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ABSTRACT

The main objective of this study was to demystify the philosophical paradigms so as to improve our understanding of research, especially for the Ph.D students and researchers and to appreciate how our personal thoughts and beliefs can be able to influence our research design, outcomes and interpretation. The research design employed in this study was descriptive. This study relied heavily on secondary data as is the case with most desktop research study. The study reviewed journal articles, unpublished papers and conference papers on understanding of research philosophies and paradigms. The study employed a desktop approach to provide answers to the research objectives. Specifically, the paper used content analysis to gather information from peer reviewed publications such as, journal articles, environmental organizations reports and books. The study found that for positivists the research approaches are quantitative and include experimental, quasi-experimental, correlational, causal comparative, and survey designs. Interpretivists are subjective in the way they view the world and adopts qualitative research designs and that Pragmatism go hand in hand with realism as an epistemological position. This study recommended that it is important for researchers to plan their research studies and put into consideration the philosophical concepts, positions and traditions underpinning every research method and methodological approach. The selection of research approaches must also be based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study. Informing this decision should be the philosophical assumptions the researcher brings to the study; procedures of inquiry (called research designs); and specific research methods of data collection, analysis, and interpretation. It is important for the researcher to be rational and not emotional in the understandings of the philosophical underpinnings of his/her research as this allows for empirical verification of their observations and inferences and provides rigor and authenticity to the research process.

Key Words: Research Methodologies, Techniques, Research Paradigms, Philosophies, Research Design

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INTRODUCTION

Research can be defined as an investigation undertaken in order to gain new knowledge or to add “value” to an existing body of knowledge. Research process can be described as a systematic and organized effort to investigate a specific problem that needs a solution or an answer, (Kirongo & Odoyo, 2020). All research studies must be based on some underlying philosophical assumptions about what constitutes 'valid' research and which research method(s) is/are appropriate for the development of knowledge in a given study. Philosophy is concerned with views about how the world works and, as an academic subject, focuses, primarily, on reality, knowledge and existence. Our individual view of the world is closely linked to what we perceive as reality. Research philosophies provide theories about the nature of the reality that is being investigated in research (ontology) and about how knowledge of this reality is produced and justified (epistemology),(Mauthner,2021). According to Blanche & Durrheim (1999), the research process has three major dimensions: ontology , epistemology and methodology . According to them a research paradigm is an all-encompassing system of interrelated practice and thinking that define the nature of enquiry along these three dimensions. The term paradigm originated from the Greek word paradeigma which means pattern and was first used by Thomas Kuhn (1962) to denote a conceptual framework shared by a community of scientists which provided them with a convenient model for examining problems and finding solutions. Kuhn defines a paradigm as: “an integrated cluster of substantive concepts, variables and problems attached with corresponding methodological approaches and tools...”. According to him, the term paradigm refers to a research culture with a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research, (Kuhn, 1977).

It is a common practice for researchers to plan their research in relation to a question that needs to be

answered or a problem that needs to be solved, think about what data they need and the techniques they shall use to collect data, research design and process, access to the research site, gathering materials and analyzing them, but they fail to explain why they make such choices, (Saunders,2016). There are several issues that one need to take into consideration when starting a research project, key among them include philosophical concepts, positions and traditions underpinning every research method and methodological approach, (Eriksson,2007). Kirongo & Odoyo,(2020),posits that researchers and post-graduate students most of the time have a challenge differentiating between research paradigms, philosophies, research design and research methodologies. Often, they fail to make their philosophical base explicit – or worse still they are themselves unaware that they have made methodological decisions by default, (Tombs& Pugsley, {2020). Many practically oriented business researchers do not explicitly state the philosophical viewpoint of their studies. This often implies that they either find philosophical questions as non-relevant in their research settings, or take their own philosophical position as self-evident and known, (Eriksson,2007). According to {Mauthner,(2021), there is an element of serendipity in finding and choosing a research philosophy. It depends on the readings that one has come across and the influence from peers including people in your inner circle, supervisors, mentors, thinkers and other doctoral researchers. Researchers must be determined to analyze the different philosophical underpinnings of each paradigm, read about the great thinkers’ theories and the evolution of social science research, (Mack, 2010).

It is important to appreciate how our view on the world can impact on the design and the interpretation of research. A researcher’s perception of reality affects how he/she gain knowledge of the world, and how he/she act within it. This means that your perception of reality, and how you gain knowledge, will affect the way in

which you conduct the research in your dissertation. According to Scott & Usher, (1996), research is a social practice carried out by research communities. What constitutes 'knowledge', 'truth', 'objectivity' and 'correct method' is defined by the community and through the paradigms which shape its work. A paradigm is "the entire constellation of beliefs, values and techniques shared by members of a given scientific community", (Tombs & Pugsley, (2020). The essence of science, is the process of transforming things believed into things known: doxa to episteme. The purpose of a research philosophy therefore is to give direction about the way in which data about a phenomenon should be gathered, analyzed and used. Two principal paradigms that have predominated in social sciences research since the 19th century are those based around positivism and interpretivism. These inform and shape the views held regarding the research and in turn impact on the ontological, epistemological and methodological choices made, Tombs & Pugsley, (2020). This research paper shall try to demystify our understanding of philosophy to improve our research, especially for the Ph.D students and researchers and how our personal thoughts and beliefs can shape our research design, outcomes and interpretation.

