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A DISCUSSION ON THE CONTEMPORARY SCIENTIFIC APPROACHES OF RESEARCH IN SOCIAL SCIENCES

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ABSTRACT

Approach to social science research basically depends on the objectives of i) research ii) the nature of the problems iii) method of analysis and iv) extant of data. But the objectives pursued through research are divers in nature. This falls within the purview of theoretical research. Research may be driven by one of the following objectives or combination thereof: i) Enunciation of pure theory which generally uses deductive logic-ism ii) Verification and validation of received hypothesis, which needs empirical evidence to support the theory. The research is quasi in this case. It is based on inductive logic-ism since empirical evidence needs to be marshaled and analyzed for evaluating theory; iii) Empirical theorizes, which is based on general or specific evidence. It also uses inductive logic-ism as the base. Analysis impact of theory takes theory as given and it uses empirical evidence to examine the impact/effect of theory on the given phenomenon. Thus, it needs empirical evidence from the domain of theory implementation along with the objectives of research that is sought to be achieved. Success or failure of theory is judged by a comparison of the state after implementation with the state that obtained before implementation. It uses inductive approach. Thus, there is no single research approach in social sciences. In real life situation, investigators generally use of different mix or compound approaches. All these are used in social science jointly or separately. Thus, the present paper discusses about the contemporary approaches of research applied for social sciences.

KEYWORDS: Scientific Approaches in Social Sciences, Scientific Approaches

INTRODUCTION

Words are a basic form of data for much social science research because they are the usual medium for social exchange. For many purposes, insight into meanings can be obtained by examining manners of ideas and contextual information contained in text. In this paper we address approaches to the social science research. The approach makes quantitative distinctions between texts varying in both the pattern of emphasis upon different sets of ideas and in the context or social perspective from which these ideas are addressed. Approach to Research depends on objectives of i) research ii) the nature of the problems iii) method of analysis and extant of data. Research may be driven by one of the following objectives or combination thereof: i) Enunciation of pure theory which generally uses deductive logicism; ii) Verification and validation of received theory, which needs empirical evidence to support the theory; iii) Empirical theorizes, which is based on general or specific evidence and iv) Policy formulation or/and evaluation of effect of policy. Thus, it needs empirical evidence from the domain of policy implementation along with the objectives of policy that is sought to be achieved. Success or failure of policy is judged by a comparison of the state after implementation with the state that obtained before implementation. It uses inductive approach. Thus, there is no single research approach in social sciences. In real life situation, investigators generally use of different mix approaches.

All these are used in social science jointly or separately.

The Scientific Research Approach

All above approaches fall within the purview of scientific approach to research. Approach to scientific research may broadly be classified into two distinct categories;

- Positivism
- Normatism

The classification may, however, not be water-tight. Each of these approaches may penetrate partially into the domain of the other. It may make it difficult to find a scientific investigation, which follows exclusively purely positive or purely normative approach, especially in social science research. Social science research, like research in natural/physical sciences, follows scientific approaches. But the subject matter of social science research differs radically from physical sciences. Social sciences deal with i) society, ii) institutions/organizations that are man-centric, and iii) human behavior. The above facets necessitate that social science research approach has to be different from the approach of physical sciences in details as well as orientation, though its essence may still be scientific. Above mentioned two fold broad categorization of approaches to scientific research may be further sub-divided into the following categories:

- Deductive Positivism based on Pure and Abstract Logicism;
- Deductive Positivism based on Logicism supported by some generic/commonsense evidence and plausible premises and assumptions;
- Inductive Positivism based on Logic and General but extensive empirical evidence;
- Inductive Positivism based on logic and specific/ particular but extensive empirical evidence;
- Normatism based on some objective standard/values and supported by empirical evidence and logic;
- Normatism based on ethical values and supported by evidence and logic.

Positive Approach

Positivism is objective. It considers facts as they are without any imposition of values or standard external to the reality of which facts are a part. It addresses the questions what the given phenomenon is, why it is the why it is and how it cooperates. First premises and assumptions care formulated either on the basis of experience or generic/commonsense for furnishing satisfactory answers to the facets of reality covered by these questions, under the positive approach. The validity of theory is tested taking its assumptions and premises to be true. It is neutral between ends. It does not fall within its domain whether the given outcome ought to be different from what it actually is. It generally does not lead to policy formulation. Research is that each policy has a priori defined goal and the goad operates as the guidepost for policy formulation, while the realization, partial or full, of this goal is the yardstick to measure the degree of effectiveness and efficacy, or success and failure of policy. Such aspects fall in the domain of normativism. But the effect of factors measures, made operational under policy, may be linked to the possible outcome by positive approach. This aspect will take policy measures as cause and outcome of implementation as consequence. This is the function of positive approach.

