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COMPREHENSIVE ACCOUNT OF THE PHILOSOPHICAL UNDERPINNING OF DISTINCT RESEARCH METHODOLOGIES

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ABSTRACT

This paper attempts to discuss how qualitative (intensive) and quantitative (extensive)research strategies differ by contrasting epistemological and ontological aspect Firstly, this paper discusses the importance ofunderstanding philosophy in social science research,the basis of methodological distinction in research and its relation to qualitative (intensive) andquantitative (extensive) research strategies. Then it develops by contrasting these two types of research strategies in relation to the principle orientation to the role of theory, epistemological and ontological assumptions. Epistemological assumptions consist of interpretivism for qualitative (intensive) research strategies and positivism for quantitative (extensive) research strategies. Whereas ontological assumptions constitute subjectivism/ constructivism for qualitative (intensive) research and objectivism for quantitative(extensive) research strategies. This paper argues that research should not be methodologically led; rather that methodological choice should be consequential to the researcher's philosophical stance and the social science phenomenon to be investigated.

KEY WORDS: *Epistemological, Ontological, subjective, objective, Research Methodologies*

1. INTRODUCTION

There are several major questions that require significant consideration that require "How to research?" and "What to research?" But central to the researcher's answers is their perspective on "Why research?" There are many practical reasons why a researcher has chosen to engage in research and in many cases they may have already decided upon their methodology - qualitative, quantitative, or a combination of both. Similarly, what to research may have been chosen for various reasons, such as a researcher's own academic interest? However, as a researcher reviews the philosophical literature, they quickly appreciate that choosing a research methodology that is, the how of the research, involves something much deeper than practicalities – it necessitates a philosophical solution to 'why research?"

Research philosophy is very important in any kind of research whether natural sciencesor social sciences. Easterby-Smith *et al.* (2002) emphasize that if one fails to thinkon philosophical issues in his/her research it can seriously affect the quality of researchitself. Hence, prior to conduct research one has to think about the underlying philosophy,as philosophy is central to the notion of research design. Research philosophy in socialscience relates to the development of knowledge and the nature of that knowledge insocial world. Research philosophy includes important assumptions about how oneobserves or views the social world. It involves thinking about epistemology and ontologywhich have important distinctions that will affect the methods in which a researcherthinks about the research process.

Understanding philosophy in business and management research is very usefuldue to several reasons. As stress by Easterby-Smith *et al.* (2002), there are threemain reasons why one should understand philosophy in research; (1) It can help toclarify research designs, (2) which design will work and will not, and (3) to identifyand even create, designs that may be outside his or her past experience.

All research is 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. In order to conduct and evaluate any research, it is therefore important to know these assumptions. The purpose of this article is to comprehensively account the philosophical assumptions and distinct research methodologies underpinning different philosophical thoughts are accounted.

This article discusses the basis of methodological distinction in research following the introduction as first. In the third section the principle orientation to the role of theory in relation to research strategy is described. Then the ontology, epistemology and paradigms are described with their critics and limitations in the fourth section. In the fifth section, the need of axiology is described. In the final section, Network of basic assumptions characterizing the subjective-objective debate within social science and basic beliefs of alternative inquiry paradigms are discussed.

2. THE BASIS OF METHODOLOGICAL DISTINCTION IN RESEARCH

There are varieties of research methodologies with no single accepted research methodology applicable to all research problems. Generally, each research methodology has its own relative weakness and strength. According to Schulze (2003), no single research methodology is necessarily ideal and that selection inevitably involves loss as well as gain.

However, researchers often face difficulties in choosing between two types of research strategiesnamely intensive and extensive research. The term 'intensive' and 'extensive' researchstrategies were first introduced by Harre in his book *Social Being*, 1979, Sayer, (1992). The terms intensive' and 'extensive' research is associated with the terms'qualitative' and 'quantitative' research. Itcould be said that intensive research is qualitativeand extensive research is quantitative research based on the characteristics outlinedby Andrew Sayer in his book *Method In Social Science A Realist Approach,* Sayer (1992). Qualitative and quantitative research strategies are distinct in several aspects.Qualitative research is one in which the researcher usually makes knowledge claimsbased on constructivist perspectives, Cresswell(2003). Strategies used in this researchdesign involve inquiry such as narratives, phenomenologies, ethnographies, groundedtheory studies, or case studies. Bryman (2004) states that qualitative researchnormally emphasizes words rather than quantification in the collection and analysis ofdata.

