Quantitative And Qualitative Research: Comparative Essay

Quantitative and qualitative research

Quantitative and qualitative research are some of the most commonly used scientific studies in the scientific world. In other studies, some scientists mix both qualitative and quantitative to ensure that they take advantage from both ways and maximize their chance in getting information. In this assignment, we will explain qualitative and quantitative each one of them in detail.

Qualitative Research

introduction

Qualitative research is empirical research where the data are not in the form of numbers (Punch, 1998, p. 4).

Qualitative research is multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

Denzin and Lincoln (1994, p. 2)

Definition

qualitative research is defined as research that explores attitudes, behaviors, and experiences using many methods such as interviews, and groups, which aims to study the depth of the phenomenon, as it goes back to the past, and does not care for the results but focuses on the same phenomenon. It is also known as the interactive process between the researcher and the study sample, where the study presents information to the researcher to help him reach good results, and qualitative research has a set of characteristics as the description of the phenomenon accurately.

Interest in qualitative data came about as the result of the dissatisfaction of some psychologists (e.g., Carl Rogers) with the scientific study of psychologists such as the behaviorists (e.g., Skinner).

Since psychologists study people, the traditional approach to science is not seen as an appropriate way of carrying out research, since it fails to capture the totality of human experience and the essence of what it is to be human. Exploring the experience of participants is known as a phenomenological approach (re: Humanism).

Why we use it?

The aim of qualitative research is to understand the social reality of individuals, groups and

cultures as nearly as possible as its participants feel it or live it. Thus, people and groups, are studied in their natural setting.

Research following a qualitative approach is exploratory and seeks to explain ‘how’ and ‘why’ a particular phenomenon, or behavior, operates as it does in a particular context.

Qualitative research features

The qualitative approach has the ability to get into the depths of the phenomenon, study, analyze, and know its details without collecting its data from people.

The qualitative approach has the ability of a researcher to study the phenomenon where it occurs, i.e. in nature, without having to study it in laboratories.

The qualitative approach has a range of trends, including phenotypic, and ethnographic. Field research, as well as the theory of abstruse.

The benefits of the qualitative approach are the considerable flexibility it has, the possibility of completing the study, making future adjustments and developments, and providing the researcher with important information, a view of the great latitude it gives to the sample study.

Methods (used to obtain qualitative data)

Qualitative researchers use a variety of methods to develop deep understandings of how people perceive their social realities and in consequence, how they act within the social world.

For example, diary accounts, open-ended questionnaires, documents, participant observation, and ethnography.

The researcher has several methods for collecting empirical materials, ranging from the interview to direct observation, to the analysis of artifacts, documents, and cultural records, to the use of visual materials or personal experience.

Denzin and Lincoln (1994, p. 14)

A good example of a qualitative research method would be unstructured interviews which generate qualitative data through the use of open questions. This allows the respondent to talk in some depth, choosing their own words. This helps the researcher develop a real sense of a person’s understanding of a situation.

Notice that qualitative data could be much more than just words or text. Photographs, videos, sound recordings and so on, can be considered qualitative data.

Data Analysis

Qualitative research is endlessly creative and interpretive. The researcher does not just leave the field with mountains of empirical data and then easily write up his or her findings.

Qualitative interpretations are constructed, and various techniques can be used to make sense of the data, such as content analysis, grounded theory (Glaser & Strauss, 1967), thematic analysis (Braun & Clarke, 2006) or discourse analysis.

Limitations

Because of the time and costs involved, qualitative designs do not generally draw samples from large-scale data sets.

The problem of adequate validity or reliability is a major criticism. Because of the subjective nature of qualitative data and its origin in single contexts, it is difficult to apply conventional standards of reliability and validity.

For example, because of the central role played by the researcher in the generation of data, it is not possible to replicate qualitative studies. Also, contexts, situations, events, conditions, and interactions cannot be replicated to any extent nor can generalizations be made to a wider context than the one studied with any confidence

The time required for data collection, analysis and interpretation are lengthy. Analysis of qualitative data is difficult and expert knowledge of an area is necessary to try to interpret qualitative data, and great care must be taken when doing so, for example, if looking for symptoms of mental illness.

Strengths

Because of close researcher involvement, the researcher gains an insider's view of the field. This allows the researcher to find issues that are often missed (such as subtleties and complexities) by the scientific, more positivistic inquiries.

Qualitative descriptions can play the important role of suggesting possible relationships, causes, effects and dynamic processes.

Qualitative analysis allows for ambiguities/contradictions in the data, which are a reflection of social reality (Denscombe, 2010).

Qualitative research uses a descriptive, narrative style; this research might be of particular benefit to the practitioner as she or he could turn to qualitative reports in order to examine forms of knowledge that might otherwise be unavailable, thereby gaining new insight.

