

The Place of Theory in Empirical Research

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Abstract

This essay focuses attention on the place of theory in empirical research. That is, this essay examines the role of theory in the conduct of empirical research. It is argued that theory and empirical research are critically useful and important to each other as both facilitate the development of each other and they are engaged in an expanding network of relationships. This essay also posits that the indispensability of theory and empirical research to each other becomes glaring when it is realized that a fruitful empirical research cannot be conducted without a theory as a guide, and a theory can only be developed, clarified or reformulated as a product of an empirical research. This means that there is an unbreakable affinity between theory and empirical research.

Keywords: Theory, research, empirical research, phenomenon, inquiry

1. Introduction

...Although theory cannot by itself transform reality,
without a theoretical illumination reality must appear a
closed riddle.

- Mahmood Mamdani (1996: 299)

The aforementioned assertion by Professor Mamdani clearly reinforces the fact that the huge importance and explicatory capability of theory in comprehending social reality or any social phenomenon cannot be overemphasized. It shows that to unmask reality or any social phenomenon, a sound and relevant theoretical outfit has to be deployed.

In this essay, attention is focused on the place or role of theory in a research inquiry; in other words, this essay attempts to demonstrate the role a theoretical instrument could play in the conduct of an empirical research. How can a theory impinge upon the conduct of an empirical inquiry? How fruitful or rewarding can a research endeavour be if it does not enhance or stimulate the development of a theoretical outfit? Or is it even possible or feasible for a research enterprise to be embarked upon without a solid theoretical foundation? We shall attempt to provide answers to these and other related teasers in this essay; and by so doing, it is hoped, the dynamics of the interdependent relationship between empirical research and theory, and their indispensability to each other shall become more glaring.

By way of organisation, this paper is made up of four broad sections. Following this section is part two where the concepts of “theory” and “research” are clarified. In section three, an attempt is made to establish the close correlation between theory and research, and the fact that they are very important to each other is reiterated. The concluding remarks are contained in section four.

2. Resolving the definitional Problematique

There is no gain-saying the fact that one of the peculiarities of the social science community is the absence of uniformity in the definitions of many concepts often employed in analyses or discourses in this area of the search for knowledge. As a way of avoiding any form of terminological mix-up, it is apposite for the key concepts used in this essay – “theory” and “research” – to be situated in their proper definitional perspectives. This would facilitate an enriched understanding of the issues with which this essay is concerned.

A Word on Theory

There is no definition of theory that is universally applauded by all and this is not peculiar to the concept of theory; generally, “it is a fundamental and an unresolved issue in the study of human society” (Obo and Coker, 2014: 528). Theory has been described as a “widely used but yet elusive concept” (Obasi, 1999: 39); in the words of Bill and Hardgrave Jr. (1981: 22-23), the concept theory remains surrounded by tremendous confusion,

and many students still recoil mentally when confronted with the subject. According to them, the reasons for this apprehensive attitude include the fact that the concept has been left completely undefined; it has been defined indirectly; it has been defined ambiguously; and it has been equated with other equally confusing terms such as model and method.

The point has been made that although social scientists are in agreement that one of the most important functions of empirical research is to contribute to the development and refinement of theory and that theory enhances the goals of science, there is little agreement on what theory is (Frankfort-Nachmias and Nachmias, 1996: 35-36). This view is supported by George Homans, who, while commenting on the state of theory in sociology, observed that:

Contemporary sociologists have been preoccupied with 'theory', yet have seldom tried to make clear what theory is... We sociologists show our confusion about the nature of theory both by what we say about theory in general and by what kinds of theories we actually produce (cited in Frankfort-Nachmias and Nachmias, 1996: 36)

According to Johari (2005: 4), the English word "theory" originates from a Greek word "theoria" which suggests a well-focused mental look taken at something in a state of contemplation with an intent to grasp it. In this sense, he observes, it covers an understanding of being (ontology) as well as a causal explanation that may be in the nature of a theoretical, philosophical, empirical, or logical thought, and if so, the term "theory" may be studied in wider as well as narrower senses. In the former case, Johari points out that it may be taken as a proposition or a set of propositions designed to explain something with reference to data or inter-relations not directly observed, or not otherwise manifest. And in the latter sense, Johari cites Arnold Brecht as stating that theory "comprises a thinker's entire teaching on a subject (his **Lehre**), including his description of the facts, his explanations (whether religious, philosophical or empirical), his conception of history, his value-judgments, and his proposals of goals, of policy, and of principles."

