



Qualitative, Quantitative and Taxonomy of Research

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Abstract

Taxonomy is a system for classifying multifaceted, complex phenomena according to common conceptual domains and dimensions. In health services research, we are often evaluating multifaceted interventions, implemented in the real world rather than controlled conditions. Taxonomy is the practice and science of categorization or classification. Generalized scheme of taxonomy. A taxonomy is a scheme of classification, especially a hierarchical classification, in which things are organized into groups or types. Research methods are broadly classified as Qualitative and Quantitative. While both share the primary aim of knowledge acquisition, quantitative research is numeric and objective, seeking to answer questions like when or where. On the other hand, qualitative research is concerned with subjective phenomena that can't be numerically measured, like how different people experience grief. Taxonomy is a science that deals with naming, describing and classification of all living organisms including plants. Classification is based on behavioural, genetic and biochemical variations. Characterization, identification, and classification are the processes of taxonomy. The term is derived from the Greek taxis ("arrangement") and nomos ("law"). Taxonomy is, therefore, the methodology and principles of systematic botany and zoology and sets up arrangements of the kinds of plants and animals in hierarchies of superior and subordinate groups. Carl Linnaeus, also known as Carl von Linné or Carolus Linnaeus, is often called the Father of Taxonomy. His system for naming, ranking, and classifying organisms is still in wide use today (with many changes). Quantitative research is a research method where you gather and analyze numerical data to understand and explain various phenomena. The different types of quantitative research are survey, descriptive, experiential, correlational, and causal-comparative. Generally, qualitative research is concerned with cases rather than variables, and understanding differences rather than calculating the mean of responses. In-depth interviews,

focus groups, case studies, and open-ended questions are often employed to find these answers. Taxonomy involves studying living organisms such as animals, plants, microorganisms, and humans to classify them in different categories to study further and identify.

Key Words: Qualitative, Quantitative, Taxonomy, Research

Objective:

The objectives of present study are:-

While both share the primary aim of knowledge acquisition, quantitative research is numeric and objective, seeking to answer questions like when or where. On the other hand, qualitative research is concerned with subjective phenomena that can't be numerically measured, like how different people experience grief. There are four main types of Quantitative research: Descriptive, Correlational, Causal-Comparative/Quasi-Experimental, and Experimental Research. Attempts to establish cause- effect relationships among the variables. These types of design are very similar to true experiments, but with some key differences. Research objectives are specific, measurable, and achievable goals that you aim to accomplish within a specified timeframe. They break down the research aims into smaller, more manageable components and provide a clear picture of what you want to achieve and how you plan to achieve it. Qualitative research is aimed at gaining a deep understanding of a specific organization or event, rather a than surface description of a large sample of a population. It aims to provide an explicit rendering of the structure, order, and broad patterns found among a group of participants. The purpose of quantitative research is to attain greater knowledge and understanding of the social world. Researchers use quantitative methods to observe situations or events that affect people. Quantitative research produces objective data that can be clearly communicated through statistics and numbers.

Perspective of Qualitative, Quantitative and Taxonomy of Research:-

Qualitative research focuses on the events that transpire and on outcomes of those events from the perspectives of those involved. In this case, the program director can use qualitative research to understand the impact of the new clinic rotation on the learning experiences of residents. Quantitative methods are based on data that can be 'objectively' measured with numbers. The data is analyzed through numerical comparisons and statistical analysis. For this reason it appears more 'scientific' and may appeal to people who seek clear answers to specific causal questions. Taxonomy is a system for classifying

