

Reflecting on the Debates and Action of mixed methods adoption in Business Research: Researchers should start thinking

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Abstract- *The purpose of this paper is to evaluate the philosophical arguments underpinning the choice of mixed methods [MM] research design. However, the study concluded that mixing research methods in business research is important as it helps to strengthen findings and recommendations arising from a given research study. More so, we recommend for postgraduate researchers to rationalize their choice of mixing methods based on complementarities, research priority, purpose and the implementation of findings and not on the basis of philosophical ontology and epistemology. This has been found to be the reason underpinning the much lauded debates in the adoption of mix methods.*

Key words- *Quantitative; Qualitative; Sequential; Concurrent; Mixed Methods*

1. INTRODUCTION

The philosophical debate surrounding the adoption of mixed methods [MM] research design has been obvious in the academic community over the past decades (Jick, 1979 [11]; Reichardt & Cook, 1979[16]; Bryan, 1984[1]; Brewer, 1988). These authors during this era looked at mixed method approach as a combination of research strategy for the purpose of carrying out a study rather than selecting it on the basis of its philosophical merits. It is also cogent to note from our observation that the debate has been so divisive that some aspiring academic are compelled to pledge their philosophical allegiance to one school of the debate or the other, thus Sieber (1973, p.1335) [20] “posit that two dominant paradigms have emerged into two streams of culture, one school emphasizes the superiority of ‘deep, rich observational data’, whilst the other school takes pride in the ‘hard, generalizable’ data”. According to Creswell & Plano Clark (2007) [5] mixed method strategy is a design which connects, integrates and combines the quantitative and qualitative data with the aim of gaining good understanding of the research problem (Creswell & Garrett, 2008) [4]. Johnson & Onwuegbuzie (2004) [12] argue that MM is the mixing of qualitative and quantitative research strategies, methods, approaches and concepts as well as languages in a single study. From these definitions it follows that the former is concerned with the collection of data using [qualitative and quantitative designs] with less emphasis on adopted techniques, while the later considers techniques and approaches used in generating data using MM design. Further, Johnson & Onwuegbuzie (2004) [12] opined that MM design is an attempt to legitimate the use of multiple approaches in answering research questions rather than

restricting and constraining researchers’ choices. For example, it rejects dogmatism. Others suggest that MM is a procedure for collecting, analyzing and mixing or integration of both quantitative and qualitative data at some stages of the research process within a single study for the purpose of gaining rich understanding of the research problem (Creswell, 2005; Ivankova, Creswell & Stick, 2005[10] in Tashakkori & Teddlie, 2003) [21]. These sources argue that what underpinned the mixing of both kinds of data in one study is rooted in the fact that neither quantitative nor qualitative methods are sufficiently independent to cover the parameters and issues embedded in a study. Therefore, the use of both strategies will complement research weaknesses and strengths and supports robust data analysis. In this study therefore, we engaged in a critical evaluation of the philosophical debate on the adoption of MM. Specifically, we observed that so much has been reported on the adoption of MM design, but little has been suggested on what student researchers can consider whilst mixing methods in business research. This study reflects on some examples in business research for the purpose of providing operational instances that will help in reconciling the philosophical debate in this area.

1.1 Prevailing Debates for and against Adoption of Mixed Methods

Evaluating the philosophy underpinning a research problem is adjudged to be the first step to be considered in research because it provides the researcher with alternatives choices of techniques that would provide reliable findings. Philosophy of business research is a fact finding path into the world of research that seek to ask the why, how and what? That underpins a given study. The positivist ontology holds that there is only one reality

[truth] of a phenomenon and support that a researcher is detached from getting involved in the process of data collection. That is not having active association with the phenomenon under investigation. In other words, the object of investigation and the researcher are independent entities. Hence this approach follows the quantitative school of thought. This is because it adopts the natural sciences doctrine in collecting and analyzing data as well as testing relationships amongst study variables. Whilst the interpretivist ontology holds that there are multiple realities about a phenomenon and its epistemology follows that the investigated object and the investigator are dependent entities. This is because the social researcher plays an active role in the process of data collection, analysis and interpretation. This paradigm supports that knowledge and understanding of the investigating phenomena could be unraveled through a social interactive process between the object of investigation and the social researcher. More so, there appears to be plethora of strands which the purist follows. For example, the positivist researcher had built certain barriers around the quantitative design based on certain assumptions and definitions of key concepts in science (Johnson & Onwuegbuzie, 2004) [12]. But, Onwuegbuzie (2002) [14] had earlier argued that positivist researchers claim that science involves confirmation and falsification thus implying that methods and procedures are carried out objectively and disregards the fact that several subjective decisions are implicit and explicit in the research process. However, some instances of subjectivist doctrines in quantitative research process are.