The ancient Greek word for "theory" denoted contemplation, and it was used to refer to the experience of spectators at a classic tragedy which would leave them heightened in awareness and shaken and purified in their emotions; the original Greek word for "theory" literally meant seeing, or beholding, or "taking in", but it was actually used by Plato and Aristotle in the sense of searching out intellectually the principles that comprised "episteme" or science, or inward seeing, seeing through the eye of the mind. The "theoros", or the theorist, therefore, was the man whose role it was "to see" (Deutsch, 1971: 11; Varma, 1982: 95).

Theory has been defined in many ways by different scholars. It refers to sets of systematically related generalisations premised on what is happening or might happen in the real world; theory can lead to changes in the world, and the experiences of the world can shape, revise, and refine theory (Chilcote, 2000: 2). Sayer (1992) (cited in Burnham, Lutz, Grant and Layton-Henry, 2008: 3) indicates that the term theory is used in at least three important senses: as an ordering-framework or set of background assumptions; as conceptualization, in which "to theorize" means to prescribe a particular way of thinking about the world; and as a hypothesis, explanation or testable proposition.

A theory can also be regarded as a set of systematically related generalizations suggesting new observations for empirical testing. Thus defined, the concept "theory" contains three major elements: theory always involves generalization, i.e. it includes statements that highlight uniformities between two or more variables; theory suggests new observations, i.e., it draws relations that carry different explanations of empirical reality; and theory is testable, i.e. the formulated generalisations must possess the capacity to be tested – that is, to be falsified on the basis of evidence drawn from empirical examples (Bill and Hardgrave, Jr., 1981: 30). In the words of Hugh Miller (2008: 13), in a scientific sense, a theory is a coherent narrative capable of describing the world and perhaps even explaining the world and predicting the world's next turn.

On his part, John Vasquez (1997: 900) provides what he regards as a "non-controversial" definition of theory; according to him, a theory is a set of interrelated propositions purporting to explain behavior. But this definition has been criticized as being too loose. Kenneth Waltz (1997: 913), for instance, has pointed out that interrelating propositions are not all what theories are about. In his view, theory could be defined as a picture, mentally formed, of a bounded realm or domain of activity; a theory, he posits, depicts the organisation of a realm and the connections among its parts. In Karl Deutsch's opinion (1971: 11-12), theory has an objective and subjective meaning; in its objective meaning, theory implies perception of a relatively distant object or situation. It means to see and perceive something outside the observing self, even though the object of the observation may be within one's larger personality. But in its subjective aspects, according to Deutsch, theory means to perceive this object as relevant to one's own emotions, needs or desires – even if it were relevant only to one's desire to know or to resolve some inconsistency or dissonance in one's knowledge.

To Mandler and Kessen (cited in Baridam, 1993: 18), theories are sets of statements understandable to others, which make predictions about empirical events; accordingly, a theory could be seen as an explanation of why something happens, and, sometimes, how something happens as well as statement of what happens.

According to Isaac Obasi (1999: 38), one of the most authoritative definitions of a theory was offered by Kerlinger (1977) and it presents it as a set of interrelated constructs (concepts) and propositions that presents a systematic view of phenomena by specifying relations among variables with the purpose of explaining and predicting the phenomena. In a nutshell, as Obasi puts it, theory first sets out the interrelations among a group of variables; secondly, it presents a systematic view of the phenomena described by the variables, and then finally explains and predicts the phenomena.

From the foregoing definitions, it is clear, as Obasi (1999: 39) has observed, that a theory contains concepts, variables, facts, principles and propositions. The point has been made that the importance and/or relevance of a theory can be judged by examining the three elements of its power namely:

- (i) the ability of theory to identify the fundamental and non-fundamental problems and help our understanding of the nature of these problems. Such are the explanatory and analytic powers of a theory;
- (ii) the ability of the theory to provide the correct solutions to problems, and its ability to guide us in our endeavour to change reality or to perpetuate it, depending on what our interest is. We call this its prescriptive power; and
- (iii) the ability of the theory to project the future. This is its predictive power (Metuge, 1983: 50-51).

In the words of David Sanders (2002: 47), for both positivists and behaviouralists, there are three main ways in which theories can be evaluated namely:

- (a) a “good” theory must be internally consistent: it must not make statements such that both the presence and the absence of a given set of antecedent conditions are deemed to “cause” the occurrence of phenomenon that is purportedly being explained.
- (b) a “good” theory relating to a specified class of phenomena should, as far as possible, be consistent with other theories that seek to explain related phenomena; and
- (c) crucially, genuinely explanatory theories must be capable of generating empirical predictions that can be tested against observation.

Understanding Research

Research is simply the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data; it is a most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts (Osuala, 1982: 1). According to Obasi (1999: 11), in its simplest conception, research can be defined as the deliberate seeking of knowledge through empiricism, fideism, rationalism and science, and it is an effort to discover meaning and provide explanation and understanding where ignorance or obscurantism reigns. It can also be seen as the systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among phenomena (Kerlinger, 1977 cited in Obasi, 1999: 11).