In contrast, quantitative research design has different concepts and definition. Cresswell (2003) defines quantitative research is one in which the researcher primarily uses post positivist claims for developing knowledge for example; cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurements and observations, and the test of the theories. Strategies usually used in this research design are experiments and surveys, and predetermined instruments in data collection that produce statistical data. In addition, Bryman (2004) assertsquantitative research usually emphasizes quantification in the collection and analysisof data.

Consequently, the main distinction between qualitative and quantitative researchdesigns is about the question of scale or 'depth versus breath' Sayer(1992). Thereare few basic differences between both research designs, such as, research questions,technique and methods of data collection used, limitations and how the objects aredefined. However the differences between qualitative and quantitative research is notsimply the difference between statistical analysis and in depth interview, survey orcase study or about the test of corroboration and replication. Research is not onlyabout the question of methodology, but also the selection of research strategy whichinvolves some views or beliefs that underlie the situation of what is being studied.

The debate regarding qualitative and quantitative research at the epistemologicalstage is known as 'the paradigm wars', Bryman(2006). As emphasized by Kuhn(1970) that research approaches are based in 'paradigms' that make differentassumptions about the social world, and how science should be concluded and whatconstitutes legitimate problems, solutions, and criteria of proof. Therefore qualitativeand quantitative research strategies are 'incommensurable' according to their paradigmand worldview and reflect epistemological and ontological assumptions.

Bryman (2004) distinguishes qualitative and quantitative research strategies by focusing on three main aspects namely the connection between theory and research,epistemology and ontology. The three main aspects mentioned are illustrated inTable 1.

Table 1:Fundamental difference between qualitative and quantitative research strategies

Orientations	Quantitative	Qualitative
Principle orientation to the role of theory in relation to research	Inductive; generation of theory	Deductive; testing of theory
Epistemological orientation	Interpretive	Positivism
Ontological orientation	Objectivism	Subjectivism/constructivism

Source: Adopted from Bryman (2004)

The selection of research methodology depends on the assumptions of the nature of social science that guides the research activity, more specifically, beliefs about the nature of reality and humanity (ontology), the theory of knowledge that informs the research (epistemology), assumption concerning the relationship between human beings and their environment (human nature), how hat knowledge may be gained (methodology) and the role of values in research (axiology), Burrell and Morgan (1979). As per the view of Popkewitz, Tabachinick and Zeichner (1997), cited inTuli (2010),a consideration of epistemology, ontology and methodology must be a central feature of any discussion about the nature of social science research as these elements give shape and definition to conduct of an inquiry. Therefore it is indeed to explain the interconnection between ontology, epistemology and paradigms. A researcher is required (implicitly or explicitly) to understandexamined reality and being (ontology), the relationship between that reality and the researcher(epistemology) and the theoretical analysis of the techniques used by a researcher to understandthat reality (methodology) (Perry, Reige and Brown, 1999; Denzin and Lincoln, 2003; Lincoln andGuba, 2003). The following sections are devoted to discuss these in details.

3.QUALITATIVE AND QUANTITATIVE APPROACHES - CONNECTION BETWEEN THEORY AND RESEARCH

Qualitative research methods normally entail reasoning from inductionNeuman, (1997), gathering dataand drawing conclusions from a multiplicity of interpretations and perceptions, beginning withobservation, rather than a single, objective truth or rationality. It is normally associated with qualitativemethods of research,Neuman, (1997). Quantitative approaches are generally based on the logic ofdeduction, beginning from accepted theories or premises and testing them rationally. Science inquantitative approaches is associated with objective truth, while qualitative research tends to focus onsubjective experience, Neuman, (1997); Newman and Benz(1998).

As the term 'qualitative' suggests, such research is thus bound up with the quality of variouspeople's (subjective) experiences—and hence it often incorporates anecdotes and comparisons to shedlight on people and scenarios under investigation. It is normally seen as seeking deeper understandingof a given phenomenon, whereas quantitative methods are more concerned with relationships ofcausation between phenomena, Ben Aissa(2001). Quantitative methods are thus distinguished bynumbers, statistics, and abstracting from data on sample populations to understand vastly larger groups, Denzin and Lincoln (1994).

