

# Relevance of Qualitative & Quantitative Data in the Social Science Research (With Special Reference to the Researches in Economics)

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### Abstract

Data can be termed as qualitative and quantitative. The qualitative data relates to the behavioural study of the units selected for the study, while the quantitative data is the numeric presentation of the study. Both the types of data are important in social sciences, and that is why, most of the researchers use them in parallel giving room to both in their research. However, in the field of research relating to Economics, the economists prefer the quantitative data to the qualitative one.

The science of economics has two important facets: quantitative and qualitative. Both are linked with and based on economic theory. Economic theory can, therefore, be understood and analyzed either quantitatively or qualitatively. The distinction is basically in terms of measurement. Quantitative economics relies on measurement, whereas qualitative economics is completely devoid of any measurement. Quantitative economics is, thus, both mathematical and statistical, while qualitative economics is only mathematical. The best analogy to understand the difference between the two can also be drawn from diagnostic medical sciences. While quantitative economics is like pathology, qualitative economics is just indicative, and is akin to pulse-reading, and other symptomatic assessments.

The paper is a review study based on the content analysis of the related literature on the theme. It produces the author's moderated approach to the research in social sciences, and particularly in the field of Economics. It is argued that for the studies in Economics, the mixed research design allowing both the qualitative and the quantitative data, is appropriate. Neither only the qualitative data nor only the quantitative data is sufficient for the study

**Keywords:** Relevance, Qualitative, Quantitative, Data, Social Science, Methodology, Scientific Method, Review.

### Introduction

Qualitative research can be used to improve both the design and interpretation of traditional surveys. It explores a phenomenon that has not been studied before. It is used to understand any social phenomenon from the perspective of the actors involved, rather than explaining it from the outside. It helps to understand complex phenomena that are difficult or impossible to capture quantitative research. It reflects the detailed description of participants' feelings, opinions, and experiences; and interprets the meanings of their actions. It is important as it is more reliable and objective; it often reduces and restructures a complex problem to a limited number of variables; it looks at relationships between variables, and can establish cause and effect in highly controlled circumstances; it tests theories or hypotheses; it assumes sample which is representative of the population; subjectivity of researcher in methodology is recognized less; it is less detailed than qualitative data, and may miss a desired response from the participant. As the name suggests, the qualitative research approves qualitative data to be used. Qualitative data can be defined as the data that approximates and characterizes. It can be observed and recorded. This data type is non-numerical in nature. It is collected through methods of observations, one-to-one interview, conducting focus groups and similar methods. Qualitative data is important in determining the particular frequency of traits or characteristics. It allows the statistician or the researchers to form parameters through which larger data sets can

be observed. Qualitative data provides the means by which observers can quantify the world around them.

Quantitative research deals in numbers, logic, and an objective stance. It focuses on numeric and unchanging data and detailed, convergent reasoning rather than divergent reasoning. At the same time, it focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon. For the quantitative research, the quantitative data are used, which are measures of values or counts and are expressed as numbers. They are data about numeric variables (e.g. how many; how much; or how often). Qualitative data are measures of 'types' and may be represented by a name, symbol, or a number code. The overarching aim of a quantitative research study is to classify features, count them, and construct statistical models in an attempt to explain what is observed. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative researchers try to recognize and isolate specific variables contained within the study framework, seek correlation, relationships and causality, and attempt to control the environment in which the data is collected to avoid the risk of variables, other than the one being studied, accounting for the relationships identified.

Economics, though a subject falling in the category of social sciences, is different from the other subjects relating to social science. The problems can be best understood only when both the theoretical and practical implications are considered for study. The use of qualitative data links the researcher with the theoretical implications that make it binding on him to study the consumer behaviour, while the use of the quantitative data links him to the numeric analysis of such a behavior.

#### **Review of Literature**

Lisa M. (2008) was of the opinion that in natural sciences and social sciences, quantitative research is the systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques. The objective of quantitative research is to develop and employ mathematical models, theories, and hypotheses pertaining to phenomena. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

Martha A. Starr (2012) in the paper *Qualitative and Mixed-Methods Research in Economics: Surprising Growth, Promising Future* observes that qualitative research in economics has traditionally been unimportant compared to quantitative work. Yet there has been a small explosion in use of quantitative approaches in the past 10–15 years, including 'mixed- methods' projects which use qualitative and quantitative methods in combination. The paper surveys the growing use of qualitative methods in economics and closely related

fields, aiming to provide economists with a useful roadmap through major sets of qualitative methods and how and why they are used.

