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Epistemological Errors in behavioural sciences inquiry: clogs on the wheels of knowledge

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Abstract
This paper examined the epistemological errors inherent in behavioural sciences research. The paper contended that these errors constitute clogs on the knowledge creation possibilities in the social sciences. It demonstrated that the objective of research endeavours is not the celebration of methodological superiority, but rather an exercise in discovering the truth, the closeness of research outcomes to the truth. It advocates for methodological pluralism to complement methodological weakness of one method with the strength of another. The paper proffered possible treatments to the identified errors, with particular note on the peculiar nature of the behavioural sciences, which demands a more logical and discrete treatment in its knowledge and meaning making.

Keywords: epistemological errors, behavioural sciences inquiry, pluralism, type a research methods, methodological superiority, and axiological paradigm

Introduction

The soul of any intellectual domain is the sustenance of the quest for valid and reliable knowledge. This accounts for the pivotal role of research in the advancement of knowledge in all disciplines. However, whereas in the natural sciences, the givens of nature tend to streamline and possibly eliminate investigator's biases, this conversely presents a major limitation to the production of valid knowledge in the behavioural sciences. The fluid nature of the behavioural sciences with its attendance polarization of paradigms in explaining phenomena in the social universe is almost an unending contestations. Even within the behavioural sciences, where socio-psychological and actuarial compartments can be isolated, there is often overlapping attempts to treat the identified isolates with gross commonalities (Musthata, 2014; Ritchie & Lewis, 2003; Normal, 2007; and Jussim, 2012) [22, 13].

The inadvertent consequences of such reckless treatment results from what tends to seek expression in epistemological errors. Most of the time, the epistemological errors result from innocent error by investigators seeking relevance through methodological rigor, thereby mistakenly sacrificing reliable knowledge on the altar of methodological ruggedness. In view of this temptation, Fubara and Mguni (2005) [12] contended that to focus on the methodology strictly without amer to methodological pluralism is misleading on the in research.

This suggests that the proximity of research findings to the truth is not only dependent on the thoroughness of the statistical application, but rather more on the relevance of the statistical choices to the nature of the investigation and the purpose of the investigator (Fubara & Mguni, 2005; and Musthafa, 2014) [12, 15]. On this, the guiding principles tend to be gainful in clarity, logical coherence, and parsimony to avoid misleading findings and conclusions.

It appears that the platform upon which epistemological errors are more cultivated and propagated is the classroom, where attempts to dispense research knowledge and skills to the student may result in the teacher testing the student on all related and unrelated tools in a given research problem. This is done without recourse to the fact that the classroom research falls into the category of pure research, which the student graduates from the classroom to conduct applied research in real life problem situations. Although, Zikmund (1991) [27] argued that the distinction between pure and applied research is arbitrary, the real effect when errors are committed is that, errors committed in pure research by a learner may be imported to applied research when and where the learner graduates to be a research consultant to the industry, or given –the task to conduct research to solve problem at his place of work.

Considering the enormosity of possible epistemological errors in behavioural science inquiry, this paper elucidates aspects of this negative phenomenon in the research process. It also discusses the nature of the behavioural sciences to provide an understanding necessary to guide decisions on epistemological choices in research. Then, it identifies the possible epistemological errors, decipher the possible implication of each error, and provides corrections in each circumstance.

The Epistemological Dimensions of philosophy of knowledge in the Behavioural Sciences

Epistemology addresses the philosophical critical questions about the foundations, or first philosophical principles of human thought and its value as knowledge; the question on possibility and method of attaining truth and certainty; the question on the extent and reliability of human knowledge; and the criteria for truth (Aron, 1965; Norman, 2007; Fubara & Mguni, 2005; and babbie, 2005) [4, 18, 12, 5]. The contentions in the epistemological domain contending for methodological superiority are found in positivism and anti—positivism in the sphere of objectivism and subjectivism, respectively. Corroborative arguments in Sylva & Eketu (2016) [24] and Nusthafa (2014) presuppose that, on one hand,

epistemological positivism dwell in the realm of objectivism and absolutism in social inquiries.