The distinction has been neatly summarized as follows:

'Qualitative researchers use ethnographic prose, historical narratives, first-person accounts,still photographs, life histories, fictionalized facts, and biographical and autobiographical materials,among others. Quantitative researchers use mathematical models, statistical tables, and graphs,'

(Denzin and Lincoln, 1994)

The difference between qualitative and quantitative can also be understood in terms of internaland external validity, respectively. It has been argued that development and validation are generallyeasier in the case of quantitative research, while their more generalisable nature and strict limits ofinquiry afford greater external validity to these types of studies, Ben Letaifa, (2006); Newman and Benz(1998). Qualitative approaches, on the other hand, grant far more flexibility to the researcher, while thein-depth focus of research implies a greater internal validity (Newman and Benz, 1998; Ben Letaifa,2006). For a comparison of the approaches associated with each style of research, see Table 2.

Table 2: Distinctions between qualitative and quantitative approaches

Quantitative style	Qualitative style
Measure objective facts	Construct social reality, cultural meaning
Focus on variables	Focus on interactive processes, events
Reliability is key	Authenticity is key
Value free	Values are present and explicit
Independent of context	Situationally constrained
Many cases, subjects	Few cases, subjects
Statistical analysis	Thematic analysis
Researcher is detached	Researcher is involved

Source: Neuman (1997)

4. ONTOLOGY, EPISTEMOLOGY AND PARADIGMS

Blaikie (1993) describes the root definition of ontology as 'the science or study of being'and develops this description for the social sciences to encompass 'claims about whatexists, what it looks like, what units make it up and how these units interact with eachother'. In short, ontology describes our view (whether claims or assumptions) on thenature of reality, and specifically, is this an objective reality that really exists, or only asubjective reality, created in our minds.In other words, ifsomeone studies ontology they study what we mean when we say something exists.Burrell and Morgan (1979) argument on *Ontological* - is reality external from conscious or a product of individual consciousness?

Closely coupled with ontology and its consideration of what constitutes reality, epistemology considers views about the most appropriate ways of enquiring into the nature of the world, Easterby-Smith, Thorpe and Jackson (2008) and 'what is knowledge and what are the sources and limits of knowledge' (Eriksson and Kovalainen, 2008). Crotty's(1998) definition of epistemology, defined as "the theory of knowledge embedded inthe theoretical perspective and thereby in the methodology." According to Burrell and Morgan (1979)argument epistemology answer the question of "how can knowledge be acquired and how can the truth be found?"

Simply put, one's view of reality and being is called ontology and the view of how one acquires knowledge is termed epistemology.Ontology is the starting point which will likely lead to your own theoretical framework. If ontologists study what we mean when we say something exists then an epistemologist studies what we mean when we saywe know something. Together, ontological and epistemological assumptionsmake up a paradigm.

The term paradigm, first termed by Thomas Kuhn in his 1972 book, titled "The structure of Scientific Revolutions", universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners Kuhn (1972).Bodgan&Biklen's (as cited inMackenzie and Knipe, 2001) defined paradigm as "a loose collection of logically related assumptions, concepts or propositions that orient thinking andresearch."Burrell and Morganuse the term paradigm as "commonality of perspective which binds the work of a group of theorists together", Burrell and Morgan (1979).According to Hussey and Hussey(1997), the term "paradigm" refers to the progress of scientific practice based on people'sphilosophies and assumptions about the world and the nature of knowledge; in otherwords "how research should be conducted".

Burrell and Morgan define four paradigms: functionalism, interpretivism, radical structuralism andradical humanism. Others, such as Chua (1986), prefer three primary alternatives: positivism(and its various forms neofuncitonalism, postpostivism, etc.), interpretivism(hermeneutics, phenomenology, ethnomethodology, etc.), and critical (Marxism, Critical Social Theory, etc.)

Husseyand Hussey (1997) argue that there are two main research paradigms or philosophies.Although there is considerable blurring, the two paradigms can be labeled positivistand phenomenological. Therefore, the type of methodology that has been chosenshouldreflect the assumption of the research paradigm.

According to Hussey and Hussey, (1997), there are alternative names for philosophical paradigms which are listed in the following table 3.