Nora B. Henrikson and Andrea C. Skelly (2012) in *Economic studies part I: basics and terms* observe that economic evaluations should state clearly the components of both intervention and comparator. The perspective of an economic evaluation has direct bearing on the types of costs and outcomes included in the evaluation. Economic evaluations often use modeling techniques to estimate the costs and outcomes of alternative interventions over time. Therefore, an appropriate time horizon is necessary, consistent with the perspective of the study. Economic evaluations most often compile data on the effectiveness of the interventions, their costs, and the impact on utility from a variety of sources. Since economic evaluations use diverse data sources and assumptions, authors should report sensitivity analyses to assess uncertainty around the results. An ICER describes the results of an economic evaluation. When the intervention of interest is more effective and more costly than the comparison intervention, the cost-effectiveness ratio provides an estimate of the cost per unit of improvement—for example, \$80,000 per quality-adjusted life year.

Melania Elena (2013) in the research entitled *Qualitative Methods used in Economic and Financial Analysis* observes that the methodology of the economic and financial analysis includes the methods and procedures used to research the company's activity and to realise the results of the economic activity. The main qualitative methods used in the economic and financial analysis are: A - modelling B - comparison C - grouping D - division and disintegration of results E - generalization.

Harpreet Kaur (2015) in *Mixed Methods Research* observes that Mixed methods research is a growing area of methodological choice for many academics and researchers from across a variety of discipline areas. With the development and perceived legitimacy of both quantitative and qualitative research in the social and human sciences, mixed methods research, employing the combination of both quantitative and qualitative research, has gained popularity. This popularity is because research methodology continues to evolve and develop and mixed methods research is another step forward, utilizing the strengths of both qualitative and quantitative methods. Mixed methods research is basically defined as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. Philosophically, it is the "third wave" or third research movement, a movement that moves past the paradigm wars by offering a logical and practical alternative.

Keshab Bhattarai (2015) in *Research Methods for Economics and Related Studies* shows how to use economic theories, statistical and econometric methods for conducting research to find answers to puzzling issues in modern economies.

How to test predications of models based on theoretical analysis from optimising models in micro or macro, finance or business related fields of economics using empirical evidence using basic econometric or statistical or applied general equilibrium or strategic analyses is discussed and illustrated. It is argued that a researcher need to be more open and comprehensive while thinking about alternative research techniques applicable to analysis of a particular issue under consideration.

Ligia Muntean Jemna (2016) in *Qualitative and Mixed Research Methods in Economics: The Added Value When Using Qualitative Research Methods* observes that the debate should not be a key issue; the key issue would be to improve research quality through data visualization of quantitative and qualitative research methods. This paper surveys the growing use of qualitative and mixed methods in economics, aiming to provide economists - learners and users of statistics - with a useful roadmap through major sets of qualitative methods and how they are used. It is argued that, although qualitative methods are often portrayed as less accurate, less powerful or less credible than quantitative methods, in fact, the two sets of methods have their own strengths. How much can be learned from one type of method or the other depends on specific issues that arise in studying the topic of interest.

Bartleby Writing (February 17, 2018) under *Economic Studies: Quantitative and Qualitative Analysis* observes that Macroeconomics focuses on the behavior of the economy while microeconomics focuses on and individual as a consumer. Economics also focuses on two different studies known as quantitative and qualitative analysis in which they focus on the distribution, production, and allocation of economic resources. Many mathematical or statistical calculations are used in economics to study many different materials such as the government. Two very important economic theories include classical and Keynesian economics. They each have a specific approach on studying consumer behavior, monetary policy, and government spending.

Dilip Mookherjee (2018) in on research in development economics observes that there are no universal laws in economics, unlike physics. It is more alike to evolutionary biology. There are some general game theoretic principles – like the Darwinian principles of selection in biology. But the way they play out varies from context to context and so every ecosystem is different. They all follow Darwinian principles but the local dynamics are very different. Similarly in economics, we really have to treat each region, each industry individually and try to understand it before we try to decide on what kind of policies will work well. So scientific understanding must precede policy research. For scientific understanding, we need both theories and tests of theories. For that, both theory and empirics are very important.

Haradhan Mohajan (2018) in the paper *Qualitative Research Methodology in Social Sciences and Related Subjects* discusses the proper use of qualitative research methodology to discuss several

aspects of the research for the improvement of the skill of the readers. During the last few decades, the use of qualitative research has been increased in many institutions. It can be used to explore several areas of human behavior for the development of organizations. In qualitative research we need to emphasize less on counting numbers of people who think or behave in certain ways, and need more emphasis on explaining why people think and behave in certain ways. It is good at simplifying and managing data without destroying complexity and context.