Objectives of the Study

The general objective of this study is to demystify research philosophies and paradigms in supply chain management. The study was guided by the following specific objectives;

- To understand how research philosophy and paradigms can improve scientific research studies
- To establish the influence of research philosophy and paradigms in choosing a study design.
- To assess the effects of research Philosophy and paradigms in selecting data collection tools and methods.
- To determine the influence of research Philosophy and paradigms on theories underpinning research studies.

- To determine the Importance of research Philosophy and paradigms in scientific research

LITERATURE REVIEW

Kothari (2002) defines methodology as a way to systematically solve the research problem. It is a stepwise approach adopted by a researcher in studying a specific problem along with the logic behind them. Research methodology is part of a research process that includes ontology and epistemology, (Kuhn, 1977). Ontology is the beginning of research which will likely lead a researcher to the theoretical framework. Ontology can also be defined as the study of claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other. In other words, if someone studies ontology they study what we mean when we say something exists. This study used descriptive research design. According to Cooper and Schindler, (2003), a descriptive study is concerned with finding out the what, where and how of a phenomenon. This research applied qualitative research frameworks and has employed a wide range of analytical techniques to generate findings and put them into context. Descriptive studies are not only restricted to fact findings, but may often result in the formulation of important principles of knowledge and solution to significant problems (Mugenda & Mugenda, 2003). Based on the interpretivist paradigm approach adopted, we conducted a content analysis to collect secondary data on the subject of "understanding research philosophies and paradigms in supply chain management". Content analysis is a globally recognized qualitative research technique, widely used because of its flexibility. Content analysis entails collection of qualitative data through literature review of the existing literature concerning the various parameters of the study, including internet search to benchmark with best practices across the globe.

Philosophical underpinnings of various Paradigms

Paradigms

A research paradigm refers to the theoretical or philosophical ground for the research work. It is viewed as a research philosophy. American philosopher Thomas Kuhn (1962) used the term paradigm to discuss the shared generalizations, beliefs, and values of a community of specialists regarding the nature of reality and knowledge, (Khatri, 2020). In social research, the term "paradigm" is used to refer to the philosophical assumptions or to the basic set of beliefs that guide the actions and define the worldview of the researcher, (Kaushik & Walsh, 2019, Lincoln *et al.* 2011). In educational research the term paradigm is used to describe a researcher's 'worldview'. This worldview is the perspective, or thinking, or school of thought, or set of shared beliefs, that informs the meaning or interpretation of research data, (Kivunja & Kuyini, 2017). A paradigm therefore encompasses what Burrell and Morgan (1985) describe as ontology, epistemology, human nature and methodology. These paradigms have implicit and explicit assumptions and biases in determining the way in which we see the world, (McLoughlin, 2015). According to (Kivunja & Kuyini, 2017), a paradigm defines a researcher's philosophical orientation and has significant implications for every decision made in the research process, including choice of methodology and methods and so, a paradigm tells us how meaning will be constructed from the data we shall gather, based on our individual experiences. A paradigm is a frame of reference and is different from theory. While theories seek to explain, "a paradigm provides ways of looking at things." Paradigms provide a logical framework for theories to be created, (Babbie 2015 ; Cumming, 2012; Singh 2019; Mack 2010; Kinsella & Pitman 2012; Marendi *et al.*, 2015), While disciplinary orientations of educational research are contestable, an examination, delineation and critical exploration of epistemological and ontological underpinnings and assumptions of educational research are beneficial in providing researchers with valuable understandings and improved critical thinking skills, (Cumming, 2012;

Singh 2019; Mack, 2010; Kinsella & Pitman 2012; Marendi *et al.*, 2015).

