

# Comparison between Qualitative and Quantitative Research Approaches: Social Sciences

Aida Mehrad, Mohammad Hossein Tahriri Zangeneh  
Universitat Autònoma de Barcelona (UAB), Spain  
Department of Basic, Evolutionary and Educational Psychology

Islamic Azad University Arak, Iran  
Faculty of Social Science

## ABSTRACT

Nowadays because of the vast of investigations and high level of technology, majority of investigators endeavor to apply appropriate methods in their research; in this case, focusing on research approaches assumed as one of the critical factors in the science world. In research methodology specifically in the social science area, two approaches of qualitative and quantitative have been considered more. These approaches assumed as two practical and essential methods in most investigations. Therefore, the purpose of the current literature review is to distinguish the imperative comparison of quantitative and qualitative in the research methodology and determining the brilliant differences between these two research factors. Furthermore, realizing the accurate approach and apply it in the correct way in every investigation is super important; then, the researchers endeavor to justify this essential fact for future studies.

**Keyword:** Investigation, Research Methodology, Quantitative, Qualitative, Social Science

## INTRODUCTION

There are different attitudes toward social science possess which facilities new concepts to address subjects inherent in the study of human beings; it likewise determines older questions and concepts in the philosophy of social science in a new generation (Fay, 1996). In fact, the social sciences have been educated within the speculative fold of philosophical foundation where philosophy has emerged in the arena of human thoughts about the social world. Additionally, it starts from where our ideas and thoughts are overextended to their limits on social ground. The reality, philosophy analyses the entities of the social world from dissimilar features; in truth, nature of knowledge, concentration, matter, fact, and logic of abstract phenomena. Its discoveries out the truth first and then logic and cause-effect analysis of the events or things. It is mostly concerned with the construction of whole human knowledge into logically associated systems based on causality and tries to find out how we distinguish the certain things that can be true or false. In other words, the philosophical analysis of scientific explanation starts with basic perceptions such as theory, achievement, fact, and wisdom. The changing pattern of the philosophical foundations continuously supplements itself with new dimensions and views about the social world. The emergence of constitutive conceptions of the relationship form of knowledge bear to the world has

opened new opportunities in the social sciences (Hughes, 1987). The philosophy of science classifies the interminable and spherical quality of general things through questioning about fundamental aspects of things (Uddin & Hamiduzzaman, 2009).

In most of the psychological investigation examples, the philosophical scopes within which the detailed research design is enclosed are epistemological and empirical. For the previous, there is a considerable association between positivism and phenomenology which characterized by subjective constructed interpretation. The philosophical direction for any research is completely important for a number of reasons as it helps to explain the research design, it likewise helps to distinguish which plans will work and which will be fail, and it helps the investigator to identify and even create new enterprises that maybe outside of his experience (Insights, 2009).

There is an apparently predictable tendency to divide research methods into two types. The labels for the first type comprise quantitative, positivist, and objectivist, and for the second nature, labels comprise qualitative, phenomenological, social constructionist, subjectivist, relativist, and interpretive. The numerous labels for the first type do have dissimilar meanings, as do the labels given for the second type (Mautner, 2005; Thorpe & Holt, 2008); but these changes often tend to be glossed over by the understood assumption that there are only two basic types of research (Wood, 2010).

### **Qualitative Research Design**

Qualitative research design is obligated its origin to the corrections of anthropology and sociology. Various terms have been applied to signify the qualitative line of investigation, such as cultural investigations, constructivist paradigm, natural inquiry, phenomenological investigation, postmodernism, post-positivism attitude, and post-structuralism (Schwandt, 2001). Comparable to quantitative research, qualitative research is demanding, disciplined, systematic, and it frequently delivers a practical alternative approach to quantitative research techniques (Randy & McKenzie, 2011). All the qualitative approaches have two things in mutual. First, the emphasis on phenomena that happen in natural settings-that in the real world. And the second one, they include studying those phenomena in all their difficulty. But these facts are vice versa in quantitative approach (Leedy & Ormrod, 2010).