Table 3: Alternative terms for the main research paradigms

Positivist paradigm	Phenomenological paradigm
Quantitative Objectivists Scientific Experimentalist Traditionalist Functionalist	Quantitative Subjectivist Humanistic Interpretive

Source: Hussey and Hussey (1997)

A number of authors (Easterby-Smith *et al.*, 1991; Hussey and Hussey, 1997; Saunders *et al.*, 2000) have highlighted the main elements of this choice involving researchphilosophy. In particular, Easterby-Smith *et al.* (1991) offer these key features ofthe two philosophy paradigm alternatives. this is briefly described in the following table 4.

Table 4: Research paradigms

	Positivist paradigm	Phenomenological paradigm
Basic belief	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what observed
	Science is value-free	Science is driven by human interests
The researcher should	Focus on facts	Focus on meanings
	Look for causality and fundamental laws	Try to understand what is happening
	Reduce phenomenon to simplest elements	Look at the totality of each situation
	Formulate hypotheses and then test them	Develop ideas through induction from data
Preferred method includes	Operationalising concepts so that they can be measured	Using multiple methods to establish different views of phenomena
	Taking large sample	Small samples investigated in depth or over time

Source: Easterby-Smith et al. (1991)

4.1 Positivist and Phenomenological Research Paradigms:-

Positivist and phenomenological research paradigms have been described as a continuum's popular opposites with varying philosophical positions aligned between them.

'The key idea of the positivist paradigm is that the social world exists externally and that its properties should be measured through objective methods, rather than being inferred through sensations, reflections or intuition (Easterby-Smith, Thorpe and Lowe, 1991).

The term positivism was first coined by the founder of positivism, Auguste Comte, the French philosopher who believed thatreality can be observed. Cohen, Manion, and Morrison (2007) claim that "Comte's position was to lead to a general doctrine ofpositivism which held that all genuine knowledge is based on sense experience and can be advanced only by means of observationand experiment". Positivism maintains that the scientist is the observer of an objective reality.From this understanding ofontology, the methodology for observation in natural science was adopted for social science research.

Positivist approaches to social science tend to view reality as a concrete structure or process,with humans responding (or at least adapting) to that reality in a machine-like or organic manner,Morgan and Smircich(1980). The 'attributes' of an object studied are prioritized, and things areperceived as having an 'intrinsic' or 'inherent' character that can be studied independently of anyperceiving subject. The ontological claim is that the ultimate reality is made up of context-free,independent substances that privilege a detached attitude of contemplation.

The realm of the 'positivist' in business research consists of structures that are seen to beindependent of any one agent, such as governance structures, labour and product markets,frameworks of regulations, and firm resources (to name but a few). Reality is seen to besomething that lies beyond the realm of appearances and perceptions, beyond the world of live dexperience. Classic approaches that have utilized such positivist perspectives include Porter's(1980) Five Forces Framework, Penrose's (1959/1980) Resource-Based View of the Firm, andMcClelland's (1961) (less enduring) concept of the heroic entrepreneur. The vast majority ofresearch in entrepreneurship and business has taken such objectivist priorities, Grant and Perren (2002).

The purpose of research in this paradigm is to prove or disprove a hypothesis. Other characteristics of positivist research include an emphasis on the scientific method, statistical analysis, and generalizable findings. Furthermore, positivist research usually has a control and experimental group and a pre/test post method. Positivism maintains that the scientist is the observer of an objective reality. From this understanding ofontology, the methodology for observation in natural science was adopted for social science research.

The following is a table highlighting the main thinkers associated with positivism and the philosophies they championed, all of whichwere influential in some way to the formation of present-day positivism.

Table 5: Positivist Thinkers and Philosophies

Main Thinkers	Philosophy
Aristotle	Deductive reasoning
Descartes	Realism
Galileo	Scientific method
Auguste Comte	Positivism
Vienna Circle	Logical positivism
Francis Bacon	Inductive reasoning
Karl Popper	Post positivist

Source: Mack (2010)

Ontological assumptions and epistemological assumptions tend to overlap. As Crotty points out, "to talk of the construction ofthe meaning is to talk of the construction of meaningful reality", Crotty(1998). These assumptions can be divided into twobroad categories, Mack (2010). The following table - 6outlines the ontological and epistemological assumptions of positivism.