- (1) Deciding what to study: Here the researcher subjectively decides what the problem is that it intends to investigate within the operation of an object; constructs the survey instrument that it deem fit for use to measure what the study considers appropriate.
- (2) Choosing the context of the study which follows the selection of specific tests for validity and reliability.
- (3) Drawing up interpretation and discussions.
- (4) Conclusions based on available data. Further, qualitative strategy is not exempted from criticism as it involves some implicit objectivist doctrines and researchers have raised some philosophical criticism Philips & Burbules (2000) [15], Onwuegbuzie (2002) [14] in Reichardt & Rallis (1994) [17]:

- (1) Relativity in the light of reason: This suggests that what is deemed reasonable can differ among persons and organizations.
- (2) The theory of facts which follows that what the researcher observe can be affected and influenced by its knowledge background and experiences.
- (3) The problem of induction which recognizes that we only obtain probabilistic proofs and not final proof in any empirical study.
- (4) The social nature of research is bundled in communities and has significant impact on researchers' belief, values, attitudes and culture. The second instance draws from business research literature which suggests

that researchers can argue their ontological position from the interpretivist perspectives [social constructivist]. This is because it emphasizes the nature of relationships that exist between firms and their customers and solutions to the research problem can be realized based on the active role of the researcher in the process of data collecting, analysis and interpretation.

On the other hand, a researcher's epistemology can synthesize problems from human resources perspectives with different dimensions. Hence the imperative to involve subjectivist qualitative methods like: face to face interviews; focus group discussions; ethnography approach, field observation and grounded theory approach as well netnography in understanding the operation of concepts in business research and how it contributes to advancing business goals and objectives. Third is that the researcher can argue that business research problems favour the positivist with the understanding that there is one reality underpinning the phenomena and do not require the active participation of the researcher. Fourth the researcher's epistemology can be argued from firms' technological perspectives hence critical to consider objectivist quantitative technique like: the survey approach in eliciting data. Summarily, business research epistemology can be grounded in human factors, technology infrastructure and process resources factors. Therefore, relying on the prevailing philosophical controversies on the adoption of mixed methods it follows that the choice of MM is dependent on the researcher's experience about the phenomenon and the study purpose. Scholars suggest that it is unnecessary to present philosophical underpinning before embarking on a study, but the nature of the research objectives and questions should dictate whether to adopt positivist, interpretivist or pragmatist approaches (Rossman & Wilson, 1985[18]; Green et al. 1989[7]; Collins, Onwuegbuzie & Sutton, 2006) [3]. Heyvaert et al., (2013) [9] posit that the choice of use of MM strategy is dependent on the implicit or explicit value the researcher aims to achieve in the study. Greene & Hall (2010) listed five stances on mixing paradigm whilst mixing methods: (a) the purist stance (b) complementary strength (c) dialectic stance (d) paradigmatic stance (e) pragmatism. This suggests that researchers have varied rationales with answers to questions on what they deem cogent as well as the role of philosophical debates before choosing MM strategy. For example, researchers who empathize with the purist, complementary and dialectic stances respectively holds that philosophical standpoints and assumptions are highly imperative because philosophical assumptions will help in suggesting the best MM strategy to adopt whilst the paradigmatic and pragmatist hold opposite opinion. Collins, Onwuegbuzie & Sutton (2006) in their study group the rationales for adopting mixed method research into four: (1) participants' enrichment (2) instrument fidelity (3) treatment integrity (4) enhancement of significance. Also, Bryan (2006) analyzed 232 mixed method studies and found fifteen rationale for

researchers' choice of MM strategy: (1) triangulation (2) context of the study (3) differences in research questions (4) completeness (5) process (6) instrument development (7) sampling techniques (8) credibility (9) illustration and utility (10) diversity of views (11) offset (12) unexpected results (13) confirm and discover (14) explanation (15) enhancement (see also Rossman & Wilson, 1985; Green et al. 1989). Guba (1987, p. 31) [8] opine that "one paradigm precludes the other just as one belief in a round world precludes belief in a flat one", that is quantitative and qualitative studies do not investigate the same phenomena. From the above, we conclude that research scholars hold different philosophical belief as per their choice of MM. From a review of literature we found some emerging weaknesses and strengths for MM. First, some notable weaknesses:

- I. Positivists and social constructivists have different philosophical ontologies and so it appears illusive to attempt to unite both ontologies that follows why purists argue that researchers should always work within one paradigm (qualitative and or quantitative).
- II. Expensive to manage: It is financially expensive and time consuming to collect qualitative and quantitative data in one study.
- III. There is a potential problem in how to analyze and interpret conflicting results arising from one single study.
- IV. The researcher would need to learn and understand how to apply mix methods appropriately.

Strengths:

- I. Good potential to elicit reliable evidence via triangulation of findings.
- II. The investigator can adopt the strength of one method to overcome the drawbacks of another method in one study.