Positivist paradigm

According to (Mark., 2010), considering epistemological paradigm is to initially understand epistemology as the philosophical view of knowledge acquisition, i.e., what is, and how is knowledge acquired, including its nature (Mack., 2010). Positivist epistemological paradigm holds the position that meaning and meaningful realities already reside in objects awaiting discovery and they exist apart from any kind of people's consciousness. Therefore, according to this view, when we recognize objects around us, we simply discover meanings which have been lying in them all along, (Cumming, 2012; Singh 2019; Kinsella & Pitman 2012). As individuals brought up in a certain culture at a certain time, our life experience, education, beliefs (including but not limited to culture and tradition) and our very existence, often unconsciously influence our learning patterns, (Creswell, {2005). Positivism is based on the premise that knowledge is founded on facts and that no abstractions or subjective status of individuals shall be considered. Positivism focuses on the importance of objectivity and evidence in learning. In positivism, facts and values are distinct, thus making it possible to conduct objective and value-free knowledge acquisition, (Cumming, 2012). Positivism would require an understanding of the interdependent relationship of the variables and the importance gained through such an examination. Put simply, central to this understanding is the formation of paradigms as well as the inextricable parallel between them and research, i.e., that they cannot be extricated from each other, (Hashil, 2014; Cumming, 2012; Singh, 2019; Mack, 2010; Kinsella & Pitman, 2012; Marendi *et al.*, 2015). Examining epistemological research is to initially understand epistemology as the philosophical view of knowledge acquisition, i.e., what is, and how is knowledge, including its nature acquired. According to (Tuli, 2010; Cumming, 2012; Singh, 2019; Mack 2010; Kinsella & Pitman,

2012; Marendi *et al*, 2015), the selection of a research methodology will depend on the paradigm selected. Once the methodology is confirmed, selecting appropriate methods becomes much easier.

Interpretivism

Interpretivism also known as a hermeneutic or alternatively anti-positivist approach was initially an ideology proposed by Wilhelm Dilthey, suggesting differences in the approach of research between social and natural sciences,(Cummings,2012). It emerged in early- and mid-twentieth-century Europe, in the work of German, French and occasionally English thinkers, and is formed of several strands, most notably hermeneutics, phenomenology and symbolic interactionism (Crotty 1998). Interpretivists argue that human beings and their social worlds cannot be studied in the same way as physical phenomena, and that therefore social sciences research needs to be different from natural sciences research rather than trying to emulate the latter, (Crotty 1998). There are many forms of interpretivism, but common to all of these is a concern with subjective and shared meanings. These philosophical positions are interested in how people, as individuals or as a group, interpret and understand social events and settings.(Ericksson,2007). Interpretivism emphasizes that humans are different from physical phenomena because they create meanings. This is to say Interpretivism is a construction of socialization and interaction, hence the interchangeable terminology of constructivism being synonymous with this theoretical perspective,(Cumming,2012). As different people of different cultural backgrounds, under different circumstances and at different times make different meanings, and so create and experience different social realities, interpretivists are critical of the positivist attempts to discover definite, universal 'laws' that apply to everybody. Rather they believe that rich insights into humanity are lost if such complexity is reduced entirely to a series of law like generalizations, (Saunders, 2016).

According to Tombs & Pugsley (2020), Interpretivists adopts a qualitative focus and is known as a naturalistic or ethnographic way of considering the social world and the social phenomena that exist within it. The purpose of interpretivist research is to create new, richer understandings and interpretations of social worlds and contexts. For business and management researchers, this means looking at organizations from the perspectives of different groups of people,(Saunders,2016). Interpretive researchers start out with the assumption that access to shared dynamic and changing and individually constructed reality is only through social constructions such as language and shared meanings. This is why interpretative and constructionist research does not only focus on the contents of empirical data, but also on the how these contents are produced through language practices,(Ericksson,2007). The main theme of interpretivist and constructionist is related to subjective meanings – how the various elements of the society understand and interpret the various social events occurring in the society (interpretation) and how they respond to these events and draw inferences (reflexivity), (Schutz,1973). This approach can be of particular value in researching studies into the human sciences. It is founded on the premise that the social world consists of meaningful actions. In order to understand what is occurring and make sense of it, researchers must achieve a degree of empathy to allow them to interpret the different meanings that individuals and groups attach both to their activities and their accounts of these activities and interactions, (Tombs & Pugsley (2020).

Pragmatism

Pragmatism is methodological approach originating from the work of William James (1842-1910), John Dewey (1859-1952), Charles Sanders Peirce (1839-1914) and Herbert Mead (1863-1931). The word 'Pragma' is derived from the Greek literature "Pragma" which means action, from which the words 'practice' and 'practical' come (James, 2000). Pragmatism as a research paradigm finds its

philosophical foundation in the historical contributions of the philosophy of pragmatism (Maxcy 2003) and, as such, embraces plurality of methods. As a research paradigm, pragmatism is based on the proposition that researchers should use the philosophical and/or methodological approach that works best for the particular research problem that is being investigated, (Kaushik & Walsh, (2019). Pragmatism is concerned with action and change and the interplay between knowledge and action. It rejects traditional philosophical dualism of objectivity and subjectivity and allows the researcher to abandon post positivism and constructivism, (Heba Maarouf,2019). Pragmatist researchers' choice of one version of reality over another is governed by how well that choice results in anticipated or desired outcomes. For a positivistic researcher, an object with flat surface and four legs would always be a table. For a constructivist, based on her/his perspective, the same object would be a table if s/he was eating off it, a bench if s/he was sitting on it, and a platform if s/he was standing on it. However, a pragmatist would define the object based on its utility, for instance, the object would be a table if s/he intends to eat off it, a bench if s/he intends to sit on it, and a platform if s/he intends to stand on it, (Kaushik.,V & Walsh.,A.,C.,(2019).