Table – 6: Positivist Ontology and Epistemology

Ontological Assumptions	Epistemological Assumptions
• Reality is external to the researcher and represented by objects in space. • Objects have meaningindependently of any consciousness of them. • Reality can be captured by oursenses and predicted.	• The methodology of the natural sciences should be employed to study social reality (Bryman, as cited in Grix, 2004). • Truth can be attained because knowledge rests on a set of firm, unquestionable, indisputable truths from which our beliefs may be deduced (Hughes and Sharrock, as cited in Grix, 2004). • Knowledge is generated deductively from a theory or hypothesis. • Knowledge is objective.

Source: Mack (2010)

The phenomenological paradigm can be also called the "anti positivist" paradigm because it was developed as a reaction to positivism. It is also sometimes referred to as constructivism because it emphasizes the ability of the individual to construct meaning. The interpretive paradigm was heavily influenced by hermeneutics and phenomology. Hermeneutics is the study meaning and interpretation in historical texts. This meaning-making cyclical process is the basis on which the interpretive paradigm was established, Ernest (1994). Another strong influence is the philosophical movement, phenomology. A phenomologist advocates the "need to consider human beings' subjective interpretations, their perceptions of the world (their life-worlds) as our starting point in understanding social phenomena" (Ernest, 1994). Therefore the ontological assumptions of interpretivism are that socialreality is seen by multiple people and these multiple people interpret events differently leaving multiple perspectives of an incident.

At the other extreme is the phenomenological approach, which prioritizes the subject over the object,exploring, for example, consciousness, experience, ego, self and psyche. The phinomilogicalperspective has the core ontological assumptions that reality is a projection of humanimagination (or a social construction) and that humans are pure spirit, constructing reality,Morgan and Smircich(1980). This approach argues that we cannot know the things as theyreally are in themselves, but only the Phenomena (what our synthesizing cognition makes of thethings), and focuses on the individual 'internal' data or processing given to a subject.

The realm of the 'phenomenological paradigm' in business research consists of organizational stories, legitimatingconstructions, identity constructions, and processual approaches to decision-making. The phenomenological perspective argues that rules and principles cannot exist independently of thebusiness people they constrain. Classic studies that have utilized the subjectivist perspectiveinclude Pettigrew's (1973) processual approach to information management and the AustrianSchool of Economics (for example von Hayek, 1945; von Mises, 1949/1996).

The following is a table - 7 highlighting some of the main thinkers and their philosophies associated with phinominology.

Table 7: Phenomenological Thinkers and Philosophies

Main Thinkers	Philosophy
Edmund Husserl, Arthur Schultz	Phenomenology
Wilhelm Dilthey, Han-Georg Gadamer	Hermeneutics
Herbert Blumer	Symbolic interaction
Harold Garfinkel	Ethnomethodology

Source: Adapted from Mack (2010)

Phenomenology's main tenet is that research can never be objectively observed from the outside rather it must be observed frominside through the direct experience of the people. Furthermore, uniform causal links that can be established in the study of naturalscience cannot be made in the world of the classroom where teachers and learners construct meaning. Therefore, the role of thescientist in the phinominology paradigm is to, "understand, explain, and demystify social reality through the eyes of differentparticipants," Cohen et al, (2007). Researchers in this paradigm seek to understand rather than explain. The following are themain epistemological and ontological assumptions of the phenomenology paradigm.

Table 8: Phenomenology Ontology and Epistemology

Ontological Assumptions	Epistemological Assumptions
• Reality is indirectly constructed based on individual interpretation and is subjective • People interpret and make their own meaning of events. • Events are distinctive and cannot be generalized. • There are multiple perspectives on one incident. • Causation in social sciences is determined by interpreted meaning and symbols.	• Knowledge is gained through a strategy that "respects the differences between people and the objects of natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action" (Bryman as cited in Grix, 2004). • Knowledge is gained inductively to create a theory. • Knowledge arises from particular situations and is not reducible to simplistic interpretation. • Knowledge is gained through personal experience

Source: Mack (2010)

