies. The history of these approaches and their implications for further study are covered in the review's conclusion, which highlights the significance of methodological flexibility and integration in tackling complex social issues. The results highlight the need of using a variety of social science research methodologies to deepen our comprehension of intricate, ever-changing social realities.

(Cheong et al., 2023) [19] suggests a novel, methodical secondary qualitative research approach for publicly accessible, internet interview data. Expanding the research community's datasets, explicitly considering and mitigating potential problems, and improving rigor are all possible with this procedural approach. Referencing the research ethical principles of autonomy, equity, and diversity, the seven-step technique is based on a hybrid approach that combines aspects of discursive grounded theory, narrative approach, and pragmatic qualitative approach. One of the suggested procedures is data quality evaluation, which filters the gathered data by evaluating the context and substance of the data using a total of sixteen quality characteristics. Content analysis is used to categorize datasets, while theme discourse analysis is used to address the predetermined research questions. The technique also discusses the legal and ethical issues surrounding the publication of research findings derived from secondary web data. We illustrate how the technique offers structure to secondary qualitative research by giving an example from the topic of forced migration.

(Ghanad, 2023) [20] The word "research" means to look for knowledge. It is an academic and methodical search for pertinent information on a certain topic. "Research" is defined as "a careful study of a subject, especially to discover new facts or information about it" in the Oxford Learner's Dictionaries. Research is a methodical study philosophy that critically examines a number of professional work-related topics, such as the creation and analysis of new ideas and the development of well-known notions that oversee a certain process. Therefore, research is a unique contribution that uses observation, experimentation, comparison, and study to increase present knowledge. In summary, research is the methodical approach to problem-solving that leads to the quest of knowledge.

(BOZKURT & ÖZTÜRK, 2022) [21] This study's main goal was to characterize qualitative social science research by thoroughly analyzing 10,637 papers. This study will clarify the subject of globalization trends in qualitative research through a thorough analysis. The research that were published in journals using the English word "qualitative" in their names served as the basis for this study. Our results show that the majority of qualitative research projects are still

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focused on North America and Europe. Social psychology, the people's personal and social experiences, and their educational knowledge, attitudes, and actions are the main subjects of the study. The institutions with the greatest number of publications and the most referenced papers are all focused on North America and Europe. Six out of ten qualitative studies are on medical sciences, according to another survey.

(Khan, 2021) [13] An essential part of social science research ethics is informed consent. Consequently, it is imperative to examine the interpretation and application of research ethics within Pakistan, considering its distinct socio-cultural values and conventions. How informed is the informed consent? is the more important question in this scenario. Consequently, in this study, employing a qualitative exploratory methodology, we have examined the perspectives of active Social Science scholars within our universities regarding the concept of informed consent. For the study, we conducted interviews with eighteen university instructors. full transcription of the interviews, which were then subjected to rigorous qualitative analysis. Results indicate that given the differences in the sociocultural and linguistic backgrounds of the locations, "informed consent" becomes a problem for the researchers. The results have important ramifications for social science academics, university administration, and lawmakers.

(Garad et al., 2020) [22] In social science research, qualitative research has grown more prevalent than quantitative research. This is because of its qualities that allow it to offer a thorough comprehension of the problems and issues of the social sciences in accordance with their natural context, as well as results that may directly or indirectly help achieve "a cognitive addition, either theoretical or applied in the field of human sciences". A thorough and concise explanation of the steps and procedures of qualitative research design is necessary for researchers in the field to use it in studying societal and humanitarian issues and problems, as well as their teaching methods, and to find appropriate solutions and treatments for them. This is due to the paucity of content pertaining to qualitative research design, which begins with defining the research problem and ends with presenting and discussing results in the field of social science research. Therefore, this study sought to elucidate the philosophical underpinnings of qualitative research, to delineate the concept and attributes of qualitative research by elucidating the pertinent methodologies and stages involved in designing qualitative research within the social sciences.

(Sakya et al., 2020) [23] This paper's goal is to investigate different research methodologies so that students may learn and comprehend. In order to help the reader make an educated decision, this study aims to evaluate the various research methodologies. In addition to the author's

personal expertise gained from decades of teaching, the study draws from secondary sources. Since there are considerably more study methodologies than can be included in a brief review communication, this work does not pretend to have covered them all. It is anticipated, therefore, that it will set the stage for readers to do more research in the area.

(Ussif et al., 2020) [15] spoke about how students, researchers, and lecturers employ research procedures in the social sciences. It examined mixed-method, qualitative, and quantitative methods to social science research. Each methodology's elements were covered, including data collecting techniques and ethical considerations (volunteer participation form, permission form, and ethical approval form). The article also examined the overview of methodologies that facilitate a deeper understanding of the facts within the research studies. Furthermore, the primary objectives of conducting the research and the motivating factors behind it were also thoroughly elaborated. According to the study, instructors should assist students in selecting the most appropriate research technique, and researchers should familiarize themselves with several research methodology types to choose which one best suits their study. We conclude that this paper enhances understanding of quantitative, qualitative, and mixed research methodologies. It facilitates comprehension of the foundational aspects of each methodological framework and assists in determining which approach is most suitable for a given research context and timing.

(Patel & Patel, 2019) [24] Research methodology refers to a systematic approach for resolving the research problem. It may be thought of as a science that examines how scientific research is conducted. In it, we examine the many approaches that a researcher often takes to investigate his research topic and the reasoning behind them. The researcher must understand both the approach and the research methods/techniques. In addition to knowing how to create specific indices or tests, compute the mean, mode, median, standard deviation, or chi-square, and apply specific research techniques, researchers must also understand which of these methods or techniques are pertinent and which are not, as well as what they would mean and indicate and why. Additionally, researchers must be aware of the presumptions that underlie different approaches as well as the standards by which they may determine which methods and approaches will work best for a given problem and which won't. All of this indicates that the researcher must tailor his approach to his problem because different problems may require different approaches.

### 3 CONCLUSION

This review finds that the social science research methodologies have evolved in response to the complexity, diversity as well as contextual nature of the social phenomena. Quantitative procedures offer quantifiable and generalizable results whereas qualitative methodologies offer profound interpretive data on human experiences and processes in the society. In policy and applied research, mixed-methods research fills the gap between these methods, improving validity, triangulation and depth of analysis. Methodology selection is directly connected with philosophical assumptions, aim of the research, and research problem nature. All methodological decisions with respect, integrity, and safeguarding of research participants rely on ethical considerations. Moreover, the new trends of integrating big data, artificial intelligence, digital and visual approaches, and reflexive research methods are transforming the design and methods of conducting social research. Altogether, strong social science research needs methodological awareness, sensitivity to ethics and flexibility whereby the researcher will be in a position to produce valid, pertinent and effective information that will inform theory, practice and policy in an increasingly complex social world.

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