The emergence of the mixed research approach has been accompanied by searching for a philosophy that legitimates mixing quantitative and qualitative methods in one research. Many researchers consider pragmatism as the most common philosophical justification for the mixed research approach,(Heba Maarouf,2019). The core assumption of the mixed research approach is that mixing quantitative and qualitative methods provides a complete understanding of the research problem than using only one type of methods (Creswell, 2014; Molina-Azorin, 2016). In order to justify the use of pragmatism for mixed method research, it is a requirement to have a logical flow from the choice of theory to the methodological dimension, (Mufti, & Wahab 2016). For the

pragmatists, the real world exists, but at the same time, everyone has his unique interpretation of this world (Morgan, 2007). Thus, the pragmatist does not accept or trust only subjectivity, but adopts the notion of intersubjectivity, which allows researchers to capture the subjective and objective duality of a phenomenon before representing it as a social reality, (Parvaiz *et al.*, 2016, Cardoso da Silva *et al.*,2018).

Ontology

Ontology is the study of 'being' and is concerned with 'what is', i.e., the nature of existence and structure of reality as such (Crotty, 1998) or what it is possible to know about the world (Snape & Spencer, 2003). Ontology deals with the philosophical assumptions about the nature of reality or existence. It is simply called theory of reality, (Krishna, 2020). A researcher's ontological assumptions shape the way in which they see and study a research object. In Supply chain management these objects include organizations, management, individuals' working lives and organizational events and artefacts. According to Kivunja & Kiyini, (2017), Ontology is the philosophical study of the nature of existence or reality, of being or becoming, as well as the basic categories of things that exist and their relations. Ontology concerns the ideas that the research has about the existence of and relationship between people, society and the world in general. It is based upon perceptions and experiences that are different for each person and change over time and context, (Ericksson, 2007).

Epistemology

Epistemology is another component of research paradigm dealing with how knowledge is gained from different sources. It is simply known as theory and philosophy of knowledge,(Krishna,2020). Ontological claims are closely related to epistemological claims, and they usually are discussed together. Epistemology is concerned with the questions 'What is knowledge and what are the sources and limits of knowledge?'. At large, epistemology defines how knowledge can be

produced and argued for. Epistemology defines the criteria by which knowledge is possible. In a social science study, epistemology defines and gives structures to what kind of scientific knowledge is available, what are the limits for that knowledge,(Ericksson,2007). Knowledge constitutes hard data, is objective and, therefore, independent of the values, interest and feelings of the researcher, (Everest Turyahikayo, 2021). For Crotty (1998), epistemology is a way of looking at the world and making sense of it. It involves knowledge and, necessarily, it embodies a certain understanding of what that knowledge entails.

METHODOLOGY

Methodology refers to organizing principles, which provide the procedure for guiding the research process and research design. Methodology is an important component of research paradigm. It deals with the how aspects of inquiry process. Research methodology articulates the logic and flow of the systematic processes followed in conducting a research project, so as to gain knowledge about a research problem. It includes

assumptions made, limitations encountered and how they were mitigated or minimized. It focuses on how we come to know the world or gain knowledge about part of it ,(Moreno, 1947, Krishna 2020). Keeves (1997) states that methodology is the broad term used to refer to the research design, methods, approaches and procedures used in an investigation that is well-planned to find out something, (Krishna ,2020). Kothari (2002) defines methodology as a way to systematically solve the research problem. It is a stepwise approach adopted by a researcher in studying a specific problem along with the logic behind them. Methodologies are concerned with how we come to know of the world, but they are more practical in nature than epistemologies. Epistemology and methodology are closely related: the former involves the philosophy of how we come to know the world, whereas the latter involves the same from a practical point of view, (Erickson, 2007). Methodological considerations include participants, instruments used in data gathering, and measures for data analysis through which knowledge is gained about the research problem, (Krishna 2020).