### **Quantitative Research Design**

In the quantitative research design, the principal purpose is situated to regulate the connotation between an independent variable and a dependent or consequence variable in a population. This research design is either descriptive or experimental. In fact, a descriptive study establishes only relations between variables. An experiment likewise establishes interconnection. For an accurate assessment of the association between variables, a descriptive study frequently requirements a sample of hundreds or even thousands of subjects; an experiment, especially a crossover, may need

only tens of subjects. The evaluation of the relationship is less likely to be prejudiced if you have a high participation rate in a sample selected randomly from a population. In experiments, partiality is also less likely if subjects are randomly assigned to treatments, and if subjects and investigators are blind to the identity of the treatments. In all revisions, subject characteristics can impact on the relationship you are investigating. Limit their consequence either by using a less heterogeneous sample of subjects or preferably by calculating the characteristics and including them in the analysis. In an investigation, attempt to measure variables that might clarify the mechanism of the treatment. In an unblinded experiment, such variables can assist in defining the magnitude of any placebo effect (Hopkins, 2008).

### **Qualitative versus Quantitative: Intensive or Extensive**

Investigators frequently face difficulties in selecting between two types of investigation strategies specifically intensive and extensive research. Two terms of intensive and extensive research are related to the terms of qualitative and quantitative research design. The qualitative and quantitative research approaches are separate in several aspects. Qualitative research design is assumed as one in which the researcher usually makes information rights based on constructivist viewpoints (Creswell, 2003). The plans which have been used in this research design included inquiry such as narratives, phenomenologist, ethnographies, grounded theory studies, or case studies. In contrast, quantitative research design has diverse thoughts and definition. Quantitative research is one in which the researcher mainly uses post-positivist claims for evolving knowledge for instance; cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurements and observations, and the test of the theories. Strategies frequently used in this research design are experiments and surveys, and predetermined instruments in data collection that produce statistical data. Even though, Bryman (2004) declares quantitative research usually emphasizes quantification in the collection and analysis of data. Consequently, the main distinction between qualitative and quantitative research designs is about the question of scale or depth versus breadth (Sayer, 1992).

There are limited preliminary changes between both research designs, for instance: research questions, technique, and methods of data collection used, limitations and how the objects are defined. Nevertheless, the differences between qualitative and quantitative research are not purely the difference between statistical analysis and in-depth interview, survey or case study or about the test of corroboration and replication. The research is not only about the question of methodology, but likewise the selection of research strategy which includes some opinions or politics that underlie the situation of what is being studied (Randall, Gravier, & Prybutok, 2011). In another world qualitative and quantitative research strategies determined as incommensurable. Bryman (2004) recognized qualitative and quantitative research strategies by concentrating on three main features namely the connection between theory and research, epistemology, and ontology.

In following these three important aspects illustrates in Figure 1.

