The main features and constraints of social science’s research methods

Rotimi Omosulu *

Philosophy Unit, Redeemer’s University, Mowe, Ogun State, Nigeria

Abstract

“Theory without practice is empty, while practice without theory is blind”

The truth of the above statement manifests itself in the value of social science’s research methods to society which is the focus of this work. Therefore, the work argues the thesis that social science’s methods of investigation into the social life of society remains a potent weapon in the hands of practical men in their societal re-engineering endeavours, despite its shortcoming. This means that apart from showing the main features and constraints of social science’s research methods, this work also aims to bring to limelight the tremendous contributions of social science’s research methods to social re-engineering.

Keywords: Research Methods, Social Sciences, Science, Society

1. Introduction

Since philosophy is originally and is still “the mother of all sciences” (Omoregbe, 1993: xi), it then behoves on it to continue to play the essential parental roles to other disciplines. Philosophy of social sciences is one of such parental roles. Indeed, the role of philosophy to social sciences is to critically question the basic assumptions and the methods of acquiring knowledge in social sciences in order to wake the latter up to the realisation of acquiring knowledge that will not only have instrumental value but also intrinsic value. Interestingly, this work is one of such philosophical attempts towards that direction.

The work is carefully divided into six major subtitles. The first subtitle is the general introduction while the second one introduces the reader to the meaning of research. This follows with the third subtitle which deals with the meaning of social sciences. The fourth and fifth ones cover the main features and constraints of social science’s research methods respectively. The sixth one treats the argument of this paper.

2. What is research?

The history of man, right from antiquities, is rich with natural propensity and inclination to know and to find out. This explains why Omololu Soyombo believes that “we all do research –even in our everyday life” (Soyombo, 2001: 81). According to Soyombo,

*When we want to buy a product (e.g. television), we do not just take any amount of money enter the electronics shop, pick up the first television set we see and go to the cashier to pay for the set. We do little research about various brand available, durability, price, etc. Even for dating and marriage. People do not just befriend or marry whoever comes along. Usually people do some discreet investigation (research) about the party, e.g. to know who he/she is, what the person does, etc. (Ibid., 81)*

Going by the above explanation, research can be simply defined as “the process of acquiring knowledge” (Ibid., 81). This type of definition is only adequate or suitable for the ordinary meaning of research because it fails to show the distinction between the systematic or scientific way of acquiring knowledge and the pseudo-scientific or the layman approach to knowledge. While the process of acquiring knowledge through unscientific means could be constantly fraught with errors, the scientific means, though not hundred percent guaranteed, is more reliable; largely because of its empirical nature. This accounts for the reason why the word research is difficult to be separated from science. In other words, nobody can comprehensively explain what research is, without consciously or unconsciously, talking about a scientific way of doing things. Hence, F.N. Ndubuisi holds the view that “science and research go together because a researcher is basically a scientist” (Ndubuisi, 2004:35).

Wikipedia internet encyclopaedia therefore defines research as “a human activity based on intellectual investigation and is aimed at discovering, interpreting, and revising human knowledge on different aspects of the world” (Wikipedia, assessed 15-05-2013). Asika (1991: 2), on his part, sees research as “any organized
enquiry that aims at providing information for solving identified problems’. Again, Wikipedia internet encyclopedia goes further to tell us that “the term research is also used to describe an entire collection of information about a particular subject’ (Wikipedia, assessed 15-05-2013).

On our part, we define research as a systematic way of obtaining knowledge about “x”. The “x” of our definition can be substituted for anything whatsoever e.g sex, religion, amoeba, snake, good governance etc. The overall goal is to either reduce human ignorance or to advance the frontier of knowledge of whatever “x” in question. However, E.C. Osuala, in his book, Introduction to Research Methodology, states that “in the social sciences, the application of the term “research” is restricted to activities designed to promote the development of a science of behaviour.” (Osuala, 2001:2). But if research is synonymous to the promotion of a science of behaviour in social sciences as Osuala has revealed, then what is social sciences?