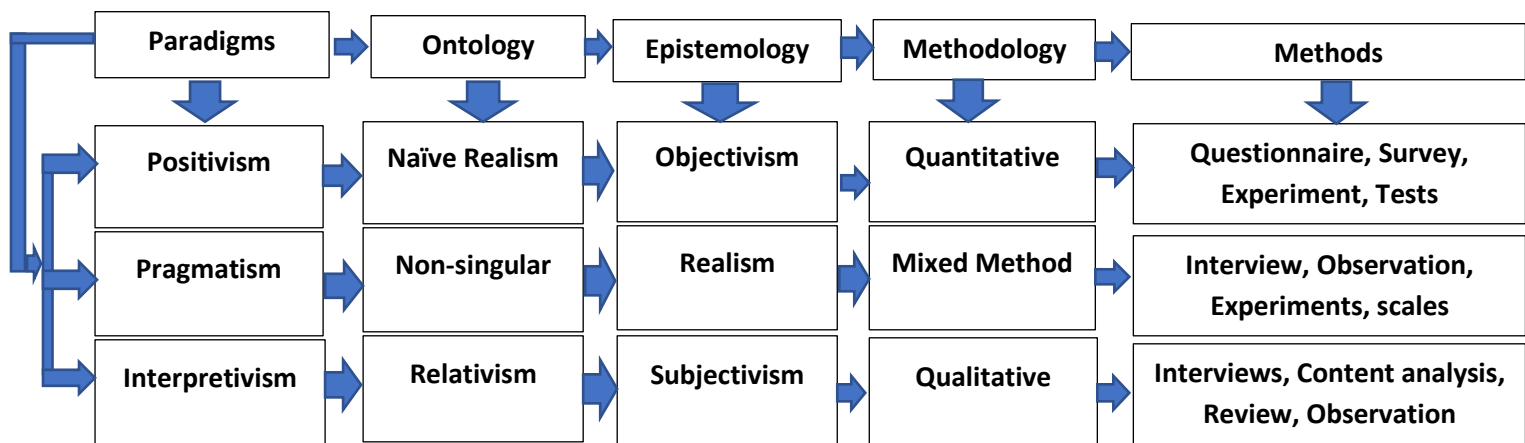


Figure 1: Research Paradigms: Philosophical underpinnings of various Paradigms

Source: Research, 2022

Discussions

How paradigms influence methodology

Research Approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. The overall decision

involves which approach should be used to study a topic. Informing this decision should be the philosophical assumptions the researcher brings to the study; procedures of inquiry (called research designs); and specific research methods of data collection, analysis, and interpretation. The selection of a research approach must also be

based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study,(Cresswel,2014). Methodology of a Paradigm is a term used to refer to the research design, methods, approaches and procedures used in social science research. For example, data gathering procedures, unit of observation and analysis, instruments used, and data analysis. In sum, methodology articulates the logic and flow of the systematic processes followed in conducting a research project, so as to gain knowledge about a research problem, (Keeves, 1997, Kivunja & Kiyini, 2017). It is concerned with the question like: How shall I go about obtaining the desired data, knowledge and understandings that will enable me to answer my research question and thus make a contribution to knowledge, "How can the researcher go about finding out whatever he or she believes can be known, ". From this; it is clear that methodological questions guide the researcher to the process of knowing through which the research questions are answered, (Krishna, 2020). The focal point of methodology is to describe how a given issue or problem can be studied. Methodology is focused on the specific ways (the methods) that we can use in research when trying to understand our world better. Methods are often divided into methods of data collection (e.g., interviews, observation) and methods of data analysis (e.g., thematic analysis, narrative analysis. Although some methods are better suited to some methodologies (e.g., observation with ethnography, or in broader sense with qualitative methodology), they are not rigidly bound to each other in a way that certain methodologies would rely on a very restricted body of method,(Erickson,2007). However, it is vital for the researcher to be rational and not emotional in their understandings as this allows for empirical verification of their observations and inferences and provides rigor and authenticity to the research process, (Saunders, 2016).

Positivism as a Philosophical Justification for the Quantitative Approach

Positivists believe that researchers only need the right data gathering instrument or tools to produce objective truth for a given inquiry. Positivist's research approaches are quantitative and include experimental, quasi-experimental, correlational, causal comparative, and survey designs. The techniques of gathering data are mainly questionnaires, observations, tests and experiments. Quantitative research methods involve the processes of collecting, analyzing, interpreting, and writing the results of a study. Specific methods exist in both survey and experimental research that relate to identifying a sample and population, specifying the type of design, collecting and analyzing data, presenting the results, making an interpretation, and writing the research in a manner consistent with a survey or experimental study,(Creswell,2014). Quantitative research designs begin with ideas, theories or concepts that are defined as they are used in the study to point to the variables of interest. The problem statement specifies the variables to be studied and the relationship among them, (Everest, 2021). The basic distinction between qualitative and quantitative research is the form of data collection, analysis and presentation. While quantitative research presents statistical results represented by numerical or statistical data, qualitative research presents data as descriptive narration with words and attempts to understand phenomena in "natural settings". This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them." (Denzin and Lincoln, 2000). Most Positivists adopt objective epistemological paradigms. The division between objectivism and subjectivism is one aspect of ontology in philosophy, which refers to the study of conceptions of reality. Instead of subjectivism, the term constructionism is often used to describe the social nature of reality, (Krishna 2020).