multifaceted, complex phenomena according to common conceptual domains and dimensions. In health services research, we are often evaluating multifaceted interventions, implemented in the real world rather than controlled conditions. Quantitative data tells us how many, how much, or how often in calculations. Qualitative data can help us to understand why, how, or what happened behind certain behaviors. Quantitative data is fixed and universal. Qualitative data is subjective and unique. Research perspectives are the underlying assumptions, values, and frameworks that shape how researchers approach a topic, design a study, collect and analyze data, and interpret and communicate their findings. A theoretical perspective, or more briefly, a “theory” is not just an idea that someone has. Rather it is a structural framework, explanation, or tool that has been tested and evaluated over time. Theories are developed and utilized via scholarship, research, discussion, and debate. Perspective in art usually refers to the representation of three-dimensional objects or spaces in two dimensional artworks. Artists use perspective techniques to create a realistic impression of depth, 'play with' perspective to present dramatic or disorientating images. Perspective has a Latin root meaning "look through" or "perceive," and all the meanings of perspective have something to do with looking. If you observe the world from a dog's perspective, you see through the dog's eyes. In drawing, perspective gives your drawing the appearance of depth or distance. Researcher's perspective relates to your subjectivity and objectivity in relation to the research subject. Along with subjectivity and objectivity, your positionality is a part of your perspective as a researcher. Positionality, i.e. insider or outsider may influence how you view the research topic. These perspectives are empirical, theoretical, and analytical. Perhaps the most common form or approach to doing research is the empirical approach. This approach involves observing reality and developing hypotheses and theories based on what was observed.

Introduction of Qualitative Research:-

Qualitative research is a type of research that explores and provides deeper insights into real-world problems. Instead of collecting numerical data points or intervene or introduce treatments just like in quantitative research, qualitative research helps generate hypotheses as well as further investigate. An introduction should establish the topic with a strong opening that grabs the reader's attention before giving an overview of recent research on your chosen topic. Avoid going too in-depth in the introduction; deep dives into your topic should be saved for the body of the paper. It is argued that the modern understanding of qualitative research comprises a 'package' of component parts, and that the essential elements of these were first identifiable, beginning in 1925, in the work and advocacy of the psychologist, Paul Felix Lazarsfeld. Qualitative data is defined as data that approximates and characterizes. Qualitative data can be observed and recorded. This data type is non-numerical. This type of data is collected through methods of observations, one-to-one interviews, conducting focus groups, and similar methods. A good introduction provides a brief

overview of the manuscript, including the research question and a statement justifying the research question and the reasons for using qualitative research methods. Seen in an historical light, what is today called qualitative, or sometimes ethnographic, interpretative research – or a number of other terms – has more or less always existed. Qualitative research is a process of naturalistic inquiry that seeks an in-depth understanding of social phenomena within their natural setting. It focuses on the "why" rather than the "what" of social phenomena and relies on the direct experiences of human beings as meaning-making agents in their everyday lives. Qualitative research is concerned with participants' own experiences of a life event, and the aim is to interpret what participants have said in order to explain why they have said it. Thus, methods should be chosen that enable participants to express themselves openly and without constraint. Qualitative research is the systematic inquiry into social phenomena in natural settings. These phenomena can include, but are not limited to, how people experience aspects of their lives, how individuals and/or groups behave, how organizations function, and how interactions shape relationships. Generally, qualitative research is concerned with cases rather than variables, and understanding differences rather than calculating the mean of responses. In-depth interviews, focus groups, case studies, and open-ended questions are often employed to find these answers. Qualitative research is defined as a market research method that focuses on obtaining data through open-ended and conversational communication. This method is about “what” people think and “why” they think so. For example, consider a convenience store looking to improve its patronage. Qualitative data describes qualities or characteristics. It is collected using questionnaires, interviews, or observation, and frequently appears in narrative form. For example, it could be notes taken during a focus group on the quality of the food at Cafe Mac, or responses from an open-ended questionnaire. Qualitative designs are also called qualitative research types because they focus on obtaining detailed and in-depth information about a particular topic or issue. This information is usually gathered through interviews, focus groups, or participant observation. One of the main strengths of qualitative research is its ability to provide rich and detailed insights into users' subjective experiences and meanings. It allows researchers to ask open-ended questions and to follow emerging themes and patterns in the data. Benefits can be quantitative, such as reduction in expenses, increase in revenue, increase in market share, or reduction in risk, e.g., compliance. In addition, benefits can be qualitative in nature, such as improved employee morale or a more recognized corporate brand. It involves collecting non-numerical data, such as opinions, feelings, and attitudes, through techniques such as interviews, focus groups, and observational studies. Qualitative research is often used to explore new ideas, develop hypotheses, and generate insights that can inform quantitative research. Conclusions Research conclusions are subjective in nature when conducting qualitative research. The researcher may derive conclusions based on in-depth analysis of respondent attitude, reason behind responses and understanding of psychological motivations. The six main forms are:

- Phenomenological Method
- Ethnographic Model.