4.2 Post positivist

There has been criticism of the positivist paradigm for applying the scientific method toresearch on human affairs. These opponentsargued that uniform causal links that can be established in the study of natural science cannot be made in the world of the classroomwhere teachers and learners construct meaning. In response to this criticism, Karl Popper argued that we should not quicklydisregard all the good qualities of the scientific method. Rather, we can make small adjustments that can be improved upon toprovide objective research within the social sciences. In his famous book, "The Logic of Scientific Discovery" Popper declares thatthere are no absolute

truths. Moreover, he claims that scientific theories cannot be confirmed but only falsified. Theories can neverobtain the real truth they can only get closer to the truth (Ernest, 1994). Today a positivist, "claims a certain level of objectivityrather than absolute objectivity, and seeks to approximate the truth rather than aspiring to grasp it in its totality or essence" (Crotty,1998). In general, when people refer to themselves as positivists they are talking moreabout probability than absolutecertainty.

4.3 Limitations on Positivist:-

Despite Popper's criticism I still question the certainty that one can apply a methodology used to research a natural science toresearch a social science. I disagree that "positivist science provides us with the clearest possible ideal knowledge" (Cohen et al, 2007). Even if you are falsifying a hypothesis instead of affirming it, you are still assuming that this research is objective andreflects social reality. No matter how stringently a scientist adheres to the scientific method, there is never an outcome that isobjective. Although behavioral uniformities exist, they are not, "evidence [of an] underlying essential uniformity among entities,but [an] illusion - a social construction." (Erikson, 1986 as cited in Gage, 1989). The critical theorist, Habermasemphasizes the determinist view of science as the "ideal knowledge" which ignores the moral choices, values and judgmentsscientists make (Cohen et al, 2007). Furthermore, I find fault with the positivist ideology of parsimony (theories should be assimple and concise as possible). It is impossible for any theory in social science to be simple and precise because the world welive in and peoples' multiple perspectives and interpretations of events make theories complex and chaotic. So many variables affectdifferent events and people's actions that it is impossible to determine an absolute truth. The above criticism led to the formation ofa different paradigm, the interpretivist paradigm.

4.4 Limitation to Phenomenology:-

One of the limitations to interpretive research is that it abandons the scientific procedures of verification and therefore results cannotbe generalized to other situations. Therefore, many positivists question the overall benefit of interpretivist research. However, it couldberesponded to this by pointing out that the research will resonate with other teachers, so it will be similar to other peoples' work. Forexample, action research, one of the methodologies from the interpretivist paradigm, shows teachers how issues can beproblematized and addressed in productive ways. It deliberately intervenes in the research setting to achieve change orimprovement. Its goal is the creation of local theories for practice rather than generalizable findings.

Another criticism of interpretivism is that the ontological assumption is subjective rather than objective. As mentioned in thepositivist paradigm section, it could be believed all research is subjective. By selecting your paradigm you are being subjectively orientedtowards one way of doing research. You cannot divorce yourself from your perspective as the researcher. In qualitative research,you are being more subjective in the sense that you are not using a hypothesis and you are involving yourself in the research.

However, interpretivists still take an objective stance when analyzing the data they collect. By bracketing their assumptions, they look at the data thoroughly so that the data informs the researcher about what is going on in the environment, instead of theresearcher's own preconceptions.

The strongest criticism of interpretivism is that it neglected to acknowledge the political and ideological influences onknowledge and social reality. Moreover, interpretivism was not radical enough. While the positivist researcher seeks to explainsocial phenomena, and the interpretivist researcher seeks to understand social phenomena, the researcher who seeks to change andto challenge social phenomena is not represented. This concern is addressed in the next section, on the critical paradigm.

4.5 The Critical Paradigm:-

The critical paradigm stems from critical theory and the belief that research is conducted for "the emancipation of individuals andgroups in an egalitarian society", Cohen et al, (2007). The critical educational researcher aims not only to understand or givean account of behaviors in societies but to change these behaviors. The critical paradigm embodies different ideologies such aspostmodernism, neo-Marxism and feminism.

The following is a table highlighting the main thinkers and their philosophies that are associated with the critical paradigm.