Quantitative Research

introduction

Quantitative research gathers data in a numerical form which can be put into categories, or in rank order, or measured in units of measurement. This type of data can be used to construct graphs and tables of raw data.

Definition

Quantitative research is based on practical research through the use of statistics and questionnaires to obtain the desired result, because it is concerned with the collection of results and data, and the quantitative approach is defined as research in which the researcher draws upon the social phenomenon by following a number of statistical methods. In order to ensure that the standards used by the researcher are correct, the researcher must use truth and stability measures, and the quantitative approach requires the methodology of the concepts he will use in his scientific research, in order to choose the hypotheses that are determined from the beginning of the research, then to begin the process of collecting and arranging data, and to analyze them statistically in order to achieve the desired results

Why we use it?

Quantitative researchers aim to establish general laws of behavior and phenomenon across different settings/contexts. Research is used to test a theory and ultimately support or reject it.

Features of quantitative research

The quantitative approach is appropriate for a large number of sciences and fields such as psychology, economics, marketing, and other fields.

The quantitative curriculum grew up in positional school, because in relation to variables, researchers can price causes, results, and future predictions.

Quantitative research tests experimental variables. It also limits the appearance of transverse variables.

Methods (used to obtain quantitative data)

Experiments typically yield quantitative data, as they are concerned with measuring things. However, other research methods, such as controlled observations and questionnaires can produce both quantitative information.

For example, a rating scale or closed questions on a questionnaire would generate quantitative data as these produce either numerical data or data that can be put into categories (e.g., “yes,” “no” answers).

Experimental methods limit the possible ways in which a research participant can react to and express appropriate social behavior.

Findings are therefore likely to be context-bound and simply a reflection of the assumptions which the researcher brings to the investigation.

Data Analysis

Statistics help us turn quantitative data into useful information to help with decision-making. We can use statistics to summarise our data, describing patterns, relationships, and connections. Statistics can be descriptive or inferential.

Descriptive statistics help us to summarise our data whereas inferential statistics are used to identify statistically significant differences between groups of data (such as intervention and control groups in a randomized control study).

Limitations

Context: Quantitative experiments do not take place in natural settings. In addition, they do not allow participants to explain their choices or the meaning of the questions may have for those participants (Carr, 1994).

Researcher expertise: Poor knowledge of the application of the statistical analysis may negatively affect analysis and subsequent interpretation (Black, 1999).

Variability of data quantity: Large sample sizes are needed for more accurate analysis. Small-scale quantitative studies may be less reliable because of the low quantity of data (Denscombe, 2010). This also affects the ability to generalize study findings to wider populations.

Confirmation bias: The researcher might miss observing phenomena because of the focus on theory or hypothesis testing rather than on the theory of hypothesis generation.

Strengths

Scientific objectivity: Quantitative data can be interpreted with statistical analysis, and since statistics are based on the principles of mathematics, the quantitative approach is viewed as scientifically objective, and rational (Carr, 1994; Denscombe, 2010).

Useful for testing and validating already constructed theories.

Rapid analysis: Sophisticated software removes much of the need for prolonged data analysis, especially with large volumes of data involved (Antonius, 2003).

Replication: Quantitative data is based on measured values and can be checked by others because numerical data is less open to ambiguities of interpretation.

Hypotheses can also be tested because of the used of statistical analysis (Antonius, 2003).

Differences between quantitative and qualitative approaches

Qualitative research resorts to interactive observation, in-depth personal interviews, and for quantum research, a researcher preprocesses questions, where the pattern of questions is traditional.

The qualitative approach aims at understanding the phenomenon within its framework and does not care about the generalization of results, while quantitative research measures the phenomenon. Analyze their data for the extraction and dissemination of results.

Qualitative research interprets phenomena in a structural manner, while quantitative research relies on the interpretation of phenomena using digital and statistical methods.

The sample in the qualitative curriculum is a sample chosen by the investigator, while the sample in the quantitative curriculum is random.

A researcher in the qualitative approach may be at a side of the study. The core syllabus abhors the pre-developed plan.

Researchers can use both researchers to combine them.

The qualitative researcher is soon to be a study community, collecting information directly, analyzing it, and staying with them throughout the course of the study, while the quantitative researcher can work in the laboratory, where interviews are conducted at a pre-determined location.

The qualitative Curriculum Investigator interacts with people directly, interacts with them, and engages with the field of study. As a quantum researcher may send the questionnaires to a possible, spaced to answer only.

The qualitative approach believes that behavior is directly related to where people live, while the quantitative approach is based on isolating human behavior from the environment in which the sample of the study is found.

Qualitative research takes more time to analyze data, because of its interference, Data collection and analysis of the quantitative curriculum take place in less time.