- Grounded Theory Method.
- Case Study Model.
- Historical Model.
- Narrative Model.

Introduction of Quantitative Research:-

Quantitative research deals in numbers, logic, and an objective stance. Quantitative research focuses on numeric and unchanging data and detailed, convergent reasoning rather than divergent reasoning [i.e., the generation of a variety of ideas about a research problem in a spontaneous, free-flowing manner]. Quantitative research is 'Explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)'. Let's go through this definition step by step. The first element is explaining phenomena. Quantitative research involves analyzing and gathering numerical data to uncover trends, calculate averages, evaluate relationships, and derive overarching insights. It's used in various fields, including the natural and social sciences. Introduction. The introduction to a quantitative study is usually written in the present tense and from the third person point of view. It covers the following information: Identifies the research problem -- as with any academic study, you must state clearly and concisely the research problem being investigated. Quantitative data is data that can be counted or measured in numerical values. The two main types of quantitative data are discrete data and continuous data. Height in feet, age in years, and weight in pounds are examples of quantitative data. Qualitative data is descriptive data that is not expressed numerically. The purpose of quantitative research is to attain greater knowledge and understanding of the social world. Researchers use quantitative methods to observe situations or events that affect people. Quantitative research produces objective data that can be clearly communicated through statistics and numbers. Quantitative data are used when a researcher is trying to quantify a problem, or address the "what" or "how many" aspects of a research question. It is data that can either be counted or compared on a numeric scale. Surveys and questionnaires serve as common examples of quantitative research. They involve collecting data from many respondents and analyzing the results to identify trends, patterns, and correlations. Experimental research is another illustrative example of quantitative research. A quantitative research essay analyzes numerical data in the form of trends, opinions, or efficiency results. This academic writing genre requires you to generalize the figures across a broad group of people and make a relevant conclusion. Some basic examples of quantitative data include: Weight in pounds. Length in inches. Distance in miles. Importance of quantitative analysis. Quantitative analysis plays a crucial role in various fields because it provides objective, numerical insights and supports informed decision-making. Here are some key reasons why quantitative analysis is important: Objective Decision-

Making. One of the main advantages of using quantitative data is that it can provide objective, reliable, and generalizable results. Quantitative data can be analyzed using standardized and rigorous methods, such as mathematical formulas, statistical tests, or computer software. Quantitative research definition says that it is a scientific research method that involves collecting and analyzing numerical data to test a hypothesis or research question. This type of research is characterized by its emphasis on measurement, statistical analysis, and objective evaluation of data. Here are some points:

1. Introduce your topic.
2. Create some context and background.
3. Tell your reader about the research you plan to carry out.
4. State your rationale.
5. Explain why your research is important.
6. State your hypothesis.

The classification of data on the basis of the characteristics, such as age, height, weight, income, etc., that can be measured in quantity is known as Quantitative Classification. For example, the weight of students in a class can be classified as quantitative classification. Quantitative research design is defined as a research method used in various disciplines, including social sciences, psychology, economics, and market research. It aims to collect and analyze numerical data to answer research questions and test hypotheses. Examples of Quantitative Research

- Descriptive Research Design.
- Survey Research.
- Correlational Research Design.
- Quasi-experimental Research Design.
- Experimental Research Design.