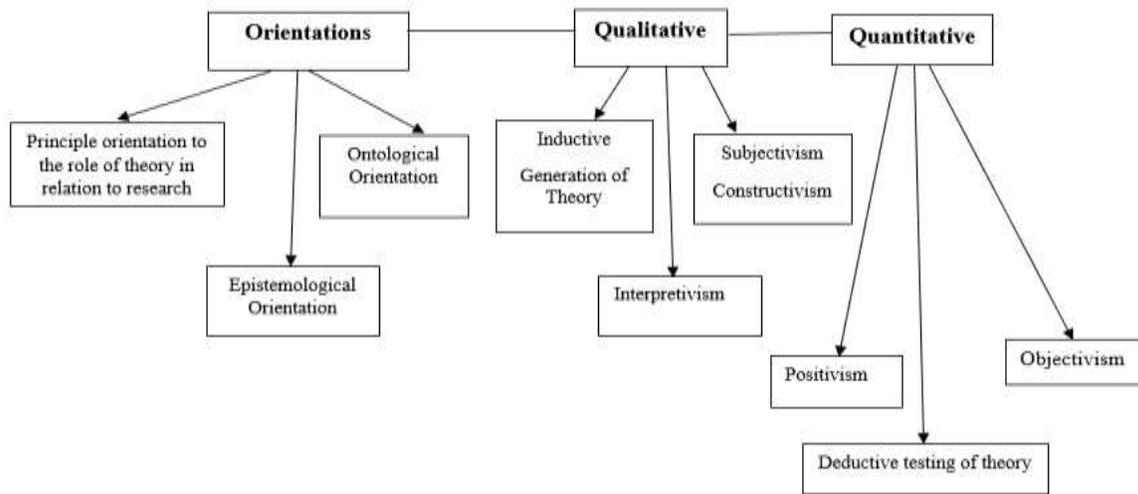


Figure 1: Differences between Qualitative and Quantitative Research Strategies

In overall, the quantitative research design and variables are determined previously data collection started. However, in the qualitative research design and variables measured are flexible and to some extent dependent on the context of data collection. The quantitative research requirements the investigator to carefully describe variables that may be counted with numbers. This method has repeatedly been viewed as reductionism; that is, the truth is reduced to a number. In contrast, the qualitative researcher assumed as involved in the complete or holistic perspective, which includes underlying values and the context as a part of phenomena (Morse, Swanson, & Kuzel, 2001). The quantitative investigator may not be predominantly interested in what factors, with whom, where, when, how it was consumed, and other related details, which may be the key interest of the qualitative investigator. The quantitative paradigm assumes that variables can be measured objectively. The study of the case and effect relationships between or among variables is often of interest in this approach. In contrast, the qualitative methods assume as an only partially objective accounts of the world can be produced and hence can be understood in a variety of ways. Quantitative research also is based in part on deductive reasoning, in which the logic proceeds from general to specific. In conclusion, quantitative inquiry entails measurement instruments and data analysis that is expressed in statistics. On the other hand, qualitative research allows a more open-ended and flexible approach to assessment (Randall et al., 2011).

Table 1 demonstrations the variances between quantitative and qualitative patterns, comprehensively.

**Table 1: Assessment of Quantitative and Qualitative Research Methods**

Quantitative	Qualitative
-Researcher defines the truth	-Reality is definite by the contributors
-Researcher self-determining	-Investigator as a communicating observer
-Ideas reduced to statistics	-Holistic viewpoint
-Determination is hypothesis confirmation	-Purpose is hypothesis generation
-Deductive reasoning (general to specific)	-Inductive reasoning
-Fixed research design	-Dynamic research design
-Statistical manipulation required	-Statistical testing not obligatory

Then again, in the social investigation, there is much overlap between the type of data and the approach to qualitative and quantitative research but unfortunately, there is a lot of unfriendly will between the followers of each research approach. The two approaches differ in significant ways. Table 2 illustrates these inversely comprised:

**Table 2: Differences between Quantitative Approach and Qualitative Approach**

<b>Quantitative Approach</b>	<b>Qualitative Approach</b>
Measure impartial facts	Concept social reality cultural meaning
Emphasis on variables	Attention to communicating process, events
Reliability is important value free	Authenticity is important values are present and explicit
Theory and data are distinct	Theory and data are bonded
Independent of setting	Situational constrained
Many cases, subjected statistical analysis	Few cases subjected thematic analysis
Researcher is detached	Researcher is involved

Qualitative and quantitative researches also vary in many ways, but they match each other. In both styles, data are empirical representations of concept, and measurement links data to the concept, yet differences in styles of research and the type of data mean they approach the measurement process differently (Neuman, 2006). Among the differences between quantitative and qualitative research, measurement and sample assumed as two super factors accounted in social sciences research.

### **Compare Quantitative and Qualitative Measurement**

One of the important factors in the methodology area is the type of measurements that have been used in most investigations. In fact, designing measures of variables presumed as a vital step in planning a study for quantitative researches. The qualitative researches measure with an extensive variety of methods. Generally, quantitative start with an abstract idea follows with empirical data that represent the thoughts. Although the qualitative research primarily begins with empirical data follow with abstract impress, relate idea and data and end with a mixture of thoughts and data. Overall, the procedure is additional interactive in both styles of research. The measurement process for quantitative research follows a conservative forward sequence, first conceptualization, followed by operationalization followed by applying the operational definition or measuring the collect the data. But the conceptualization process in qualitative research varies from quantities research. Conceptualization is situated as a process of forming coherent theoretical meanings as one struggle to make sense or organize the data and one's preliminary ideas about it. The operationalization process for qualitative research often precedes conceptualization. In the quantitative research, measurement reliability is numerical results shaped by an indicator doing not vary because of characteristics of the measurement instrument itself. But then again in qualitative research the basic principles of reliability and validity accepted by researchers but rarely use the terms because of their association with quantitative measurement and qualitative researchers apply the principles differently (Neuman, 2006).