3. The meaning of social sciences

The term “social science” can conveniently stand for any academic discipline which studies human society from a point of view. But in an elaborate sense, social sciences may be defined as “the rational and systematic study of human society in all its forms with the aim of arriving at an enduring understanding, acknowledged as such by a broad consensus of researchers of social phenomena” (Meyer, 1999). Social sciences can also be defined as;

\[
\text{a group of academic disciplines that study human aspects of the world. They differ from the arts and humanities in that the social sciences tend to emphasize the use of the scientific method in the study of humanity, including quantitative and qualitative methods. (Wikipedia, assessed 20-05-2013)}
\]

However, some experts have argued that no definition can righteously capture the meaning of a broad church of academic disciplines like social sciences which make use of a wide range of approaches to gathering evidence. Rather than narrowing social sciences to a particular definition, the experts suggest a multifaceted approach to defining social sciences. This means that any definer of social sciences should endeavour to define each discipline under social sciences if justice is to be done to this broad church of academic disciplines. What we can fathom from this argument is this; even if social sciences study society in its fundamental and holistic sense, it is crystal clear that the focus of each discipline under social sciences is not the same. That is why special attention must be paid to each and every discipline under the umbrella of social sciences.

In view of the above, we make bold, in this paper, to discuss each social science discipline in relation to its focus on society. The social sciences, “which deal with human behaviour in its social and cultural aspects, include the following disciplines: anthropology, sociology, economics, political science, and the study of international relations” (The New Encyclopedia Britannica, 316). Psychology, geography and social work would not go without being mentioned in our discussion. According to Ken Roberts, “anthropology grew from the curiosity of explorers, traders, and missionaries who, from the fifteenth century onwards, were
making contact with non-Europeans” (Roberts, 2009:7). Afterwards, anthropology has been known as “the science of humanity which studies humans in aspects ranging from the biology and evolutionary history of Homo-Sapiens to the features of society and culture that decisively distinguish humans from other animal species” (The New Encyclopedia Britannica, 316-364). Sociology, in its own right,

... studies human societies, their interactions, and the processes that preserve and change them.
It does this by examining the dynamics of constituent parts of societies such as institutions, communities, populations, and gender, racial, or age groups. (Ibid., 316-364)

The interest of economics in studying human society is hinged on how to analyse and describe the production, distribution and the consumption of wealth. Its major two branches are microeconomics and macroeconomics. The component of analysis of the former is on the individual agents i.e. a household while the unit of analysis of the latter is on the economy as a whole. We can also talk about political science as a social science discipline. Its focal point is on the theory and practice of politics and the description and analysis of political systems and political behaviour. Also, the study of international relations has expanded the scope of social science disciplines since it shows interest in the interactions between sovereign states. As such, M. N. Barnett and K. Sikkink explain that “the study of international relations has largely concerned the study of states and the effects of anarchy on their foreign policies, the patterns of their interactions, and the organization of world politics” (Barnett and Sikkink, 2009).

Psychology is a social science discipline which deals with the study of behaviour and mental processes. Karo Ogbinaka (2010, p.76) defines it as “the scientific study of human mind with the aim of knowing, why and how human beings reason and behave the ways they do. To achieve this, the psychologist carries out researches and experiment to validate his findings.” Geography is the next social science discipline that should enjoy our attention now. As such, C. Park (2004, p. 1) sees geography as “the study of place and space and of movements between places”. Fundamentally, geography can be divided into two major parts namely human geography and physical geography. While “the former focuses largely on the built environment and how space is created, viewed and managed by humans as well as the influence humans have on the space they occupy, the latter examines the natural environment and how the climate, vegetation and life, soil, water and landforms are produced and interact” (Wikipedia, assessed 26-06-2013). Another discipline under social sciences is social work. Although it is a relatively new discipline in few universities in Nigeria, yet, its focus on the society is as important as that of other social science disciplines. It does not only concern itself with the social problems and the causes of social problems but it also attempts to proffer solutions to social problems and the human impacts to social problems.

It may not be amiss at this juncture to quickly correct a misconception that likely to limit social science disciplines to those we have briefly discussed in this paper. This is important because some disciplines like history, law, education, linguistics and even philosophy can fit for social science disciplines without distorting the original meaning of social sciences. For the sake of brevity, we are not going to dwell on why these disciplines should be regarded as such. What we cannot shy away from is the way and manner in which
the social science disciplines arrive at the knowledge of the society which they claim to possess. In other words, what are the methods of research in social sciences?

4. The main features of research in social sciences

Before we begin to marshal out the main features of research in social sciences, it is instructive to explain the word "science". Originally, science means a systematic body of knowledge. It can also be referred to as "the devotion of man into research or the attainment of the kind of knowledge which establishes general laws governing a number of particular, isolated facts" (Unah, 1998: 4). In addition, science can be seen primarily as natural sciences, examples of which are physics, chemistry, astronomy, biology, geology etc. In this sense, "science is a methodical approach to studying the natural world. Science asks basic questions, such as how does the world work? How did the world come to be? What was the world like in the past, what is it like now, and what will it be like in the future?" (McLelland, 2006). In another sense, science can be applied secondarily to social sciences such as anthropology, economics, sociology, political science, social work, to mention but a few.