Normative Approach

Normative approach, as against positive approach, is value or norm driven. It examines reality not to discover what its but to evaluate its departure from what is ought to be. The phrase 'ought to be' is value located as against the sentence 'what it is' which is value free neutral between different norms or standards. As against positive approach to research, normative approach takes the core part of theory, that is, relation between cause and effect as a truism. It tests the validity and relevance of assumptions on which theory has been erected. Theory is transited to be valid. If it does not apply to some case, it means some assumption(s) is violated. Therefore, it examines the given phenomenon in relation to what it ought to be, though the, conditions these are treated are reckoned to be remedied if not conform to norm. Therefore, it evaluates the divergence between facts and accepted norm or standard.

Divergence maps the degree and direction of remedial measures to eliminate or at least reduce the divergence. Remedial measures are often initiated under some policy with a given goal. Divergence from the desired state suggests the extent of gap to be covered. Norms/standards may be drawn from i) Religion, ii) Ethics, iii) Philosophy, iv) Economic Thought, and v) Social Thought. All these embody ideological predilections. It is subjective as norms/standards vary inter-temporally, inter spatially and even inter personally. It may have no universal relevance.

Basic Thrust of Scientific Research

The scientific methodology performs two functions: 1) it discovers the truth. It, however, does not invent truth, and 2) it facilitates the study, and hence, the understanding of natural/physical world as it exists, which leads to the explanation and/or forecasting by the application of laws/theories. These laws or theories are developed on the basis of observed regularities and patterns of operations and/or changes thereof. The data associated with the operational patterns and regularities are assumed to be universal in character. If, therefore, social science research to physical science research, social science theory has to be developed on the basis of understanding. Then it has to be tested on the criteria of its ability to detect patterns and regularities in social processes and socio-economic changes and explain and/forecast the future changes or consequences thereof. The socio-economic phenomena/facts have to be discovered, explained and/or forecasted objectively, if societal/economic studies have to be bracketed with those of natural sciences.

Received Theory Arguments

The theoretical thrusts for explaining configuration and interrelations of various factors involved in social phenomena may be understood and explained better by looking at the positions taken by specific thinkers. Therefore, we shall look at some representative view points. D. P. Mukerji (1958) supports the incorporation of philosophy without leaving empiricism out of social science research. But philosophy is logic driven; its combination with empiricism will load it with objectivity mixing of inductive positivism with the logical objectivity of philosophy. Radhakamal Mukerji advocated the adoption of even a wider view of social science research than D. P. Mukerjee. He highlighted the need for the synethesisation of physical sciences, philosophy and social sciences into an integrated whole in order to have the fusion of the best empirical rational approach of the West into the metaphysical and intuitive approach of the East.

Thus, he supports the combined use of scientific objectivity with factualism of empirical orientation and philosophical logicism. As against this the dominant view among Western scholars is that the social sciences should follow the path traversed by physical sciences in research. This approach focuses on objective rationality in combination with

mathematical abstraction and statistical empiricism to the exclusion of value judgments or norms derived from ethics. J. K. Mehta not only propounded the theory of Wantlessness (See Mehta, 1956, Prakash, 1968) but he also brought Indian Philosophy in the centre stage of modern economic theory (A Philosophical Interpretation of Economic Theory). But he used deductive logicism. Thus, he not only advocated a fusion of Philosophy in Social Science Research, he himself practiced it even at the cost of marginalization as an economist in the profession dominated by Western Thought and Theory.

In juxtaposition to the above, stand most of the text books of research methodology/methods, which have been authored by Western and Indian scholars, who follow the pattern set by western approach. Naturally, most of the scholars implicitly, at least, have rejected the approach of Mehta and Mukerjee. For example, Shah (1962a, 1962b, 1968) not only rejected the view of contemporary social scientists, he also postulated that sociology is one of the species of metaphysics and metaphysical investigation, which has no relevant use for the techniques of empirical sciences. This is an anti-positivist position. But this position is invalidated by the research output of numerous sociologists.