Table - 9: Critical Theorist Thinkers and Philosophies

Main Thinkers	Philosophy
Theodor Adorno, Max Horkheimer, Herbert Marcuse, Erichc Fromm	Frankfurt school and Critical Theory (1930s)
Karl Appel, JurgenHabermas	Critical Theory (1970s)
Paulo Friere	Critical Pedagogy
Michel Foucault	Structuralism
Alastair Pennycook	Critical Applied Linguistics
Norman Fairclough	Critical Discourse Analysis
Eve Kosofsky Sedgwick, Judith Butler	Queer theory
Simone de Beauvoir, Betty Friedan	Feminism
Thomas Kuhn, Jacques Derrida	Post modernism

Source: Mack (2010)

Critical theory originated from the criticism that educational research was too technical and concerned with only efficiency andrationality of design, neglecting social inequalities and issues of power, Gage (1989). According to the critical theorists, researchersshould be looking for the "political and economic foundations of our construction of knowledge, curriculum, and teaching." (Gage,1989) Schools play an explicit part in this construction of knowledge based on power in society. In other words, educationserves the interests of those who have power, usually rich white males. Schools function to reproduce these inequalities andmaintain the status quo, Gage (1989).

Educational research in the critical paradigm should challenge these reproductions of inequalities. People must challengedominant discourses. Educational research and schools, "like other social institutions, such as the media and the legislatures must bethe scenes of the necessary struggles for power", Gage (1989). Moreover this research has an agenda, to change theparticipants' lives or the structures of the institution. The following are the main epistemological and ontological assumptions ofcritical theory.

Table 10: Critical Theory Ontology and Epistemology.

Ontological Assumptions	Epistemological Assumptions
• Social reality defined from persons in society • Social reality is socially constructed through media, institutions and society • Social behavior is the outcome of "particular illegitimate, dominatory and repressive factors, illegitimate in the sense that they do not operate in general interest- one person's or group's freedom and power is bought at the price of another's freedom andpower" (Cohen et al, 2007).	• Knowledge is socially constructed through media, institutions and society. • "What counts as worthwhile knowledge is determined by the social and positional power of the advocates of that knowledge" (Cohen et al, 2007). • Knowledge is produced by power and is anexpression of power rather than truth.

Source: Mack (2010)

5. AXIOLOGY

Finally, in considering Research Philosophy and approach, it is important to consider howthe individual values of the researcher may play in each stage of the Research Process.Saunders, Lewis and Thornhill (2007) cite Heron, who argues that our values are theguiding reason for our action. Further, articulating their values as a basis for makingjudgments about the research topic and research approach are a demonstration ofaxiological skill. For example, using surveys rather than interviews would suggest that therich personal interaction is not something that is valued as highly as the need to gather alarge data set. It is argued that through understanding and being aware of your ownvalues and transparently recognizing and articulating these as part of research process willmean that your research is strengthened, in terms of transparency, the opportunity tominimise bias or in defending your choices, and the creation of a personal value statementis recommended.

6. SUMMARY OF SUBJECTIVE – OBJECTIVE (PHENOMENOLOGICAL) DEBATE

Following table 11 illustrates the summary of 'the network of basic assumptions characterizingthe subjective-objective debate within social science.' suggested by Morgan andSmircich (1980).Note this Table 11 is presented with the objective-subjective characteristics in reverse to theoriginal Morgan and Smircich table. This is so as to maintain the coherence with thepresentation of Table 12.

Table 11:Network of basic assumptions characterizing the subjective-objective debate within social science

	Objectivist Approach to Social Science		**Subjectivist approaches to social science**			
Core ontological assumptions	Reality as a concrete construction	Reality as a concrete projection	Reality as a contextual field of discourse	Reality as a realm of social as a (Reality) structure of human imagination	Reality as process	Reality as symbolic of information
Assumptions about human nature	Man as a responder	Man as a adaptor	Man as a information processor	Man as a an actor, the symbol user creator	Man as a social constructor, the symbol	Man as pure spirit, consciousness being
Basic epistemological stance (Knowledge)	To construct a positivist science	To study systems, process, change	To map context	To understand patterns of symbolic discourse	To understand how social reality is created	To obtain phenominological insight, revelation
Some favoured metaphors	Machine	Organism	Cybernetic	Theatre, culture	Language game, accomplishment, text	Transcndental
Example	Surveys analysis	Historical analysis	Contextual analysis	Symbolic	Hermeneutics of pure subjectivity	Exploration

Source: Morgan and Smirich (1980)

Morgan and Smircich (1980) note that the different worldviews of researcherreflects different grounds for knowledge about the social world. For instance if welook at the extremes of the continuum (on the right) in the illustration, "an **objectivist**view of the social world as a concrete structure promotes an epistemological stancethat stresses on the importance of studying the nature of relationships among thedimensions forming that structure." At the end of the continuum (on the left), the**highly subjectivist** view "a reality as a projection of human imagination wouldargue the positivist grounds of knowledge in favor of an epistemology that stresses theimportance of understanding the processes through which human beings concretizetheir relationship to their world," Morgan and Smircich(1980).

