

## Explication of research concepts: Philosophical dimension, assumptions and research paradigms

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### **Abstract**

*The paper aims to elucidate various research terminologies, including philosophical dimensions, assumptions, and research paradigms, which often lead to misunderstandings among researchers, students, and other research practitioners. It has been observed that there are significant challenges in comprehending and applying these concepts during the research process. This study seeks to define, explain, and clarify these research terms, illustrating their interrelations. Issues arise when different authors, scholars, or writers use these terminologies inconsistently across research outputs such as papers, journals, and textbooks. This inconsistency confuses many students, researchers, and practitioners. Therefore, this paper addresses these issues, providing a coherent understanding of these research concepts.*

**Key words:** Explication, research concepts, philosophical dimension, philosophical assumption, research paradigm

### **Introduction**

Research has been a fundamental activity since the dawn of human society. According to tradition, When Adam (peace be upon him) was sent to this world, his initial activity was to explore and search. The term 'research' comprises two key words, 'Re' and 'Search'. Re simply means to repeat what others have been doing while search is to find, locate, discover etc. Scientific research is not just search, locate or discover, it is much more than that, scholars like Kamba (2009) opines that research is the human activity based on intellectual capability to harness the reality while scientific research deals with step-by-step procedures that the researcher has to follow in undertaking the research processes. There are many dimensions and assumptions as well as paradigms in uncovering the reality by social actor (researcher) that the need to be taken in to consideration in knowing the reality. It is common for many academics including lecturers, teachers, and research practitioners to misunderstand and misuse philosophical tenets like constructivism, positivism, post-positivism, interpretivism, and pragmatism. These theoretical foundations are crucial because they give rise to different research perspectives. For example, positivism stresses objective reality and the application of scientific procedures to discover truths

(Bryant & Kathy, 2021). It is based on positivist and post-positivist beliefs. Constructivism and interpretivism, on the other hand, are based on these theories' respective assumptions and concentrate on comprehending people's subjective meanings and experiences. Based on pragmatic principles, pragmatics blends several methodologies according to the needs of the research challenge and gives priority to practical solutions and outcomes.

Comprehending these paradigms is essential as they drive the technique, research design, and interpretation of results. Constructivism and interpretivism promote qualitative methods that delve deeper into insights through observations and interviews, while positivism encourages an organized technique based on hypotheses and quantitative analysis for analysis. Flexibility is provided by pragmatism, which combines qualitative and quantitative approaches to tackle challenging research issues (Kamba, 2009). It is crucial to understand and appropriately apply these assumptions in academic and research contexts since failing to do so might result in unsuitable research designs and results that are based on faulty philosophical premises. Moreover, the paper is trying to explain the variation of philosophical dimensions that lead to philosophical assumptions which often give birth to research paradigms and research methodology as well.

### **Philosophical Dimension in Research**

The philosophical dimension in research refers to the worldview or beliefs about how people understand reality. According to Creswell (2003), the philosophical dimension includes the researcher's position toward the nature of reality (ontology), how they know about it (epistemology), the significance of values in the research (axiology), the language they use to communicate their findings (rhetoric), and the procedures they follow (methodology). The philosophical component of research is crucial because it addresses the nature and existence of reality as well as the information that a person or group of people acting as social actors may eventually uncover. Authors like Creswell, (2003); Kamba (2009); Creswell and David (2018); Russell and Harvey (2020); Bryant and Kathy (2021) categorized the philosophical dimension in research in to the followings:

- i. **Ontology:** This philosophical dimension concerns the nature of reality and existence. Ontological view believes that reality is in existence waiting the social actor to uncover it. This area of philosophy focuses on the presumptions made by social actors to accept something as true or logical, as well as the fundamental characteristics of the social phenomenon under study (Creswell & David 2018). Ontology involves studying the fundamental categories of existence, their relationships, and the nature of being or becoming
  - a. The ontological world is relevant because it looks at our fundamental assumptions about the nature of existence and being as researchers.
  - b. It is beneficial to understand the structure, nature, and extent of what is thought to be understood about reality.
  - c. According to the ontological worldview, reality exists and is just waiting for social actors to recognize it.
- ii. **Epistemology:** While epistemology agrees with ontology on the existence of reality, it focuses on how we come to know and understand this reality. According to the epistemological perspective, reality exists and is only waiting for social actors to discover it. However, in order to learn more about the nature of reality and its existence, there must be a methodical approach taken in the process of uncovering it (Kamba, 2009). According to Bryant and Kathy (2021), the word episteme, which in