Positivism focuses on the importance of objectivity and evidence in searching for truth and the world is

unaffected by the researcher. In positivism, facts and values are very distinct, thus making it possible to conduct objective and value-free inquiry (Snape & Spencer, 2003, Hashil, 2016). Objectivism incorporates the assumptions of the natural sciences, arguing that the social reality that we research is external to us and others (referred to as social actors). This means that, ontologically, objectivism embraces realism, which, in its most extreme form, considers social entities to be like physical entities of the natural world, in so far as they exist independently of how we think of them, label them, or even of our awareness of them, (Saunders, 2016). Therefore, when considering the ontological perspective of your research, you should think about what you see as fundamental properties in the social world that are worth studying. For example, if you are interested in studying what managers do and why, you must first decide whether you believe that they act, for instance, on the basis of biologically determined personalities, cognitively adopted attitudes, or socially constructed identities. All three indicate a very different world view in terms of what is essential in existence and being, what should be studied, and how it can be studied, (Ericksson, 2007).

In Quantitative design, variables are operationally defined to enable others to replicate, verify and confirm the results. Operationally defining a variable means that the trait to be measured is defined according to the way it is used or measured or observed in the study, (Everest, 2021). Quantitative researchers measure variables on a sample of subjects and express the relationship between variables using statistical measures such as correlations, relative frequencies, or differences between means; their focus is to a large extent on the testing of theory, (Mauthner, 2021). They make use of questionnaires, surveys and experiments to gather data that is revised and tabulated in numbers, which allows the data to be characterized by the use of statistical analysis, (Hittleman and Simon, 1997). Stake (1995) describes three major

differences in qualitative and quantitative emphasis, noting a distinction between: explanation and understanding as the purpose of the inquiry; the personal and impersonal role of the researcher; and knowledge discovered and knowledge constructed, (Saunders, 2016).

Interpretivism as a Philosophical Justification for the qualitative Approach

Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data, (Creswell, 2014). Constructivism or social constructivism (often combined with interpretivism) is such a perspective, and it is typically seen as an approach to qualitative research. These ideas came from Mannheim and from works such as Berger and Luekmann's (1967) *The Social Construction of Reality* and Lincoln and Guba's (1985) *Naturalistic Inquiry*. More recent writers who have summarized this position are Lincoln *et al*, (2011), Mertens (2010), and Crotty (1998), among others, (Creswell, 2014). Qualitative approaches to data collection, analysis, interpretation, and report writing differ from the traditional, quantitative approaches. Purposeful sampling, collection of open-ended data, analysis of text or pictures, representation of information in figures and tables, and personal interpretation of the findings all inform qualitative methods, (Creswell, 2014). Qualitative researchers embrace subjectivism. Ontologically, subjectivism encapsulates nominalism (also sometimes called conventionalism). Nominalism, in its general form, considers that the order and structures of social phenomena we study (and the phenomena themselves) are created by us as researchers and by other social actors through use of language, conceptual categories, perceptions and consequent actions, (Saunders, 2016).

The subjectivist view is that social phenomena are created from the perceptions and consequent actions of social actors. In qualitative studies the researcher is considered the primary instrument of data collection and analysis. The researcher engages the situation, makes sense of the multiple interpretations, as multiple realities exist in any given context as both the researcher and the participants construct their own realities, (Kivunja & 2017). This follows from the interpretivist position that it is necessary to explore the subjective meanings motivating the actions of social actors in order for the researcher to be able to understand these actions. Social constructionism views reality as being socially constructed. In qualitative research, a hypothesis is not needed to begin research; It employs inductive data analysis to provide a better understanding of the interaction of "mutually shaping influences" and to explicate the interacting realities and experiences of researcher and participant (Lincoln & Guba, 1985, Krishna 2020). Often the distinction between qualitative research and quantitative research is framed in terms of using words (qualitative) rather than numbers (quantitative), or using closed-ended questions (quantitative hypotheses) rather than open-ended questions (qualitative interview questions).(Creswell,2014).

Interpretivists adopt relativist ontological paradigms. Qualitative research is naturalistic; it attempts to study the everyday life of different groups of people and communities in their natural setting. Qualitative research involves an interpretive, naturalistic approach to its subject matter; it attempts to make sense of, or to interpret, phenomena in terms of the meaning people bring to them, (Denzin and Lincoln, 2003, Saunders, 2016). It allows for a design to evolve rather than having a complete design in the beginning of the study because it is difficult if not impossible to predict the outcome of interactions due to the diverse perspectives and values systems of the researcher and participants, and their influence on the interpretation of reality and the

outcome of the study, (Krishna 2020). The more open-ended the questioning, the better, as the researcher listens carefully to what people say or do in their life settings. Often these subjective meanings are negotiated socially and historically. They are not simply imprinted on individuals but are formed through interaction with others (hence social constructivism) and through historical and cultural norms that operate in individuals' lives. Thus, constructivist researchers often address the processes of interaction among individuals,(Creswel,2014). For nominalists, there is no underlying reality to the social world beyond what people (social actors) attribute to it, and, because each person experiences and perceives reality differently, it makes more sense to talk about multiple realities rather than a single reality that is the same for everyone, (Saunders 2016).