Subsequently, the method of science is that of obtaining, presenting and teaching knowledge in general. Or put differently, "a method is a way to achieve an end; scientific method therefore is a way to achieve the ends of science" (Hatfield, 2005: 946). If scientific method is meant to achieve the ends of science, it means that any social method must also aim at achieving social ends. The question now is this, what methods would social scientists use to achieve social ends? In other words, what are the main features of research in social sciences? In answering this question, we make bold to say that social science disciplines are science driven. By so doing, the methods of research in social sciences are scientific in nature. The reason is that social sciences are relatively new disciplines when compared to natural sciences and this has made their adoption of scientific methods necessarily compulsory.

Consequently, the scientific methods which the social sciences use while carrying out any social investigation are; experiment, measurement, hypothesis, observation, data collection, data analysis, objectivity, generalisation, sampling, etc. We shall now explain them one after the other.

5. Experimentation

Experiment as a specific category of scientific activity did not emerge until the scientific revolution of the seventeenth century. Before this time, there was little or no serious effort to use experimental techniques to transform variables or data into established facts. In 1589, Galileo Galilei, broke a new ground in the history of science in the Tower of Pisa with his monumental experimentation which showed how all objects fall with uniform acceleration, given the absence of air. With Galileo’s landmark achievement, experimentation now becomes a common decimal in the world of science. Nevertheless, experimentation did not find its way into social science’s research method until when multivariate analysis was developed. In social sciences, or, in behavioral sciences, there are three categories of experimentation. These are laboratory experiment, field experiment, and field studies (Asika, 1991: 110). The essence of experimentation in natural or social sciences
is to enable the researcher to improve on the conditions under which he observes, and to derive verified functional relationships among phenomena, under controlled conditions so as to arrive at more precise results.

6. Measurement

The concept of measurement is not only fundamental to natural sciences but also germane to social science’s research. It is one of the things that distinguishes scientific research from pseudo-scientific one. Thus, measurement can be defined as “the assignment of numerals to objects or events according to rules” (Osuala, 2001:142). It can also be viewed as a process of observing, and recording the observations that are collected as part of a research effort. But strictly speaking, there are classical and representational definitions of measurement. In the classical definition, measurement is the determination or estimation of ratios of quantities. While representational theory defines measurements as the correlation of numbers with entities that are not numbers (Wikipedia, assessed 28-05-2013).

In addition, the act of measuring often requires an instrument designed or calibrated for that purpose, such as a gauge, a scale, a thermometer, a speedometer, as well as aptitude tests, voter polls etc. In social science, the common measuring instrument is scale. A scale, according to Asika, “must have either (1) an origin (2) an order or (3) a distance, or all these. The best scale possesses all these characteristics and the lower level, inferior scale possesses only one or none of these characteristics” (Asika, 1991: 52). Still relying on Asika, there are four types of scales used in measurement in the social sciences. These are nominal scale, ordinal scales, interval scales and ratio scales (Ibid., 53).

7. Hypothesis

Hypothesis can be regarded as the “compass” or the “guiding principle” of research since research is basically meant to test whether a hypothesis is correct or incorrect, right or wrong. Therefore, every researcher needs a hypothesis to work it, especially for the sake of focus and direction. To this extent, a hypothesis can be defined as a guess or a conjectural statement which needs to be confirmed or refuted through experimentation. According to Osuala,

*The role of hypothesis in research cannot be overemphasized because it guides the researcher in planning the course of the inquiry, in choosing the kinds of data needed, in deciding the proper statistical treatment, and in examining the results of the study. (Osuala, 2001: 35)*
8. Observation

Collins English Dictionary defines observation as “a detailed examination of phenomena prior to analysis, diagnosis, or interpretation” (Anderson, 2006: 1126). In its simplistic sense, observation is often an activity of a sentient being and it is often done by using one of the five senses. Nevertheless, it is not everything someone claims to have seen, observed, or just come to believe counts as an observation. One needs to pay a careful attention to the object of perception before an observation is meaningful. Therefore, “scientific observation is more than a physical act of sensation; it must be an epistemic act as well, with sufficient meaning and credibility to contribute to knowledge” (Hasker, 2005: 754). In social sciences, researchers always use observation for the collection of data or variables before processing. But how detailed or objective could a social researcher observe the social phenomena? Answer to this question remains always controversial within and outside the camp of social scientists. More will be said on this later.