Thus, the focal interest of positivism tends to suggest that the social world can be understood and interpreted through the establishment of regularities and general laws (Hirschheim, 1999; Babbie, 2005; and Archer, 1995) [5, 3]. The implicit assumption of the positivism therefore is the existence of truth outside the sensory of man, and that truth which is knowledge is absolute and grow over time. This corresponds with experiential reality, as contrary to agreement reality; the former is suggestive of the existence of objective social reality in the social universe on this, Baridam (2018) [6] argues that like the natural sciences, behavioural sciences are concerned with making possible systematic explanation of social events. However, the fundamentalist in positivism as paradigm in social research tends to be nomothetic in his methodological choice because of the stunt belief that scientification of social inquiries holds absolute truth.

Positivism rests on the notion that social reality exist in a concrete universe, therefore the epistemological positivist seeks knowledge in the infinite province of truth. This is supported by historical materialism and teleology as aspect of structural functionalism in the objectivism domain (Archer, 2000).

On the other hand, epistemological anti-positivism is relative and subjective in assumption of the social universe. Falconer and Mackey (1999) argue that, "non-positivist epistemologies take various forms, but are firmly set against the utility of a search for common laws and underlying regularities in the world of social affairs". This suggests that the social universe is relativistic and can only be understood and truly explained from the circumstance of individuals who are directly involved in the activities investigated, as viewed in Eketu & Aguwamba (2014) [17].

This preference is devoid of any prior commitment to theoretical constructs and prepositions designed for data gathering. The researcher, therefore, uses qualitative data analysis in explaining social phenomena. Thus, judging from Falconer & Mackey's (1999) [14] view that non-positivist epistemologies take various forms, these forms, found expression and relevance in solipsism, phenomenology and to a lesser extent, historical dialectic materialism (Boyld, 2002; Burrell & Morgan, 1979; Sylva & Eketu, 2016; Archer, 2000; Coller, 2000; Zikmund, 1991) [7, 8, 24, 9, 27].

Solipsism is the extreme of skepticism, and hold strictly that nothing exists beyond oneself and ones immediate experiences; and phenomenology in its simplest form, is about understanding a man, by seeing his world through his own eyes, as Coller reported that life-world is in essence, the world of true life experience and not dwelling in transcendental consciousness. These subjective research paradigms are braced through constructivism and interpretism as logical process to make meaning from social events (Jussim, 2012, and Norman, 2007) [13, 18].

Nevertheless, distinct from the strict epistemological bipolarism of positivism and anti-positivism, are paradigms which originated from Kantian critical realism as a means of moving closer to the truth (as the major objective of research), than focusing on celebrating methodological superiority. These paradigms are: Type A research methodology; pragmatism; and pluralism.

The type-A paradigm in behavioural inquiry is an Afro-centric research approach developed by Ahiauzu (1999) [1], which rely on the broad intellectual tradition in interpretive philosophical thought rooted in existential phenomenology. It leans on Kantian view about the existence of intrinsic dualism in the world of two distinct realities – phenomenal and noumenal, in the state of one "nature' by dual perspectives; and that the word "world" in such contexts ought to be taken not ontologically, but rather epistemological, respecting that, to which the human perspective creates (Popper, 1973; Riodan, 1995; and Aron, 1965) [20, 21, 4].

The objective of critical realism is expressed in its concern to explain what is experienced, bearing on its foundational structures of reality that shape events. The believers of this view use mixed methods to engage on historical analysis of the changing and enduring social structures and constructs (Ndu and Eketu, 2016) [24]. A view that has developed overtime to complement methodological weaknesses is called pragmatism. It tends to complement the associated flaws of one paradigm with the strengths of another.

Axiologically, the pragmatic paradigm is focused to improve research practices, as it permits the use of all approaches to understand the research problem. Ndu (2018) relying or Ndu & Eketu (2016) [24] argued that "pragmatism encourages methodological pluralism giving room for triangulation of methods", which is the mixed-methods approach.