- Greek signifies knowledge, is the etymology of epistemology examines how knowledge is acquired, what constitutes knowledge, and how we determine what is true or real. The epistemological world view is relevant to research because it tackles the following issues:
- a. How information is obtained and shared with others, as well as the nature and form of knowledge itself.
  - b. It is centered on human knowledge and the researcher's comprehension of that information in order to expand.
- iii. **Axiology:** Axiology emphasizes the ethical norms involved in discovering reality, while aligning with ontological and epistemological perspectives. This is when research ethics come into play. Axiology focuses on the importance of the various facets of discovering the truth, the individuals involved, the data, and the target audience for the findings (Kamba, 2009). It can be value laden, value neutral and value loaded.
- a) Value-laden thinking, or thinking that is primarily based on our own personal values, can make it difficult to see, hear about, or debate reality.
  - b) Value-neutrality is the ability to act in a situation without allowing one's emotions, prejudices, or personal interests to get in the way. The researcher can benefit from this aspect of study in the following ways:
    - c) It concerns how the researcher will be guided to uncover the truth.
    - d) Its main concern is the ethical norm for research.
    - e) It also addresses moral considerations, as well as the nature of the phenomena and the audience it is intended for.
- iv. **Methodology:** Methodology involves the sequential steps that researchers must follow to ascertain the truth. Ontological views hold that reality exists, but that there ought to be a way to know what reality is. This aspect of research includes the more general phrase for a carefully thought-out process of discovering the truth (Russell & Harvey, 2020). This philosophical dimension of research involve the following the relevance;
- a) It focuses on how we learn about the world or certain aspects of it.
  - b) It emphasizes the methods or processes for learning something as well as the prerequisites.
- v. **Rhetoric:** Rhetoric refers to the language and terminology used by researchers to convey their findings.

The philosophical component of research provides a general explanation of the nature of reality, its origins, ethical principles, and the methods used to discover it. The language or languages that social actors employ to ascertain the nature of reality's existence and this led to the realization of reality through philosophical presumptions. The development of the philosophical component of the research led to the formulation of the research's philosophical assumption.

### **Philosophical Assumptions in Research**

Philosophical assumptions are the fundamental beliefs that guide the conduct of research. The social actor conducting research or a study is the fundamental component of a philosophical assumption. A worldview is a fundamental collection of ideas that guide behavior. These presumptions produce distinctions that could be helpful when selecting any methodology or approach (Russell & Harvey, 2020). Research is based on philosophical presumptions, which direct how scientists interpret and discover reality. Various research philosophers have forth

different explanations for how people view and disclose this reality as social actors. This path frequently begins with positivist perspectives, which accept reality as a static thing and utilize quantitative measurements to investigate cause-and-effect linkages. Constructivist viewpoints then take shape, emphasizing the naming and comprehension of reality via social constructs. Interpretivist methods go deeper into deciphering the meanings concealed inside these constructions. Ultimately, critical paradigms incorporate these presumptions, taking into account the larger picture and combining findings to offer a comprehensive view of reality. Researchers seek to fully understand and explain the intricacies of human experience by using these many lenses. Ontology challenges all assumptions by asserting that reality exists independently and awaits discovery by researchers. To do this, a researcher must be objective and employ positivism, post positivism, constructivism, interpretivism, or pragmatism, among other theories (Cresswell, 2003). These dimensions give rise to the assumptions that form research paradigms. Scholars like Bryman (2001); Creswell (2003); Kamba (2009); Muhammad and Melinda (2021) Anke and Frank (2021) posited out the following philosophical assumptions which include:

- i. Positivist Assumption:** Ontological worldviews hold that "reality exists and is just waiting for humans to discover it." The social actor must learn everything on their own, leaving no space for additions in their quest to understand reality. The social actor must report the situation objectively, that is, according to your interpretation. According to Kamba (2009), the positivist premise holds that social observations ought to be seen as things in a manner similar to how physical scientists handle physical phenomena. The researcher has no intervention about the existence of the reality, therefore in uncovering the reality the social actor should be objective. The researcher discovers something in terms of number (static entity). This school of thought agreed that, if you are to conduct the research, since reality is all their; you have to do the research by discovering the reality in terms of number and what they called static entity which means that you cannot construct name or add meaning or interpret. Because of this nature of this school of thought that is why it fails and this lead to the emerged of the second assumption which is called Post positivist.
- ii. Post Positivist Assumption:** This assumption came in immediately after positivist. The post-positivist view adds that phenomena should be studied in pairs (i.e., cause and effect relationships). The problem, phenomenon or situation is investigated on the causes and effect relationship (Kamba, 2009). It is as a result of this assumption that give raise the variables in research (i.e. dependent and independent variables).
- iii. Constructivist Assumption:** This assumption believed that, the social actor uncovers the reality by constructing name of the discovery. It is a result of this assumption that naming of something start. This assumption rejects the positivist assumption. Reality is subjective, multiple and socially constructed (Muhammad & Melinda, 2021).
- iv. Interpretivist Assumption:** This assumption agreed that not only constructing name in uncovering the reality but also explaining the discovery.
- v. Pragmatist Assumption:** This assumption merge the all the above assumption together. It states that, the reality is uncovered by both being objective and subjective in order to overcome the weaknesses of one another.