Conclusions:

In conclusion, qualitative data is important because it helps you understand what's going on in your business, while quantitative research helps you measure how much something is actually happening. For instance, humans and whales are two unrelated organisms from different perspectives; however, both are considered mammals and taxonomically related. The primary goal of taxonomy is to recognize, characterize, classify, and name all living species based on their properties. A classification is a hypothesis concerning how organisms or taxa are related. Taxonomy is the discipline that tells us how to sort organisms into taxa and taxa into more inclusive taxa. Taxonomic theory offers principles for constructing classifications. Conclusions should be logical and clearly explained, and should

take into account any limitations of the data or analysis. Recommendations are specific actions that can be taken based on the findings and conclusions. While both share the primary aim of knowledge acquisition, quantitative research is numeric and objective, seeking to answer questions like when or where. On the other hand, qualitative research is concerned with subjective phenomena that can't be numerically measured, like how different people experience grief. The conclusion of a research paper is where you wrap up your ideas and leave the reader with a strong final impression. It has several key goals: Restate the problem statement addressed in the paper. Summarize your overall arguments or findings. Suggest the key takeaways from your paper. Definition. The conclusion is intended to help the reader understand why your research should matter to them after they have finished reading the paper. A conclusion is not merely a summary of your points or a re-statement of your research problem but a synthesis of key points. Summarize the work completed and the context of the work to previous results

- List conclusions that can be drawn from the work. Provide implications of the conclusion drawn
- List recommendations for: improving results, additional experiments, how to utilize the conclusions, and areas where work is still needed.

References:

1. Qualitative data analysis: Systematic approaches. Thousand Oaks, CA: Sage. Bickman, L., & Rog, D. (2009).
2. Grounded theory: A practical guide through qualitative analysis. Thousand Oaks, CA: Sage. Corbin, J., & Strauss, A. (2008).
3. Dillon, D.R; O'Brien, D.G; Heilman, E.E. 2000. Literacy research in the next millennium: from Paradigms to Pragmatism and practicality. *Qualitative Health Research*, 25(6).
4. Designing and conducting mixed methods research. Thousand Oaks, CA: Sage. Denzin, N. (2010). On elephants and gold standards. *Qualitative Research*, 10, 269–272.
5. Cohen, L; Manion, L. 2001. Research methods in education Denscombe Hartyn. The good research guide: for small-scale social research projects, Philadelphia; Biddies Ltd.
6. Clark Donald .2000. case method(case study): <http://www.nwlink.com/donclark/hrd/history/history.html>.
7. Bryman, A. 1988. Quality and Quality in Social Research. London: unwin Hyman. [5] Carbin, y., & Strauss, A. 1990. Grounded theory Research: Procedures, Canons, and evaluative criteria. *Qualitative Sociology*, 13, PP.3-21.
8. Benbasat, I., D. Goldstein, et al. (1987). "The Case Research Strategy in Studies of Information Systems." *MIS Quarterly* 11(3): 369-386.
9. Benbasat, I. and R. Zmud (2003). "The Identity Crisis Within the IS Discipline: Defining and Communicating the Discipline's Core Properties." *MIS Quarterly* 27(2): 183-194.

10. Benbasat, I. and R. Weber (1996). "Rethinking "Diversity" in Information Systems Research." *Information Systems Research* **17**(4): 389-399.
11. Bearden, W. O., S. Sharma, et al. (1982). "Sample Size Effects on Chi Square and Other Statistics Used in Evaluating Causal Models." *Journal of Marketing Research* **XIX**: 425-430.
12. Basics of qualitative research: Techniques and procedures for developing grounded theory. Thousand Oaks, CA: Sage. Creswell, J., & Plano Clark, V. (2007).
13. Barki, H., S. Rivard, et al. (1988). "An Information Systems Keyword Classification Scheme." *MIS Quarterly* **12**(2): 298-311.
14. Applied research design: A practical approach. In L. Bickman & D. Rog (Eds.), *Handbook of applied social research methods* (2nd ed., pp. 3–43). Thousand Oaks, CA: Sage. Charmaz, K. (2006).
15. Antill, L. (1985). Selection of a Research Method. *Research Methods in Information Systems*. E. Mumford, G. Fitzgerald, R. A. Hirschheim and A. T. Wood-Harper. Amsterdam, Elisiver Science Publishers: 191-204.
16. Alvai, M. and P. Carlson (1992). "A Review of MIS Research and Disciplinary Development." *Journal of Management Information Systems* **3**(4): 45-62.