Nature of the Behavioural Sciences

The concept of the behavioural sciences used in the paper encompasses such disciplines as Sociology, Cultural Anthropology, Political Science, Management, social Psychology, Organizational Behaviour, Finance, accounting, Marketing, Economics, Etc, bearing in mind that they are all concerned in the development of man, not in the context of his flesh and blood, but on his mind and action in relation to others. Ake (19990) had contended on the unification of the disciplines, at least under one nomenclature as "social Science", and focused at achieving a common goal. Although, it is thoughtful for such unification, as all these fields of study use variables and theories in their inquiry, and the variables are mostly fluid-like and abstract in nature, variations in the form and nature which their data do exists may call for corresponding variations in their epistemologies. The most intriguing aspect of their nature is the vulnerability to multiple interpretations, even when a common phenomenon is observed. However, this particular characteristics does not affect them strictly in the same way, at least, not strictly so with those which data largely naturally exist in numerals. Considering the peculiar nature of the epistemological challenges confronting the behavioural sciences, Baridan (2018) and Nachimias & Nachimias (2008) [16] share the same view in enumerating such factors as: uniqueness, instability, maturation, sensitivity, lack of realism, investigators' bias measurement, instrumentation, etc, as common epistemological challenges (Saunders, Lewis & Thornhll, 2015) [23].

The Epistemological Errors – As Clogs

Errors in any human endeavour cannot be exhaustively

predicted in any accurate terms, being that it can take any form, depending on the orientation, competence, objective, and environment of the person or persons involved committing the error in enterprise. Thus, the errors identified in this paper are not in any way products of anticipation or prediction, but are rather products of experiential reality. The identification resulted from the author's long experience in participation in research seminars, presentations, workshops, lectures, teaching and arguments. For many years, as a doctoral student and as a university lecturer, the most commonly observed errors are:

- **Error in Sampling:** This may arise from wrong choice of unit of analysis or choice of sampling technique. In the former, where organizations are chosen instead of individual employees and vise visa, the sampling may be administered on the wrong unit of analysis. This may result to finding and conclusion on a wrong and unintended entity.
- **Inappropriate Statistics:** It was observed that, most often for want of rigor, researchers may apply wrong test on their propositions or hypotheses. The most intriguing experience was where econometrics was repeatedly forced on investigations involving how leadership style associated with workers' commitment. Conversely, Chi-Square was applied to test the causality between government spending and rate of inflation. In either of these error, result will certainly be produced, but the findings and conclusion will be misleading.
- **Wrong Choice of Population:** one unarguable fact in the choice of population is that it must suffer the problem upon which the investigator seeks to explain. However, it was commonly observed that studies of how school performance have improved for 5 years using balance score card was conducted on a population of schools where the administrators have not seen balance score card in the entire administrative experience – error. A target population from which the accessible population is drawn must bear the problem studied except where the aim of the research is to test the outcome of the introduction of a new stimulus, which was not the case observed.
- **Premature Findings:** another error commonly observed as committed by even senior researchers is the hasty findings, which in turn affect the conclusion. For instance, the statement that, "the study found a significant relationship between the predictor and criterion variable: is a mere misnoma to be called finding. It is at best a statement to be found under interpretation of resultant coefficient of the test of hypothesis. Finding is not a mere report on the coefficient, but must connect the coefficient with the data domain, particularly the respondents profile; attributes of the data domain, and then link it with existing literature supporting or negating the acceptance or rejection of the hypotheses.
- **Error on Unit of Analysis:** The unit of analysis is the entity upon whose behavior the researcher seeks to analyzed. Pfeffer (2000) [19] had argued that the choice of the unit of analysis is determined by the theoretical mechanism of the criterion variable. Thus, a unit of analysis is neither individual, group, nor organization. These are entities with distinct characteristics, their disagreement with the topic will result to misleading findings and conclusion. A topic on individuals must report individuals behavior, and so with groups or organizations.
- **Unfaithfulness with Methodology:** It was a common observation that research were found to be unfaithful with their methodologies. For instance, proposing that interviews were conducted without any trace where the interview data were presented or analyzed yet the findings and conclusion are given. Close to this, and grivivious as it may be is the immodest of ensuring that all null hypotheses are rejected. For the period when the author's observation spanned, 99% of hypotheses tested in all the studies were manipulated to be rejected – immodestly leading to lying with statistics.
- **In appropriate Data Collection Techniques:** Yet another error is on data collection technique. Surprisingly, individuals claimed to be embedded with data supposed to be generated from formal institutions like national apex banks. Also, the questionnaire is common abused where data existing in secondary sources, where drawn from employees opinion using questionnaire. Besides, wrong questions on the questionnaire suggesting invalid and unreliable instrument, yet, the Combach Alpha coefficients were compelled to be above the threshold - error of immodesty.
- **Celebrating Methodologies Rather than the Truth been Sought:** Several researchers who see it as a research taboo to either adopt mixed method or choose the appropriate methodology different from their traditionally held paradigm were also observed. Applied research is not to celebrate the method, but the closeness of the research outcome to the truth.
- **Error in Statements, Conclusion and Recommendations:** The conclusion serves at the thesis of the researcher, and it most deviate from the statement of findings tied to the data domain, and to takes in further studies done in other domains. The conclusion aggregates the finding to a body of statements called conclusion, not conclusions. On the recommendations, each distinct finding must have a recommendation addressing what practitioners should practically do to improve their circumstance within the province of the study. An ambiguous statement lacks practical usefulness, therefore cannot be taken as a good recommendation.
- **Error of Ambiguous Topics:** The topic to research about should be direct, bearing the problem or purpose without doubts at first sight. However, it was commonly found that for want of high faluting words, or title, it was commonly observed that research labored to formulate topics that the researcher needs to explain to his audience, for the meaning to be clearer. These are clumsy, rowdy and crowdy topics. The words are to be limited as much as possible. The value of the research is not in the bogus or seemingly difficult title, but, it is in the diligence of the researcher in addressing the problem, using the appropriate methodology rigorously, and then communicating his findings modestly and clearly.
- **Error of Assumption of Methodological Superiority:** Most researcher though on methodological superiority