The point has also been made that basically, research is a careful and systematic attempt to study particular phenomena so as to increase or modify the stock of knowledge about them; it is concerned with the origin, nature, character and consequences of specific social phenomena. Thus, the research act begins with the posing of problems, i.e., the asking of questions concerning the social world, and this presupposes that answers exist and can be found through a careful and systematic collection and sifting of the evidence available. It is the systematic collection and sifting of evidence that is called research (Abdulrahman, 2012: 30). Research can also be regarded, in the words of Eboh (1998) (cited in Obasi, 1999: 11-12),

as the process of systematic inquiry by which we increase our knowledge of how things are, why things are, the way they are and how they might be changed. It is an intensive and ordered study of a subject aimed at learning new facts and testing scientific propositions and ideas.

Research has equally been conceptualized as “a careful search”, a “systematic investigation toward increasing the sum of knowledge” (Landaum et al., 1990, cited in Eyisi and Uche, 2010: 2), and the systematic investigation is aimed at establishing facts, ideas, knowledge and perception, creativity, and control through a form of inquiry or seeking evidence to acquire, increase, test, validate, and design which contributes to generalized knowledge (Eyisi and Uche, 2010: 2). On their part, Fawole et al. (2005) (cited in Eyisi and Uche, 2010: 3) define research as a process built around three key features such as clearly articulated research questions to be addressed, the specification of a research context for the questions and the specification of appropriate research methods for addressing and answering the research questions. According to them, research is an endeavour to study or obtain knowledge through systematic approach with the intent of clarification.

Funk and Wagnells Standard Dictionary (cited in Cheldelin, Druckman, Fast and Clements, 2003: 17) defines research as “diligent, protracted investigation; studious inquiry;... a systematic investigation of some

phenomena”. **Webster’s New Collegiate Dictionary** (cited in Cheldelin, Druckman, Fast and Clements, 2003: 17) adds that research is a “studious and critical inquiry and examination aimed at the discovery and interpretation of new knowledge”. These definitions depict a goal-driven activity aimed at discovering new knowledge through a serious, organized, and strategic plan; the goal of discovery is intended to contribute to theory (our understanding of a phenomenon) or practice (our use of knowledge to improve conditions); and the strategic plan is the method designed to produce the knowledge (Cheldelin, Druckman, Fast and Clements, 2003: 17).

On his part, David McNabb (2009: 3) contends that “research” means gathering, processing, and interpreting data; it also means intelligently and cogently communicating the results in a report that describes what was discovered from the research. In his analysis, Martyn Denscombe (2002) (cited in McNabb, 2009: 5-6) has identified five principal aims for all social science research to include:

- (1) research is conducted to help scientists understand the properties of a phenomenon;
- (2) research is conducted to enable scientists to understand relationships between variables;
- (3) the third aim of social science research is the production of a theory or theories;
- (4) the fourth principal aim of research is the prediction of outcomes; and
- (5) the final aim of research is the confirmation of the findings in one study by other researchers – replication.

3. Theory and Research: Identifying the Nexus

Our central thesis in this essay is that there is a clear and symbiotic relationship between theory and empirical research. The theoretical and empirical spheres of research are constantly engaged in a mutually reinforcing pattern of activities (Obasi, 1999: 42). This point is accentuating when one considers the fact that, as Osuala (1982: 16) has observed, a basic assumption of a theory is that detailed empirical findings are special cases of more general laws, and that progress cannot be made as long as observations are simply accumulated. He also points out that theories cannot develop without experimental facts any more than the discovery of experimental facts can proceed far on the basis of grossly inadequate or incorrect theories. While stating one of the purposes of a theory, Osuala amplifies the correlation between theory and research thus:

just as facts underlie theories, theories underlie facts, each raising the other on a spiral to ever more precise scientific formulations. **Research and theory go hand in hand; theory guides and stimulates research while research tests and stimulates theory development**, resulting in more adequate theories and better and clearer facts (emphasis added).

One discernable fact from the foregoing is the mutual interdependence between theory and research. This age-long reality was more competently articulated by David Easton, the leading intellectual progenitor of the behavioural movement in political science. In his espousal of what he regarded as “the intellectual foundation stones” on which behaviouralism was premised, Professor Easton advocated the systematization of inquiry. According to him, research ought to be systematic, i.e., theory and research are to be seen as closely intertwined parts of a coherent and orderly body of knowledge. In his words, “research untutored by theory may prove trivial, and theory unsupported by data, futile”. What is implied here, as Varma has reminded us, is that empirical research must be “theory-oriented and theory-directed”, and to Easton and his disciples, theory does not consist of speculation and introspection but of analysis, explanation and prediction. Moreover, it is the basis of a well-organised, logically interrelated structure of concepts and propositions that hypotheses have to be advanced, the hypotheses, in their own turn, have to be capable of undergoing rigorous testing, and then alone, should form the basis of new theories (Easton, 1967: 16; Varma, 1982: 53).