- III. MM have a high potential of answering a wider and cohesive span of research questions for embracing two methods in one single study
- IV. MM encourages complementarities in the use of qualitative and quantitative method in a single study.

1.2 Stages for Mixing Methods in Business Research Process

There is no one framework that best describes what stage in the business research process when methods can be mixed. Therefore, the stage where the researcher can mix methods is dependent on the nature of the study under investigation, the study context, the purpose of the study and the nature of the research techniques to be considered. Ivankova, Creswell & Stick (2005) [10] used the sequential MM in their illustrative study to investigate the predictive power of the study variables into students' persistence in the use of distance learning study strategy and follows thus: At the quantitative stage of data collection they developed scales and instrument for initial pilot study. At the qualitative phase they used multiple case studies to explore further why certain external and internal factors in the quantitative study were significant and insignificant for predicting students' persistence in distance learning study strategy. Summarily, their Sequential MM process started first with a quantitative pilot survey and after initial analysis findings were subjected to a qualitative probe so as to understand the nature of the results, by asking the why and what? Therefore in using a sequential exploratory approach the quantitative study maybe applied first before the qualitative or vice versa. Thus Figure 1 depicts the stage where methods can be mixed using a sequential MM approach.

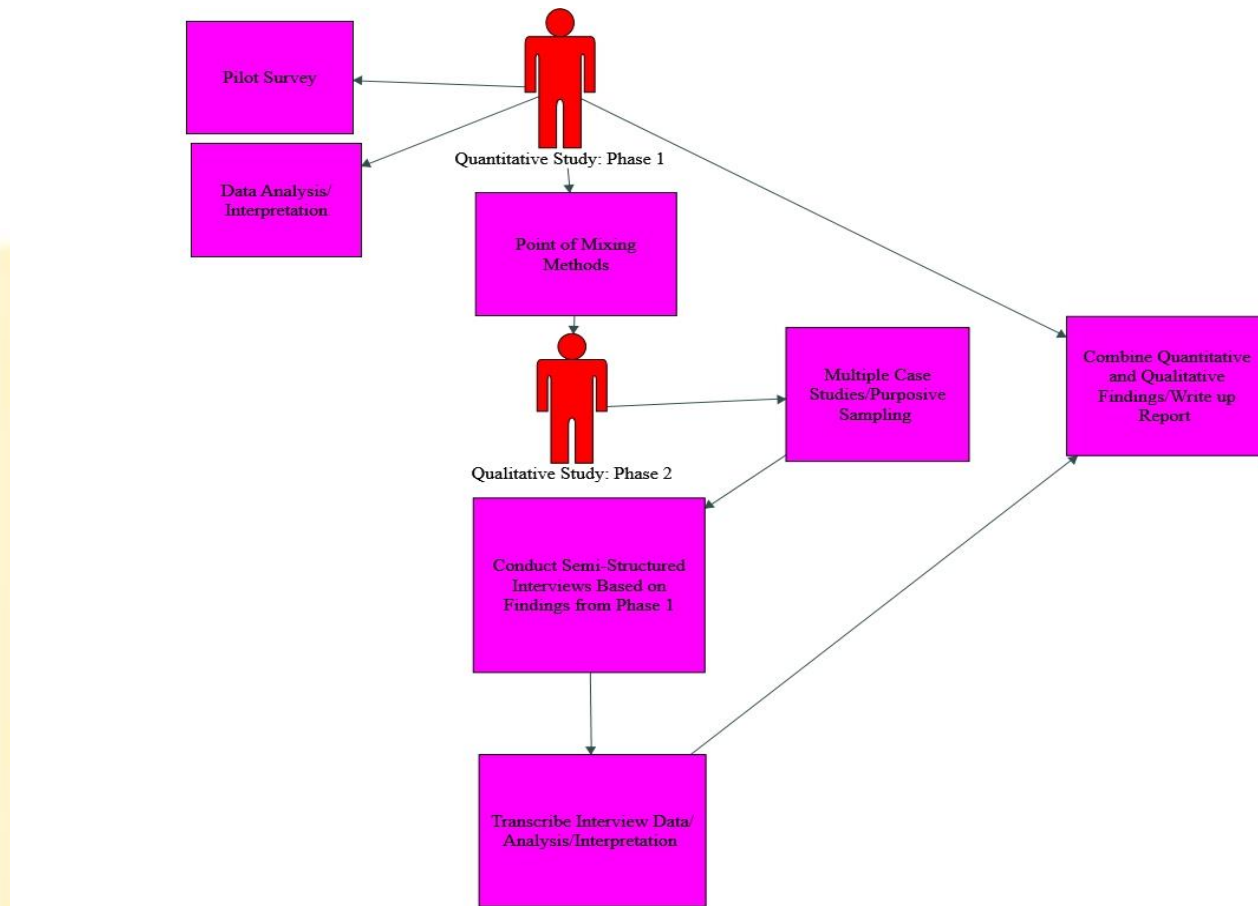
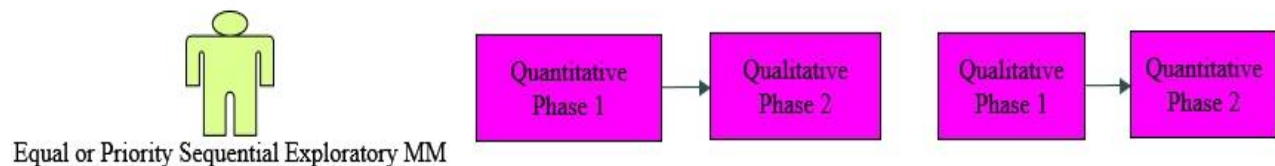