because of the philosophical orientation learning by influence of the mentors, or what they have only been exposed to. Methodological superiority cannot be contended in a vacuum, it must be in relation to a particular topic or problems. However, when a topic or research problem or purpose is contemplate, methodological superiority becomes too harsh a construct, the befitting construct is methodological relevance or appropriateness. The contention in this paper is that methodological relevance cannot be dfore, yet, our observation shows that most researchers worship particular methodologies, and forced same on any kind of research problem before them.

Conclusion and Implications

The paper has discussed the external homogeneous and internal heterogeneous nature of the behavioural sciences. The external homogeneity distinguishes the behavioural sciences from other disciplines on the basis of the peculiar focus on human behavior. On the internal heterogeneity, distinction among the constituting disciplines is made. For instance, such disciplines as Finance, Economics, Geography, Accounting, Insurance, almost nearly enjoy the precision of facts and variables as traditional knowledge of the natural sciences. This is because their variables largely and naturally exist in numerals. For instance, variables in economics and Finance exist in numeral, and can be comfortably measures in interval and ratio scales without any conversion. This permits econometrics and other rigorous parametric statistics to be adopted with utmost strictness.

However, for variables in Organizational Behavior, Social Psychology, Sociology, Political Science and some aspect of Management and Marketing, are measured rather ordinally or nominally. In such circumstances, the adoption or application of econometric or rigorious parametric statistics will have an inherent risk of assuming dangerously that there is absolutism, or the behavior is an absolute science. The way out of handling such soft sciences is to measure the variable ordinally or nominally as appropriate, then apply non-parametric statistics, and compliment it with qualitative data analysis to cater for the inherent relativism in behavioural inquiry.

Also, the paper has contended that the errors identified and discussed are major clogs to the process of knowing in the behavioural science. The paper has used the concept of epistemological errors to represent such inhibitions I the epistemological processes in the behavioural sciences. Correcting these errors is the consciousness needed for the advancement of the frontiers of knowledge in the behavioural science.

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