A theory also acts as a guide to discovering facts; it pinpoints crucial aspects to be investigated and crucial questions to be answered; and by identifying areas in need of exploration, theory stimulates research in areas that are lagging (Osuala, 1982: 16). The strong affinity between theory and empirical research can equally be brought into sharper relief by the fact that apart from summarizing existing knowledge, theory provides an explanation for observed events and relationships; it also helps to predict the occurrence of unobserved events and relationships on the basis of explanatory principles; it equally increases the fruitfulness of research by providing significant leads for inquiry; and indeed, by directing research, theory further contributes directly to the development and organisation of knowledge (Selltiz et al., 1974 cited in Obasi, 1999: 40).

According to Denscombe (cited in McNabb, 2009: 6), the production of a theory or theories is the ultimate goal of all scientific research; in addition to describing things, theories offer explanations of why they occur. In his view, theory generation is an integral component in both positivist and interpretive research, although, he observes, Oakley (2000) suggested that theory production occurs in a different sequence in quantitative and qualitative research. In the former approach, the theory is established before testing, and in the latter approach, theory emerges from the researcher’s analysis of the data; it is grounded in the findings. From these views, it is quite obvious that theory and research are tightly intertwined.

There is no doubt that theory occupies a crucial position in any empirical research endeavour, and as Goode and Hatt (cited in Obasi, 1999: 40) have shown, as an instrument of science, theory defines the major orientation of science, by defining the kinds of data which are to be abstracted; offers a conceptual scheme by which the relevant phenomena are systematized, classified and interrelated; summarizes facts into empirical generalizations and systems of generalizations; predicts facts; and points to gaps in knowledge.

According to the website www.zeepedia.com, basic to modern science is an intricate relation between theory and research, and the popular understanding of this relationship obscures more than it illuminates. Popular opinion generally conceives of these as direct opposites: theory is confused with speculation, and thus theory remains speculation until it is proved, and when this proof is made, theory becomes fact; facts are thought to be definite, certain, without question. It is also said that when we look at what scientists actually do when engaged in research, it becomes clear that: theory and fact are not diametrically opposed, but inextricably intertwined; theory is not speculation; and scientists are very much concerned with both theory and fact (research). Hence, research produces facts and from facts we can generate theories; theories are soft mental images whereas research covers the empirical world of hard, settled, and observable things. In this way, theory and research contribute to each other (www.zeepedia.com).

In his research, Schon (1983) (cited in Cheldelin, Druckman, Fast and Clements, 2003: 32) attempts to establish how theory, research and practice relate with one another. As he puts it,

research is an activity of practitioners. It is triggered by features of the practice situation, undertaken on the spot, and immediately linked to action. There is no question of 'exchange' between research and practice or of the 'implementation of research results', when the framework or theory testing experiments – of the practitioner at the same time transforms the practice situation. Here the exchange between research, theory, and practice is immediate, and reflection-in-action is its own implementation.

From the foregoing, it is clear that theory and research are not only closely knit together but they are also very important and crucial to each other.

4. Conclusion

In the preceding passages, an attempt has been made to examine the place or role of theory in empirical research, and it has been shown that the fact that theory and empirical research are very useful to each other cannot be overemphasised. It could also be gleaned from the foregoing analysis that theory is a reliable tool for the understanding and explication of social phenomena. Theory synthesizes isolated bits of empirical data into a broader conceptual scheme of wider applicability and predictability, and it also permits deeper understanding of data and translates empirical findings into a more readily understood, more readily retained and more readily adaptable form (Osuala, 1982: 15).

It is obvious that theory and empirical research are mutually interdependent and are constantly involved in an unending chain of interrelationships. We do agree with the assertion that theory and research are interrelated; the dichotomy between them is artificial; the value of theory and its necessity for conducting good research should be clear; researchers who proceed without theory rarely conduct top-quality research and frequently find themselves in confusion; researchers weave together knowledge from different studies into more abstract theory; and likewise, researchers who proceed without linking theory to research or anchoring it to empirical reality are in jeopardy of floating off into incomprehensible speculation and conjecture (www.zeepedia.com).

Theory and empirical research are like Siamese twins; on the one hand, not only does theory stimulate research, it also facilitates the understanding of the phenomena which researchers seek to unravel. Empirical research, on the other hand, also fertilizes the development and reformulation of theory.

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