Positivist Approach

The text books of Research Methods, authored by Indians like their Western counterparts, follow a set positivist pattern and standard. In the first instance, these books miserably fail to conceptually distinguish methodology from method. Hence, both these terms are used as synonyms. As much greater degree of confusion prevails among Indian management experts, they not only do not distinguish between method and methodology but also confuse methodology for a rudimentary statement about 'data collection'. This is obvious fromt he fact that the research papers published in most Indian journals just carry a rudimentary statement. Secondly, most of the Indian authors almost exclusively focus on statistical/mathematical techniques/methods of data analysis and confuse it to be synonymous with methodology. But the use of statistical and mathematical methods is put forward as the base of their claim for social sciences to be positive empirical sciences. Thirdly, use of the term social science is not stipulated to connote any one discipline, social sciences are an agglomeration of several disciplines each of which deal with human behaviour, socio-economic organizations/institutions and society in their own way.

Use of the word social science postulates it to be one single and synthesizsed discipline comprising some general theory, policy and practices pertaining to society and its constituent economy, institutions and individuals as an integrated whole. However, when sociologists use the term social science, they mean their own discipline of sociology, though they implicitly assume that whatever is true for sociology should hold true for other disciplines. Alternatively, their implicit assumption is that the methods that constitute methodology are subject/discipline neutral. Either it implies that the same methods are employable in research in all disciplines which are used in research by sociologists; or that they use the methods which are being used by others. The books by Sadhu and Singh (1980), Verma and Verma (1988), Wilkinson and Bhandarkar (1979), Tandon (1979), Agnihotri (1980), Ghosh (1982), Mohan (1984), Das Gupta (1967), Gopal (1964), Rajan (1968), and Raj (1980) are all an illustration of this approach and the confusion which this approach embodies. The design, structure, logic, and hence, over all approach to research in all social science subjects are thus assumed to be the same. This is a stereo type approach to scientific research in social sciences. For example, psychologists generate lot of data through experiments. But other disciplines of social sciences, including sociology, do not have access to laboratory experimentation. Similarly, excavations, archives and historiography are the basic tools in historical research.

Steps in Research

An appropriate approach may, however, comprise all or most of the well defined steps which are listed below: i) Statement and Explanation of the nature and importance of the problem of investigation; ii) Statement of objective(s) of research; iii) Formulation and statement of the hypothesis(es) to be evaluated and tested; i) Explanation of the sample design-size and method of data collection, v) Portrayal of the characteristics of sample or database of the study, vi) Explanation of the method(s) or technique(s) to be used for analyzing data, and, finally, vii) Presentation of results with their interpretation(s), implications and suggestions/recommendations, if any (Prakash, 2003, Cf. Bose, P. R., 1995). Above list of steps involved in scientific approach to research is obviously neither comprehensive nor all the steps are mandatory in each case. In our view, first step in the initiation of research is i) identification and choice of the problem of research; ii) Then, the objectives of research have to be identified.

It is in the light of the objectives that the explanation of nature and importance of investigation with reference to the contribution that the research may be expected to make to the current stock of knowledge has to be furnished and the theoretical or policy framework of analysis has to be explained. Then, the stage of hypothesization is reached (Cf. Bose, P. K., 1999). The objectives of research, theoretical framework, method(s) chosen for analyzing data and even data themselves provide the basis of hypothesisation, that is, formulation of hypotheses. One may also borrow hypotheses from other investigations if these have remained tentative. The issues and problems that research methodology deals with pertain to theory and are deeply rooted in philosophy on the one hand, and problems of empiricism that relate to i) descriptive portrayal of various features of the object/subject of study; and ii) application of one or more of the standard methods such as 1) historical/comparative, experimental method, 2) mathematical methods, specially with reference to abstraction from details for modeling, 3) quantitative/statistical techniques, or/and 4) non-parametric statistical techniques of analyzing non-cardinal/ qualitative data. Policy research is an additional item of the menu. Conventional books present the above as '*The Scientific Approach to Social Science Research'*, implying as if there is no other alternative approach to scientific research. In our opinion, meaningful or relevant research has to be a fusion of i) theory, including its philosophical base; ii) methodology, iii) logic, iv) empirical base and v) analysis.