### Research Paradigm

The research paradigm emerged after the research assumption was emanated from the philosophical dimension of research. The research paradigm is grounded in the philosophical

assumptions of research. The word paradigm originated from the Greek word “paradeigma” which means pattern. This word was first used in the research by “Kuhn” in 1962 to describe a conceptual framework that is accepted by a community of researchers or scientists and that provides them with an in-depth guideline to conduct the research (Nirod, 2005). Research paradigm means an approach or pattern of conducting research. According to Kamba (2009); Creswell (2013); Stephen, Antwi and Kasim (2015); Cohen, Manion and Morrison (2021); Gary (2021) noted that every research uses one of the research paradigms to use as a guideline for developing research methodology and to take on the research venture in a manner that is most valid and appropriate. According to them, basically there are two paradigms (i.e. Positivism and Interpretivism or anti-positivism) but there are several other paradigms emerged from these two especially in the social science research. The research paradigm is divided in to three main classes which include the followings:

- i. **Positivism (Objectivism):** According to Neuman (2003); Cohen et. al. (2021), objectivism maintains that reality exists independently of constructionism, which claims that reality is the result of social processes. A positivist researcher believes that reality is "out there" in the universe and must be found via the application of traditional scientific methods (Bassey, 1995). Humans are able to see this reality through their senses, and the conclusions drawn regarding the reality of human behavior are stated as fact (Mutch, 2005; Gary, 2021). Positivist researchers believe they stay detached from their subject matter and do not see themselves as significant factors in their studies. According to Cohen et. al. (2021), the conceptual underpinning of the idea is that the world exists, can be known, and can be discovered by researchers using quantitative methods. This approach views knowledge as given and demands that it be acquired through objective means. Quantitative data that speaks for itself typically summarizes research findings (Creswell & David, 2018; Muhammad & Melinda, 2021).

According to Neuman (2003), the positivist research paradigm views social science as a systematic process that combines exact empirical observations of individual behavior with deductive reasoning to identify and validate a set of probabilistic causal laws that can be applied to forecast broad trends in human behavior. For positivists, the characteristics of social reality are as follows: patterns of social reality are stable, knowledge of them is additive, and empirical facts exist independently of the researcher's views or thinking (Gary, 2021). Kumar (2019) noted that the fundamental tenet of this paradigm is that science seeks to approximate reality as closely as possible by developing the most objective techniques. From this perspective, researchers describe how variables interact, affect occurrences, and produce outcomes in quantitative terms.

In a nutshell, the Positivism or objectivism combines the positivist and post positivist assumptions together. In uncovering the reality, the researcher has no intervention or it gives no room for addition by the social actor.

- ii. **Subjectivism**, also known as constructionism/interprevism: holds that humans construct, interpret, and experience the world through their interactions with one another and with larger social systems (Creswell & David, 2018; Muhammad & Melinda, 2021). This paradigm states that the nature of research is interpretive and that its goal is to comprehend a specific occurrence rather than extrapolating its conclusions to a larger population (Farzanfar, 2005). Because they examine actual events as they develop organically, researchers that work within the constructionism/interprevism

paradigm are naturalistic. To be more precise, they are typically non-controlling, non-manipulative, and non-obtrusive (Tuli, 2010). When it comes to the researcher's intervention, this research paradigm blends the interpretivist and constructivist presumptions.

- iii. **Research with pragmatism Paradigm:** According to this theory, the social actor combines objectivism and subjectivism to give a more comprehensive explanation of reality. This type of inquiry's fundamental premise is that objectivism and subjectivism combined offer a more thorough grasp of a study problem than each technique does when used alone.

### Research Methodology

Research Methodology is the systematic approach which is derived from paradigms of research to solve the research problem and to reach new conclusion. It involves the theoretical or philosophical positioning of a research study (Tuli, 2010). It is basically categorized in to three;

- i. **Quantitative research methodology:** This research methodology was emanated from the positivist and post-positivist assumptions (objectivism paradigm). This type of research methodology helps to quantify data that is collected in quantity or numeric manner. It used to quantify the reality in terms of static entity (Kamba, 2009). Positivists, also known as quantitative purists, believe that researchers have no influence over an independent reality
- ii. **Qualitative research methodology:** Is derived from interpretivist and constructivist schools of thought (subjectivism paradigm). This kind of methodology focuses on examining an issue and gaining a thorough grasp of a key phenomenon (Creswell, 2012). The positivist premise is rejected by qualitative purists, often known as interpretivists or constructivists. They argue that reality is socially created, subjective, and multifaceted (Barney, 2021; Bryant & Kathy, 2021).
- iii. **Mixed research methodology:** This kind of methodology was derived from the pragmatic research paradigm and is based on combining quantitative and qualitative methods to perform a study in order to strengthen each other's deficiencies.

### Conclusion

Scientific research is a methodical process that follows a set of rules or principles related to the study subject the investigator is examining. Qualitative and/or interpretivist research is guided by subjectivity and examining human behavior in real-world contexts, whereas quantitative and/or positivist research is guided by objectivity, measurability, predictability, probability, controllability, and control laws that can predict human behavior. Furthermore, each of these research terminologies has a specific role and importance in the expansion and advancement of knowledge.

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