Figure 1: Illustrating the use of mixed methods in a sequential exploratory study



Equal or Priority Sequential Exploratory MM

Figure 2: Implementation model for equal or priority sequential mixed methods

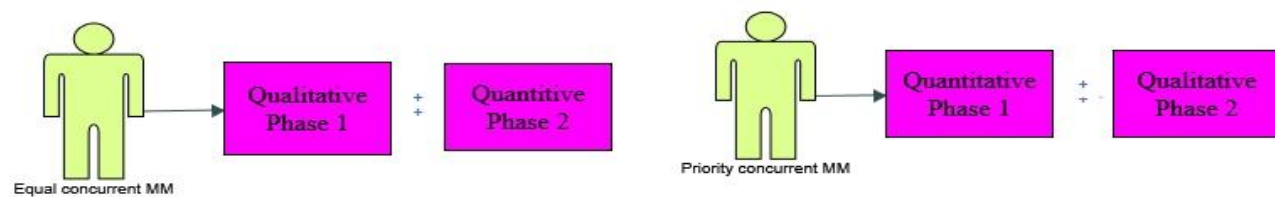


Figure 3: Implementation model for concurrent mixed methods

In Figure 2 the equal sequential mixed method is used when quantitative and qualitative designs are applied

equally in the process of collecting data for a single study. That is, when the researcher first decides to carry out the

quantitative data collection and in the second phase collects qualitative data all within a single study or the reverse. Also the priority sequential mixed method is when the researcher based on his/her priority decides either to use a more quantitative approach first in collecting the study data and less of qualitative approach in a single stage whilst collecting the qualitative data in a single study. Similarly, drawing from Figure 3 the equal concurrent mixed method is when qualitative and quantitative data are collected equally in the same study and at the same time, whilst the priority concurrent mixed method is a situation where the researcher prioritizes to use more of quantitative research design and less of qualitative design in collecting study data in a single study and at the same time.

2. CONCLUSIONS AND RECOMMENDATIONS

Based on our review findings we conclude that researchers adoption of MM design should not be dependent on its originating philosophy, but on complementarities of strength, goal of clarity and elimination of high risk of unreliability of research process (Collins, Onwuegbuzie & Sutton, 2006[3]; Bryan, 2006[2]; Greene & Hall, 2010; Heyvaert et al., 2013)[9] and corroborate Sale, Lohfeld & Brazil (2002)[19]. Also, it is our opinion that when adopting MM design researchers should employ both paradigms to complement individual strengths and weaknesses and not on basis of philosophy. This is because the positivist ontology holds that the investigator is independent from the investigated which follow the quantitative doctrine whilst the interpretivist ontology holds that the investigator is dependent on investigated which follow the qualitative doctrine. Hence, on the strengths of the above we subscribe to earlier propositions (Reichardt & Rallis, 1994[17]; Philips & Burbules, 2000[15]; Onwuegbuzie, 2002[14]; Sale, Lohfeld & Brazil, 2002[19]; Ivankova, Creswell & Stick, 2005[10]; Collins, Onwuegbuzie & Sutton, 2006[3]; Bryan, 2006) [2]. We therefore make the following recommendations: (1) the adoption of MM design should be based on the research priority, research interest and study audience (Creswell, 2003) [6]. (2) Sequential or concurrent qualitative and or quantitative approaches are both adequate for use. For the purpose of emphasis in sequential MM data collection and analysis are carried out in two phases whilst in a concurrent MM data is collected in a single phase (Creswell, 2003; Morgan, 1998)[6][13]. (3) The adoption of MM may be based on integration of stages that is illustrating the stage in the research process where methods can be mixed. Just as Teddlie & Tashakkori (2003)[21] posit that the possibilities of mixing methods spans through the early stages of the research whilst drawing on research purpose to introduce both quantitative and qualitative research questions see Figure 1 (Onwuegbuzie & Teddlie, 2003) [14][21]; Ivankova, Creswell & Stick, 2005) [10]. (4) Can

be based on case selection and or development of interview protocols.

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