Pragmatism as a Philosophical Justification for the Mixed Research Approach

A major underpinning of pragmatist epistemology is that knowledge is always based on experience. One's perceptions of the world are influenced by our social experiences. Each person's knowledge is unique as it is created by her/his unique experiences. Nevertheless, much of this knowledge is socially shared as it is created from socially shared experiences, (Morgan 2014, Kaushik & Walsh, 2019). According to Marsonet, (2017, Turyahikayo,(2021), the pragmatist stance is that scientific knowledge is recognized as just one of the numerous available types of knowledge. Pragmatists claim that knowledge is distorted through language and individual perceptual frames, and that there is no universally accepted knowledge except knowledge leading to positive consequences (Oliver, 2012). The main concern for a pragmatist is to find out 'what works' and what enables solutions to problems, (Patton, 1990; Mufti. & Wahab .,(2016). Pragmatism is interested not only in what "is," but in what "should be." This way of perceiving the world causes the pragmatist to seek the realization of changes in desired directions, and the action of change, which is a central concern of

pragmatism, must be guided by purpose and knowledge,(Humberto *et al*,2018).

Pragmatic research paradigm goes hand in hand with realism as an epistemological position. The essence of realism is that there is a reality quite independent of the mind. What the senses show us as reality is the truth. Mauthner, (2021), posits that research philosophies provide theories about the nature of the reality that is being investigated in research (ontology) and about how knowledge of this reality is produced and justified (epistemology). Pragmatism as a research paradigm finds its philosophical foundation in the historical contributions of the philosophy of pragmatism (Maxcy 2003) and, as such, embraces plurality of methods. As a research paradigm, pragmatism is based on the proposition that researchers should use the philosophical and/or methodological approach that works best for the particular research problem that is being investigated, (Kaushik & Walsh ,(2019). Pragmatic researchers adopt mixed method in their research design. In order to academically justify the use of pragmatism for mixed method research, there is an essential requirement to have a logical flow from the choice of theory to the methodological dimension, Mufti & Wahab, (2016). That is to say, in order to generate knowledge that works for the organization, efforts should be directed towards igniting experiences through trial and error in a learning and communicative process (Elkjaer & Brandi, 2018; Watson, 2010, Turyahikayo,2021).

The emergence of the mixed research approach has been accompanied by searching for a philosophy that legitimates mixing quantitative and qualitative methods in one research. Many researchers consider pragmatism as the most common philosophical justification for the mixed research approach,(Heba Maarouf,2019). Mixed methods involve the collection and “mixing” or integration of both quantitative and qualitative data in a study. Then the three basic designs in mixed methods research—(a) convergent, (b) explanatory sequential, and (c) exploratory sequential—are

detailed in terms of their characteristics, data collection and analysis features, and approaches for interpreting and validating the research. In addition, three advanced designs are also mentioned: (a) the embedded design, (b) the transformative design, and (c) the multiphase design, (Cresswel, 2014). In social studies, qualitative methods have typically been used for exploratory studies in order to develop a deeper understanding of a phenomenon, or to generate new theoretical insights (Walsham, 2006), while quantitative methods are used as confirmatory studies in order to test theories (Venkatesh *et al.*, 2013). Pragmatism is concerned with action and change and the interplay between knowledge and action. It rejects traditional philosophical dualism of objectivity and subjectivity and allows the researcher to abandon post positivism and constructivism, (Heba Maarouf,2019). In order to justify the use of pragmatism for mixed method research, it is requirement to have a logical flow from the choice of theory to the methodological dimension, (Parvaiz G.,S., , Mufti.,O., , & Wahab M.,{2016). For the pragmatists, the real world exists, but at the same time, everyone has his unique interpretation of this world (Morgan, 2007). Thus, the pragmatist does not accept or trust only subjectivity, but adopts the notion of intersubjectivity, which allows researchers to capture the subjective and objective duality of a phenomenon before representing it as a social reality, (Parvaiz *et al.*, 2016, Cardoso da Silva *et al*,2018).

Qualitative data tends to be open-ended without predetermined responses while quantitative data usually includes closed-ended responses such as found on questionnaires or psychological instruments, Creswell,(2014). Pragmatist researchers’ choice of one version of reality over another is governed by how well that choice results in anticipated or desired outcomes. For a positivistic researcher, an object with flat surface and four legs would always be a table. For a constructivist, based on her/his perspective, the same object would be a table if s/he was eating off it, a bench if s/he was

sitting on it, and a platform if s/he was standing on it. However, a pragmatist would define the object based on its utility, for instance, the object would be a table if s/he intends to eat off it, a bench if s/he intends to sit on it, and a platform if s/he intends to stand on it, Kaushik.,V & Walsh.,A.,C.,(2019).