## **Compare Qualitative and Quantitative Sampling**

Regarding the sampling segment, qualitative and quantitative research is different. In the qualitative investigation emphasis less on a sample's representativeness than on how the sample or small collection of cases, units, or activities brightens social life, the primary purpose of sampling is to collect exact cases, events or actions that can clarify and deep understanding. in qualitative research concern to discover cases that will improve what the researchers learn about the processes of social life in a specific context. In the qualitative research hardly ever used a presentative sample from a huge number of cases to intensely study the sampled cases. In qualitative research have a habit to use no probability or non-random sample. It means, this method applied rarely the sample size in development and has limited acquaintance about the larger group or population from which the sample is occupied. Dissimilar in the quantitative research who uses a pre-planned approach based on mathematical theory, the qualitative researcher selects cases gradually, with the exact content of a case determining whether it is chosen (Neuman, 2006).

## **CONCLUSION**

According to the specific role of research methodology in the social science area, and its approaches (quantitative and qualitative), considering to each of these styles and counting their differences in the part of measurement and sampling is super valuable. In fact, demonstrating differences of quantitative and qualitative approaches can be extra useful for academicians and investigators in all research area specifically those who are studies in the social science area. In this regard, the investigators endeavour to illustrate and explain more about these tow practical approaches in methodology till the other researchers apply appropriate method or approach based on their investigations and expand the world of science in the correct way based on their knowledge and investigations. The current literature review has been proposed the small segment of expanding information and acquaintance of previous investigators in the methodology; and, showing their brilliant different.

## REFERENCE

- Bryman, A. (2004). *Social Research Methods* (2<sup>nd</sup> ed.). Oxford: Oxford University Press.
- Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Sage Publications, Thousand Oaks.
- Fay, B. (1996). *Contemporary philosophy of Social Science*. Blackwell Publishers Inc, U.S.A.
- Hopkins, D. (2008). *A Teacher's Guide to Classroom Research*. Maidenhead: Open University Press.
- Hughes, J. (1987). *The Philosophy of Social Research*. Longman Singapore Publishers (Pte) Ltd, Singapore.
- Insights, A. (2009). *Researching in Organizations - Philosophical Requirements*, 1, 1-3.
- Leedy, P., & Ormrod, J. E. (2010), *Practical Research: Planning and Design* (10<sup>th</sup> ed). Pearson.
- Mautner, T. (2005). *The Penguin Dictionary of Philosophy*. Penguin Books.
- Morse, J. M., Swanson, J. M., & Kuzel, A. J. (2001). *The Nature of Qualitative Evidence*. Thousand Oaks: Sage.
- Neuman, W. L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches*. Pearson, The University of Michigan.
- Randall, W.S., Gravier, M., & Prybutok, V. R. (2011). Connection, trust, and commitment: Dimensions of co-creation? *Journal of Strategic Marketing*, 19(1), 3-24.
- Randy, C., & McKenzie, J. F (2011), *Health promotion and education research method* (2<sup>nd</sup> ed.). Sudbury, Mass: Jones and Bartlett Publisher.
- Schwandt, T. A. (2001). *Dictionary of qualitative inquiry* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.
- Sayer, A. (1992). *Method in social science: A realist approach* (2<sup>nd</sup> ed.). London: Routledge.
- Thorpe, R., & Holt, R. (2008). *The Sage dictionary of qualitative management research*. London: Sage.
- Uddin, M., & Hamiduzzaman, M. (2009). The Philosophy of Science in Social Research. *The Journal of International Social Research*, 2(6), 654-664.
- Wood, M. (2010). Are 'Qualitative' and 'Quantitative' Useful Terms for Describing Research? *Methodological Innovations Online*, 5(1), 56-71.