



Iti Fatimah Bahari 2010: Qualitative versus quantitative research strategies: Contrasting epistemological and ontological assumptions. Provide a critique on the article on the major assumptions, strengths and weakness of each strategy and applicability in security research

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Abstract

Despite variances and convergences about key areas of research philosophy, in this work, Iti Fatima Bahari labours to make readers understand more of qualitative and quantitative researches. The study evaluates among other issues, the truism that qualitative research strategy is also referred to as intensive research whereas quantitative can be as well termed as extensive strategy research. Fatima does not end her argument at this stage, instead going further to suggest that these methodology strategies differ by contrasting epistemological and ontological aspects. Epistemology in research is about how we know what we know. This study in undertaking article review provides a critique on major research areas and associates these to security research. It is concluded that the two research approaches are useful to and can be applied in security research as in other studies to obtain specific cultural information about the values, opinions, behaviors, and social contexts; and the utilization and analysis of numerical data using specific statistical techniques to answer questions like who, how much, what, where, when, how many, and how for qualitative and quantitative strategies respectively.

Keywords: qualitative research strategies/ quantitative research strategies/epistemological assumptions/ ontological assumptions/ Fatimah Bahari

Introduction

By looking at what is in Bahari's work, this work set off to carry out an article review on Iti Fatima Bahari writing on research; qualitative versus quantitative research strategies. The review observed the weaknesses and strengths exhibited by both the strategies while comparing and contrasting also the epistemology and ontology issues. It finally sought to relate its applicability in research.

Bahari's work: A Cross view Analysis

Tennis (2208) confirms that epistemology is an important part of the knowledge organization (KO) which reflects assumptions about language, the primary material of KO systems. Epistemology describes the knowledge to do with how (episteme). In KO we make implicit epistemic statements about knowledge of concepts, acts (such as representation), entities, and systems. In so doing, we create knowledge, and our epistemic stance dictates what kind of knowledge that is. Some common names of epistemic stances are: pragmatic, positivistic, operationalist, referential, instrumental, empiricist, rationalist, realist, etc. Each of these makes claims as to what kind of knowledge can be created through research, and how it is gathered and how it is presented. These epistemic stances do this work because they have a systematic view on reality, our knowledge of it, and the meaning we can ascribe to it.

Epistemological thought and its consequent epistemic stances and knowledge claims according to some scholars have changed over time. In some cases two or more stances have coexisted, while others have fallen out of favor, in their strictest sense. Closely analyzing epistemological stances paramount to KO

(Tennis, 2006) ^[17], describes among others Operationalism, Referential Theory, Instrumental Theory, and Systems Theory and their link to KO. The bases of these reasoning have influenced research and much to do with KO since the beginning of the twentieth century. It is fundamental to note that not all knowledge is useful for every research; epistemology (Tennis, 2008) ^[18] in its totality is a body of claims on what knowledge is valid in research on organizing knowledge. This fact constitutes what is an acceptable source of evidence in presenting knowledge and additionally what is acceptable output of any knowledge.

Among the core arguments of Bahari in the work under review covers; qualitative vs quantitative research strategies, description of inductive and deductive research, epistemology and ontology, and finally interpretivism and positivism. This, requires, prior to conduct research (Bahari, 2010) ^[4] suggests one has to think about the underlying philosophy, as philosophy is central to the notion of research design. Research philosophy in social science relates to the development of knowledge and the nature of that knowledge in social world. Research philosophy includes important assumptions about how one observes or views the social world. Qualitative and quantitative research strategies are distinct in several aspects. Qualitative research is one in which the researcher usually makes knowledge claims based on constructivist perspectives. Consequently, the main distinction between qualitative and quantitative research designs is about the question of scale or 'depth versus breath'. It is affirmed here that in inductive approach the researcher begins by gathering information from participants and develops this information into themes. These themes are then developed into broad patterns,

theories, or generalizations. Finally it will be compared with personal experiences or with the existing literature related to the topic. Epistemology (Saunders *et al.*, 2007: 102) ^[14] is a theory of knowledge and concern of what is considered as acceptable knowledge in a particular discipline. Similarly, Saunders *et al.* continue to note that an epistemology is a branch of philosophy that studies the nature of knowledge and what constitutes acceptable knowledge in the field of study. Interpretivism is an “epistemology that it is necessary for the researcher to understand differences between humans in our role as social actors.” Interpretivists researchers are associated as the ‘feeling’ researchers.

Positivism assumes that there are social facts with an objective reality apart from the beliefs of individual. As stated by Easterby-Smith *et al.* (2002) ^[12] state that knowledge is only of significance if it is based on observations of this external reality. Ontology is defined as a theory of the nature of social entities. Ontology is a theory concerning the nature of social phenomena (Bryman, 2004) ^[7]. Ontology is about the nature of world – what it consists of, what entities operate within it and how they interrelate to each other (Staiton-Rogers, 2006: 79) ^[16]. In conducting qualitative research strategy researchers are accepting the idea of multiple realities instead of a single reality (Cresswell, 2007) ^[10]. Qualitative research tends to be associated with the idea or views that social life is the product of social interactions and the beliefs of the social actors. This idea/view are called as subjectivism.

The discussions that follow through the sub-themes explicate the meaning and understanding of Iti Fatima Bahari’s work through critique. Within the premise of this discourse, by independently looking at the strengths and weaknesses of the qual and quant strategies from various authors, one draws critiques and gaps in Bahari’s work.