Data collection

In social sciences, it is customary to collect data through two notable methods namely, survey methods and non-survey methods. According to Soyombo,

*The survey method is one which entails a direct contact between the researcher and subjects, and during which the researcher asks questions which are answered by the subjects. The non-survey method is one in which data are collected about subjects without necessarily asking them questions.* (Soyombo, 2001: 90)

Data can also be classified into two: qualitative and quantitative data. Examples of qualitative data are colour, intelligence or honesty, etc. while quantitative data are height, intelligent quotient and grade-point average.

9. Sampling

Sampling also occupies an important space in social science’s research. It is the stage of research that gives the researcher the freedom of choice concerning who to interview, and where to use as a case study. As such, a sample can be simply defined as “a smaller representation of a large whole” (Ibid., 93).

10. Objectivity

Objectivity is one of the central principles of research. And it is best understood in relation to the concept of subjectivity since “we often think that some sorts of claim are less objective than others” (Miller, 2005: 751). In this connection, Jamie Morgan and Wendy Olsen (2008, p. 107) states that “objectivity is a bridge between the subjectivities of subjects and the rest of real world.” Indeed, objectivity plays a crucial role in research because it is what gives credence and trust to the result(s) of any research. A research that fails to reflect high
level of objectivity cannot be considered as a serious academic endeavour. Hence, objectivity is indispensable to research in natural sciences and in the social sciences.

11. Generalisation

Another important feature of social science’s research method is generalisation, which by design, is the last method we are discussing here. Generalisation is important to social research because every researcher aims to communicate his findings to a wider population. According to Ndubuisi, “generalisation constitutes the essential nature of explanation in science. At any point an observed fact is explained, the next step is the incorporation of this fact into general law” (Ndubuisi, 2004: 313). In social science, generalization gives relevance and practicability to research. A research that is neither relevant nor practicable can never achieve a successful generalization. This means that generalization helps social scientists to make available their findings in order to enjoy universal validity.

It is on this note we shall now focus on the nitty-gritty of this paper which is the main constraint of social science’s research methods.

12. The main constraints of social science’s research methods

Social sciences, like other academic disciplines, are not problem-free. However, some scholars believe strongly that most problems confronting social sciences today are self-imposed. They query the justification for the use of “science” as a suffix of the word “social” in order to have social science. Assuming all the disciplines are referred to as “social studies” instead of “social sciences” by their practitioners, they argue, the controversies surrounding the existence of social sciences as genuine science disciplines would not have arisen in the first place. On the basis of this, they argue further that “the term social science is superfluous; that the proper nomenclature is social studies, political studies and so forth” (Ajayi, 2001:100).

The above preamble shall form the fulcrum of our criticism of social science’s research methods. To start with, prediction is very fundamental to scientific research. In natural sciences, prediction plays a crucial role in research. It helps to communicate the anticipated result of a research. It is a normal tradition in natural sciences that when a certain test is carried out by a researcher, a certain result is expected. In other words, if “X” is the case in natural science, a researcher is expected to say, in a precise statement and without fear of contradiction, what will happen to “Y”. Accordingly, Keith Webb (1995, p.141) states that

> While prediction is often used in natural science as a way of validating an experiment- a theory or an hypothesis is often seen confirmed if the expected result occurs- the nature of prediction in the social sciences frequently precludes its use as a means of validation.

Consequently, lack of precision is one of the constraints of social science’s research methods because a social scientist, unlike natural scientist, deals with human beings who are always less predictable. The difficulty in having accurate prediction of human behaviour has made precision almost a no-go- area in social
sciences. The social scientists, in trying to save themselves from barrage of criticisms, succumb to the use of an expression like *ceteris paribus* which means “if other things being equal” in place of a categorical statement about what should be the outcome of their research works. Even with this escapee statement, do we need to be told to avoid shrouding our expected research result with heavy dose of probability before we do so? Or, is it not scientifically gratifying to have an accurate prediction rather allowing our research efforts to wallowing in probability? This therefore explains why Popper says that “the more highly probabilistic a statement is, the more it distances itself from science and tends towards metaphysics” (Ndubuisi, 2003: 49).