#### **Objectives of the Study**

1. To be familiar with the causes, effects and relevance of research
2. To learn about the various types of research
3. To study the background of the qualitative and quantitative research methodology in social sciences and some other related subjects
4. To discuss the significance of qualitative research in social sciences
5. To discuss the significance of quantitative research in social sciences
6. To discuss both the merits and demerits of both the qualitative and quantitative methodology
7. To find out the limitations of both the qualitative and quantitative methodologies
8. To discuss the significance of both qualitative and quantitative methodology in the researches in Economics

#### **Hypothesis**

1. Man being a curious creature, is always involved in the process of thinking about the surroundings, and in knowing the unknown
2. Natural Science research relates to the study of the natural phenomenon
3. Social Science research relates to the study of the social phenomenon
4. Both natural and social science research adopt different approaches and methodologies
5. Natural Science Research approves the use of the quantitative research methodology
6. Social Science Research approves the use of the qualitative research methodology
7. Theorists of Economics find the quantitative research better than the qualitative one for the understanding of economic problems
8. In Economics, traditionally there is the trend of using quantitative data alongwith the qualitative data
9. Only qualitative or only quantitative research methodology is not suitable for the studies in Economics
10. The researches in Economics require mixed use of qualitative and quantitative methodologies

#### **Research Methodology**

The paper is a content analysis based review paper prepared with a specific purpose to discuss the merits, demerits, significance and limitations of both the qualitative and the quantitative research methodologies and the need of the combined use of both of the methodologies in the studies relating to Economics. The method adopted for the review paper includes- selection and finalization of the theme and subject to be studies, that is, relevance of qualitative

& quantitative data in the social science research (With Special Reference to the Researches in Economics); exploring and finding the various traditional and modern sources of information on the theme; selecting a few specific studies for consideration, collecting the secondary data on the theme from the various research studies carried inland and abroad available on the various internet sites; compiling the collected contents on the basis of their nature and relevance; content analysis; arriving at fruitful and significant findings and conclusion. The whole process adopted for the purpose of study witnesses the author's rigid inclination to the scientific method and his adopting all the steps of social science research. The content analysis was made with special focus on the use and relevance of both the qualitative and the quantitative research methodologies in the studies pertaining to Economics. Findings were made on the basis of the authors's own understanding of research and on the basis of the stuff selected for the study from the various sources.

#### **Findings, Summing Up & Suggestions**

1. Two types of research, that is, the qualitative research and the quantitative research are in trend in social sciences
2. The research critics are divided on the issue of which of the two types of researches is better and more significant
3. The qualitative research is more complex than the quantitative research, as it deals with human mind and actions
4. Phenomenology, ethnography, narrative approach, grounded theory, content analysis, action research, historical research, case study etc. are some of the types of qualitative research
5. Most of the research critics consider the quantitative research to be more authentic and more relevant than the qualitative research
6. The qualitative research using the qualitative data alone is not suitable for the researches in the field of Economics, as in most of the cases there is the requirement of numeric data
7. The quantitative research which solely concerns the numeric data alone is not suitable for the economic studies
8. Despite the facility of mathematics and statistics in Economics, coupled with the fact that Economics is inherently mathematical, quantitative economics is greatly constrained by a number of both built-in and other assumptions with the result that it invariably fails to reflect reality
9. Mixed methods research design using both the qualitative data and the quantitative data is the most appropriate one for the researches in Economics
10. It involves integrating different forms of data and analyses in parallel or sequential phases to meet the goals of a research project and answer specific research questions

11. Only through the mixed qualitative and the quantitative data and research that the economic problems can be understood

#### **Conclusion**

Research is the most widely used tool to increase and brush-up the stock of knowledge about something and someone. In the field of marketing, business, sociology, psychology, science & technology, economics, etc. there are two standard ways of conducting research, i.e. qualitative research or quantitative research. While the qualitative research relies on verbal narrative like spoken or written data, the quantitative research uses logical or statistical observations to draw conclusions. Economists have long used quantitative methods to provide us with theories and explanations on why certain things happen in the market. Why a given economic system behaves the way it does. Paradoxically, none of these theories and explanations have been able to predict past and current crises. And they continue to rely on models of explanation that are essentially quantitative, ignoring the fact that individual behaviour cannot be aggregated to collective behaviour.

In a word, for the proper understanding and study of the various economic problems, mixed research design which allows both the qualitative and the quantitative data to be used, should be adopted.

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