The use of qualitative research strategy

Normally, qualitative research is a type of scientific research. In general terms (Family Health International, Undated), scientific research consists of an investigation that: seeks answers to a question, systematically uses a predefined set of procedures to answer the question, collects evidence, produces findings that were not determined in advance, and produces applicable findings over the immediate boundaries of this research. Qualitative researches share such characteristics. In addition, this seeks understanding a particular research problem or topic from the viewpoints of a local populace. Qualitative research is especially effective in obtaining specific cultural information about the values, opinions, behaviors, and social contexts of specific populations.

According to Young and Hren (2017) ^[20] qualitative should be viewed in diverse dimensions as to; what qualitative methods achieve, its products, its fundamentals (its meanings are not based on numbers, having no single answers, and considerate of context). As to what qualitative researches achieve include; generation of comprehensive description of processes, mechanisms, or settings and characterizing participant perspectives and experiences. The products of these researches show in them recurrent themes or hypotheses, Survey instrument measures, Taxonomies, and Conceptual models (or theories). Being diverse and not dependent on numbers means such studies are; inductive, tells choice stories among many that could be told about the data, represent truth that can be compelling without

claiming to be absolute, and again adds as Braun & Clarke, (2013) ^[6] a capture of aspects of social/ psychological life and putting an organizing framework on the messiness of real life. As to context, qualitative research affirms that data does not come “out of ether”, it is produced within contexts by domiciled participants who are located and come from specific contexts. They recognize the subjectivity of data and their incorporation in the analysis (instead of taking it as a bias to be removed).

Weaknesses

Many qualitative researchers according to Atieno (2009) ^[3] operate under different epistemological assumptions from quantitative researchers. for instance, many qualitative researchers believe that the best way to understand any phenomenon is to view it in its context. They see all quantification as limited in nature, looking only at one small portion of a reality that cannot be split or unitized without losing the importance of the whole phenomenon. For some qualitative researchers, the best way to understand what’s going on is to become immersed in it.

The use of quantitative strategy

In the words of Williams (2011) ^[19] quantitative research methodology is described as the holistic steps a researcher employ in embarking on a research work (p. 14). Therefore, a quantitative research method deals with quantifying and analysis variables in order to get results. It involves the utilization and analysis of numerical data using specific statistical techniques to answer questions like who, how much, what, where, when, how many, and how.

Expanding on this definition, Aliaga, and Gunderson (2002) ^[1], describes quantitative research methods as the explaining of an issue or phenomenon through gathering data in numerical form and analyzing with the aid of mathematical methods; in particular statistics.

Williams (2011) ^[19] further state that “Quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute alternative knowledge claims” Furthermore, he remarks that quantitative research starts with a statement of a problem, generating of hypothesis or research question, reviewing related literature, and a quantitative analysis of data. Similarly, (Creswell, 2008) ^[9] states, quantitative research often employ strategies of inquiry including experiments and surveys, and collect data on predetermined instruments leading to statistical data.

Weaknesses

An argument by Chetty (2016) ^[8] discusses quantitative research method as involving structured questionnaire with close ended questions. It leads to limited outcomes outlined in the research proposal. So the results cannot always represent the actual occurring, in a generalised form where the respondents have limited options of responses, based on the selection made by the researcher. In addition, this research is difficult, expensive and requires a lot of time to perform the analysis. Further to this, quantitative study requires extensive statistical analysis, which can be difficult to perform for researchers from non- statistical backgrounds. However, according to Baxter, sometimes researchers face problems to control the environment where the

respondents provide answers to the questions in the survey (Baxter, 2008) [5].

Contrasting Epistemological and Ontological Assumptions in Bahari's work

To Bahari, ontology is about the nature of world; what it consists, its entities, their operation, and their interrelation. Conversely, epistemology is a theory of knowledge especially what acceptable knowledge in a discipline is. Smith (2004) [15] views it by noting, Gruber notoriously defines 'ontology' as 'a specification of a conceptualization', and definitions in Gruberian spirit have been and still are accepted by most ontological engineers. We can never know reality in its purest form; we can only interpret it through our senses and experiences. Therefore, everyone has their own perspective of reality. Ontology is a formal specification of a perspective. Bahari views epistemological as describing among others Operationalism. Epistemology dictates the kind of knowledge in place. This can be; pragmatic, positivistic, operationalist, referential, instrumental, empiricist, rationalist, realist, etc. It is thus a description of inductive research.

Applicability in Security Research

In security research therefore just like the differences of the two approaches reminiscence, the environment (Atieno, 2009) [3] may find as some social science researchers such as Lincoln & Guba; Schwandt, perceive qualitative and quantitative approaches as incompatible, others as Patton; Reichardt & Cook believe that the skilled researcher can successfully combine approaches. The argument usually becomes muddled because one party argues from the underlying philosophical nature of each paradigm, and the other focuses on the apparent compatibility of the research methods, enjoying the rewards of both numbers and words. Because the positivist and the interpretive paradigms rest on different assumptions about the nature of the world, they require different instruments and procedures to find the type of data desired. Nonetheless, people tend to adhere to the methodology that is most consonant with their socialized worldview.

Conclusion

From the foregoing discussions, it should be noted like in other fields, the two philosophical issues (ontology and epistemology) and the two research approaches (qualitative and quantitative) can be applied in security research. Disciplines may change but the approaches are often flexible as to application desired. Dieronitou (2014) [11] points, although it is widely agreed that quantitative and qualitative research methods address different but complementary aspects of practices and thus they can be combined, it becomes necessary to probe beneath the surface of the technical level and adopt an approach which views both research paradigms as underpinned by all epistemological and ontological nuances.

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