According to Crewee, 2014, Cherryholmes (1992), Morgan (2007), pragmatism provides a philosophical basis for research:

- Pragmatism is not committed to any one system of philosophy and reality. This applies to mixed
- methods research in that inquirers draw liberally from both quantitative and qualitative assumptions when they engage in their research.
- Individual researchers have a freedom of choice. In this way, researchers are free to choose the methods, techniques, and procedures of research that best meet their needs and purposes.
- Pragmatists do not see the world as an absolute unity. In a similar way, mixed methods researchers look to many approaches for collecting and analyzing data rather than subscribing to only one way(e.g., quantitative or qualitative).
- Truth is what works at the time. It is not based in a duality between reality independent of the mind or within the mind. Thus, in mixed methods research, investigators use both quantitative and qualitative data because they work to provide the best understanding of a research problem.
- The pragmatist researchers look to the what and how to research based on the intended consequences—where they want to go with it. Mixed methods researchers need to establish a purpose for their mixing, a rationale for the reasons why quantitative and qualitative data need to be mixed in the first place.
- Pragmatists agree that research always occurs in social, historical, political, and other contexts. In this way, mixed methods studies may include a postmodern turn, a theoretical lens that is reflective of social justice and political aims.
- Pragmatists have believed in an external world independent of the mind as well as that lodged in the mind. But they believe that we need to stop asking questions about reality and the laws of nature (Cherryholmes, 1992). “They would simply like to change the subject” (Rorty, 1983).
- Thus, for the mixed methods researcher, pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis.

Table 1: Differences between quantitative and qualitative approaches

Orientation	Quantitative	Qualitative
Assumption about the world. (Ontology).	A single reality, i.e., can be measured by an instrument.	Multiple realities
Research purpose	Establish relationships between measured variables	Understanding a social situation from participants’ perspectives
Research methods and processes	- procedures are established before study begins; - a hypothesis is formulated before research can begin; - deductive in nature.	- flexible, changing strategies; - design emerges as data are collected; - a hypothesis is not needed to begin research; - inductive in nature.
Researcher’s role	The researcher is ideally an objective observer who neither participates in nor influences what is being studied.	The researcher participates and becomes immersed in the research/social setting.
Generalizability	Universal context-free generalizations	Detailed context-based generalizations

Source: Research, 2022.

CONCLUSION AND RECOMMENDATIONS

The selection of research approaches must also be based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study. Informing this decision should be the philosophical assumptions the researcher brings to the study; procedures of inquiry (called research designs); and specific research methods of data collection, analysis, and interpretation. It is important for the researcher to be rational and not emotional in the understandings of the philosophical underpinnings of his/her research as this allows for empirical verification of their observations and inferences and provides rigor and authenticity to the research process. For positivists the research approaches are quantitative and include experimental, quasi-experimental, correlational, causal comparative, and survey designs. The techniques of gathering data are mainly questionnaires, observations, tests and experiments. They focus on the importance of objectivity and evidence in searching for truth. Interpretivists are subjective in the way they view the world and adopts qualitative research designs. Qualitative researchers approach their study by exploring and trying to understand the individuals or groups ascribe to a social or human problem. Qualitative approaches to data collection, analysis, interpretation, and report writing differ from the traditional, quantitative approaches. Purposeful sampling, collection of open-ended data, analysis of text or pictures, representation of information in figures and tables, and personal interpretation of the findings all inform qualitative methods,(Creswell,2014). Qualitative researchers embrace subjectivism. Ontologically, subjectivism encapsulates nominalism (also sometimes called conventionalism which embraces the school of thought that the order and structures of social phenomena we study (and the phenomena themselves) are created by us as researchers and by other social actors through use of language, conceptual categories, perceptions and consequent actions. Interpretivists adopts relativist ontological paradigms.

Pragmatic research paradigm go hand in hand with realism as an epistemological position. The essence of realism is that there is a reality quite independent of the mind. What the senses show us as reality is the truth. Pragmatic researchers adopt mixed method in their research design. In order to academically justify the use of pragmatism for mixed method research, there is an essential requirement to have a logical flow from the choice of theory to the methodological dimension. It is a general assumption that Pragmatics are not committed to any one system of philosophy and reality, that the individual researchers have a freedom of choice in the choice of the methods, techniques, and procedures of research that best meet their needs and purposes.

Empirical studies reviewed reveal that researchers and post-graduate students most of the time have a challenge differentiating between research paradigms, philosophies, research design and research methodologies. Often, they fail to make their philosophical base explicit – or worse still they are themselves unaware that they have made methodological decisions by default. It is therefore our recommendation that it is important for researchers to plan their research studies and put into consideration the philosophical concepts, positions and traditions underpinning every research method and methodological approach. The selection of research approaches must also be based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study. Informing this decision should be the philosophical assumptions the researcher brings to the study; procedures of inquiry (called research designs); and specific research methods of data collection, analysis, and interpretation. It is important for the researcher to be rational and not emotional in the understandings of the philosophical underpinnings of his/her research as this allows for empirical verification of their observations and inferences and provides rigor and authenticity to the research process.

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