Research commences with a theoretical apparatus or policy paradigm and it will end with the return to theory or policy after completing the detour through data, analytical logic and method. At the end, one may be in a position to reflect upon i) the relevance of theory to empirical reality in the context of the problem of research, and ii) insights regarding the understanding and explanation of the problem that the results provide. All these have to be synthesized into an organic and integrated whole. Bose also points out several limitations of traditional approach. Above approaches assume that '*the logic of hypothesis testing is the primary basis of scientific enquiry'* (p.3). For hypothesis testing itself, one needs empirical evidence/data and technique/method of testing, besides theory and logic. *Thus, logic and theory alone does not suffice for hypothesis testing*. Under purely deductive positivism, the theory, specially its prediction/inference has to fulfill the criterion of consistence with i) assumptions used in its development; ii) logic used for deducing conclusion(s). Besides, there has to be an organic link between cause and consequence. But for the empirical validation or verification of theory for its relevance for reality, theory has to be consistent with observed facts.

It may, however, be noted that it is the responsibility theory. Alternatively, investigators should modify the incrust of general theory to bring it into conformity with facts. Frequently, data massaging may help in modifying facts to conform

to the needs of theory. For example, in order to eliminate the influence of inflation on income, monetary income may be converted into real income in constant prices. An obvious limitation is that this approach implicitly considers all individual units of social system to be uniformly standardized, which could be encapsulated in such summary statistical measures as mean/median, regression/ correlation/ contingency coefficients, overlooking all the diversity and divergence from the average behavioral attributes. In other words, all entities are robots, assumed to function as per pre-program, leaving no room for divergence dictated by time-space configuration, method and experiences. This was precisely the stand of classical economic analysis which was challenged by German Historical School in late nineties. This may be alright for macro/aggregate analysis, where individual traits get eliminated in the process of aggregating or averaging, leaving the investigator to deal only with numbers and to abstract from human behavior, and/or the genesis and consequences of decision making at micro levels. But it may not suit the needs of micro studies.

This may also be fine for the beginners to initiate them into the complex knitty-gritty of social science research, hoping that as they mature as researchers, they will learn to go deeper below the surface in order to extricate real factors involved in the systems of socio-economic operations and micro decision making processes. The so called scientific approach is, therefore, quite insufficient by itself. It may, however, be noted.

One view of social reality is based on fatalism, whereas another view considers it to be the outcome of historical determinism. Between these two, lies individual participants in social processes each one of whom may have a different perception, belief and behavioral propensity. 'Social reality may emerge as 'pre conceived, predetermined and pre-constituted' to each player in the game. Consequently, 'a researcher's prior definitions, concepts and hypotheses may impose a meaning on social relations, which fail to pay proper attention to participants' meanings. We may add another complex element to the above. Researchers are also constituent parts of social processes. It makes researchers the subject of research itself. This is not the case with physical sciences. The point is not that hypothesis testing is entirely improper, but an exclusive concentration on hypothesis testing as if it is both the beginning and end of research may be inappropriate as a description of what most social science research does and what it ought to do.

Theology as the Base of Knowledge

In the first phase, theology constituted the base and provided both the premises of knowledge and its generalization. The term 'Theology' has been derived from the Greek word 'Theologia'. In a narrow sense, theology stood for 'philosophical treatment of Christian doctrine' (2001, Online Etymology Dictionary). It the broader sense, theology may connote 'philosophical treatment of religions doctrines'. This will reduce the role of the generators of knowledge largely interpretations to that of interpreters of religions doctrines. The refined concept of theology defines it as 'the rational and systematic study of religion and its influences and of the nature of religious truth (WordNet). Obviously, the influences mould the individual behaviour, social organizations/institutions and values. A more inclusive concept states that 'Theology moves back and forth between two poles, the eternal truth of its foundations and the temporal situation in which the eternal truth must be received' (Tillich, 1951). Interoperations needed the application of i) logic; and ii) speculative insights though the approach who propounded has largely to be embodied in value judgments. Metaphysical phase of knowledge evolution revolved around meta-physics, that is, part physical part material and part theological. Methodology in this phase also could have not freed itself totally or even partially from normatism.