The use of random sampling in social science’s research is also a limitation. This becomes obvious when the word “random” is taken to mean something haphazard or unorganised. Given this, any researcher who randomly selects data for processing cannot be free from error of unequal representation of data. Take, for instance, a scenario whereby a research is to be carried out on religious tolerance in Nigeria. Even if the researcher should embark on taking sample of all religious groups i.e. Christianity, Islam, traditional religion, etc, such effort cannot still exonerate him from the problem of unequal representation of data. As long as such a researcher gets his data from random sampling, the result of such investigation cannot be a true reflection of religious tolerance in Nigeria. Therefore, any research that gains its strength and stamina from random sampling cannot be objective - which should be the hallmark of science.

Lack of objectivity becomes another constraint of social science’s research method because the methodology of research in social sciences does not preclude social scientist from being guilty of subjective prejudice. Like what Max Weber says, it is often always impossible for social scientist to eliminate the influence of value from the analysis of facts. The reason is very simple since “both the investigator and investigated are caught up in culture (Varcoe, 2008: 618). The argument here is that in the natural sciences, the researcher does not need to, and cannot even if he wants, put his biases and wishes on his objects of study. The physicist who wants to know whether the law of gravity holds or not, cannot but observe what is. But if one asks a Marxist researcher and a non-Marxist researcher to study and make a report of their findings on the issue of poverty in Nigeria, one will be astounded by obvious disparity in their analyses. This disparity can be traced to the fact that they are dealing with a social phenomenon about which they have personal feelings (Ajayi, 2001: 102).

The point to note here is that it is always difficult for a social scientist to engage in objective analysis without taking a value, prior to the analysis. Consequently, Weber says that “no objective analysis of social reality can be made because life with its irrational reality and its store of possible meanings is inexhaustible” (Ibid., 98). Going by what Weber says here, social sciences cannot be a generalizing activity. That is, being able to make statement that transcends particular social situation. Granted this, where then lies the objectivity and generalization which social scientists often lay claim to? After all, “all social perception is related to the social background of the perceiver ...” (Webb, 1995).

Beyond the constraints of social science’s research method discussed above, we can still say without fear of contradiction, that the presence of social sciences, as a broad church of academic disciplines, is still a good omen to mankind. This assertion, even if it does not speak the mind of all and sundry (since no position taken
on any intellectual discourse is all encompassing) will be substantiated in the immediate accompanying subtitle.

13. Social science: A friend or a foe?

Our purpose under this subtitle is to explicitly showcase the positive contributions of social sciences to society. And without operating with a defective logic, we can argue that social sciences have helped in the development of the society through the introduction of different concepts aimed at explaining and regulating human behaviour. The concept of government is one of such innovations. As we know, the state is an extension of the society. Society itself, to a large extent, is an artificial creation of man. No society can therefore attain reasonable level of development or enjoy sustainable progress without having an institutionalized body in place. It is this body (government) that will ensure the smooth running of the society. To this end, political science has since saddled itself with the description and analysis of policies of government in order to bring about efficiency and good governance.

Another tangible contribution of social sciences to society is the use of statistical analysis which has made planning easier. For instance, no policy maker nowadays will deliberately turn his back against statistical analysis while making plans for a host of people. This explains why the knowledge of a people’s population is essential to its developmental plan. The point here is that it is as a result of research efforts of the social scientists that an approximated population of people, living in a state or country, can be known. This information is often germane to any developmental plan of such country or state.

We can also talk about global market as one of the contributions of social sciences to the development of the world at large. The social scientists, through rigorous study of different societies, discover that there are some similarities in the needs and desires of man all over the world. It is in view of this the idea of making the world a global village evolves. Consequently, globalisation has helped different societies and regions of the world to affect one another, and to also create, transform, transit, among other things, certain values, beliefs and goods. In spite of this, globalisation is not without its strong criticisms, especially from some African scholars since they believe there is no level playground in the global market.

However, in the area of health, psychology has helped in the study of mental cases and proffering possible solutions to such cases. Sociology has equally helped in stemming the rate of crimes in the society. For example, there are various crime prevention bodies all over the world. There is Federal Bureau of Investigation (FBI) in America while we have Economic and Financial Crimes Commission (EFCC) in Nigeria, just to mention but a few. All these bodies always take the advantage of the knowledge in the field of psychology and sociology whenever they engage in any criminal investigation. Even in the area of marriage, marital psychologists have helped to reduce the number of broken homes.

So, given the aforementioned roles of social sciences to the society, is it not a misnomer for anyone to continue to hold the view that social sciences must be condemned to the garbage of history because their methods of research are not scientifically satisfactory?
References