Mythological Base of Knowledge

Theological knowledge focused on events and occurrences rather than the real process of knowledge generation. Both the occurrence of such natural phenomena as floods, famines, and earthquakes and human/social events like wars were conceived to be the Outcomes of Divine Will. God's Will was ascribed to be the Instrument of the Natural Occurrences and Social Events as well as the determinants of their outcomes. It obviously obviated the need to investigate the genesis, and hence, the process of the materialization of the phenomena and their underlying causal relations. This almost verged on deterministic fatalism. A more favorable interpretation may be drawn from Gita. This is then similar to the philosophy of Gita which prophesises God to be the Sole and Actual Karta, that is, performer, where man and nature are the instruments of the realization of His Will. The outcomes are automatically pre-determined. This is what Theistic Knowledge actually averred. As against this, the Animistic Knowledge sought to explain each aspect of human behaviour to be a reflection of human volition. The Notion of Divine Will or Intention came to be replaced by Abstract Concepts of Power and Cause in the metaphysical knowledge.

It is in the third stage that knowledge and the methodology of knowledge generation evolve themselves to converge towards scentificism. With the Advent of Scientifism, Methodology, and hence, the Method of Generating Knowledge started attracting explicit attention, evoking conscious efforts for its continuous refinement and advancement along with the growth of knowledge. The scientific approach to generate knowledge endeavours to discover the Laws of *Co-Existence and Succession*. Coexistence implies the existence of the multitude of phenomena in proximity to each other. The proximate existence is postulated to imparts mutuality of interrelations and sequenciality of succession. The scientific approach to knowledge creation envisages the methodology to be endowed with Positivism which is independent of time-space domain, value judgments, norms or standards. It does not matter whether value judgments are entrapped in ethics or morality, religiosity or social conventions/ traditions. In this respect all sciences have to follow the similar approach to the discovery of truth and generation of knowledge about this truth as the Manifestation of Relationship between Cause and its Consequence.

Methodological Autonomy

The principle of methodological unity of sciences was challenged by several thinkers. The Erklaren School supported by such philosophers as Droysen, Dilthey and Rickert postulated that all the sciences are methodologically autonomous. Methodological Autonomy implies that each discipline traverses a different path in its research investigation which makes Research Methodology to differ from subject to subject. Popper (1968) goes even a step further to postulate that each research investigation may embody a different methodology. The Erklaren school designates Social Sciences as Human Sciences which are Contextual, and hence, Historical in Orientation. This is just one step short of anarchic approach which may envisage that eact investigation even within a discipline is autonomous. Historiosity will definitely convert social science research and the knowledge emanating from it to be time-space domain specific, denying its laws universality. Thus, the social sciences are supposed to be Idiographic. Nachne (1995) opines that whereas the natural sciences attempt to explain the natural/physical phenomena, social sciences strive to understand the social or human phenomena. Thinkers of this school perceive that social phenomena are characterized by VERSTHEN, that is, *mysterious and undefinable attribute or quality*. Mystery makes Social Phenomena beyond explanation. It therefore, eludes objective explanation. These thinkers opined that social phenomena have generally been Verstehen. The attribute of verstehen is that

it is not only mysterious but it is undefinable also. This makes social phenomena beyond explanation(s). The meaning attached to the term Explanation probably embodies 'ability to forecast the future', whereas 'understanding' may imply that we may endeavour to know ledge of what the phenomenon is and the cause that leads to the materialization of the given phenomenon'. The causes of the first and second world wars, great depression of thirties or development or under-development of economies and poverty of the people may be studied and understood. But this understanding does not bestow the social scientist with the ability to forecast as to when another world wide depression shall occur or third world war will take place. As against this, the occurrence of the solar or lunar eclipse may be predicted accurately. Similarly, the outcome of the launching of a recoverable satellite on the basis of known technology may be forecasted.

CONCLUSIONS

Thus in the light of discussions made above regarding the scientific methodologies applied for the research in the field of social sciences, we may be able to describe what the methodology is and how does the methodology operate. But we cannot explain why the methodology is what it is; or why is it the way it is or why does it work the way it operates. Like the rare work of art, the social phenomena may not be reproducible always as the phenomena do not recur. *Even if it recurs, it may not exactly be the same*. Therefore, the social researches, unlike the physical researches cannot be predicted precisely. Non-predictability of social research may be taken to imply its non-explain ability. Thus, the study of research methodologies for social phenomena may either be partly or fully metaphysical or historic.

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