Contrasting the two extreme positions of the continuum is important to illustrate how a researcher's ontological stance influences the core assumptions concerning epistemology and human nature. The extreme subjectivist ontological position is often called solipsism. These extremists maintain that reality does not exist outside oneself, that ones' mind is ones' world, hence reality is all imagination, Morgan and Smircich (1980). Therefore, the relevant epistemological stance is that knowledge cannot be discovered, as it is subjectively acquired – everything is relative. This is reflected in work on language by Sapir (1949) and Whorf (1956). In their investigations involving the contrast of American Native Indian languages with English, they both concluded that an individual's perception of reality is controlled by one's language (Hughes and Sharrock, 1997; Hunt, 1993). In line with these assumptions is that human nature is voluntaristic, humankind has freewill and is autonomous; humans are intentional beigns, shaping the world 'within

the realm of their own immediate experience," Morgan and Smircich (1980).

Proponents of the other extreme position, objectivism are realists. they contended that the world predates individuals – it is prior to the existence of human consciousness and whether or not human assigns labels and perceive the existence of an external reality, the world will still exist as an empirical entity, made up of hard tangible and relatively immutable structures, independent of the cognitive efforts of individuals,Gill and Johnson (1997). Therefore, valid knowledge about a concrete reality can only be discovered through sense observation and measurement and any reference to the intangible or subjective is excluded as meaningless, Giddens (1976); Morgan and Smircich (1980). On the nature of humans, objectivists contended that the relationship between man and society is deterministic, that is we are born into a world in which there are casual laws that explain the patterns to our social behavior, Easterby-Smith et al., (1991). Although we have utilized these positions for explanation purpose, very few researchers' today make suck extreme assumptions. Most business research has been from a moderate objective position.

Sociologists sought to differentiate the social sciences from the natural sciences on the groundsthat their methods and/or subject matters were irreducibly unique. They argued that thebehaviour of human beings is not 'caused' by uniform laws, as we are sentient, creative andimbued with an understanding of the worlds in which we live and act (unlike the behaviour ofinanimate objects or lower life forms, Weinberg (2002).

The essence of the debate was whether truth resided in the object or the subject, in therelationships between them, or elsewhere. Table 11 sets out the network of basic assumptionscharacterising the subjective-objective debates within the social sciences.

Table 12 – Basic beliefs of alternative inquiry paradigms

Issue	Positivism	Post-positivism	Interpretive Phenomenology	Critical Theory et al	Constructivism
Ontology	Ontology Naïve realism – "real" reality but apprehendable	Critical realism – "real" reality but only imperfectly & probabilistically apprehendable	Our activities are primordial, familiar and not grasped theoretically. Our worldliness is ontologically central to any human activity.	Historical realism – virtual reality shaped by social, political, cultural, economic, ethnic, and gender values crystallized over time	Relativism – local and specific constructed realities
Epistemology	Dualist/ objectivist; findings true	Modified dualist/ objectivist; critical tradition/ community; findings probably true	Modified dualist/ objectivist; critical tradition/ community; findings probably true Care and Solicitude	Transactional/ subjectivist; valuemediated findings	Transactional/ subjectivist; created findings
Axiology	Propositional knowing about the world is an end in itself, is intrinsically valuable		Propositional, transactional knowing is instrumentally valuable as a means to social emancipation, which as an end in itself, is intrinsically valuable.		
Methodology	Experimental/ manipulative; verification of hypotheses; chiefly quantitative methods	Modified experimental/ manipulative; falsification of hypotheses; may include qualitative methods	Hermeneutic Phenomenology (based on the writings of Heidegger)	Dialogic/ dialectic	Hermeneutic/ dialectic

Source: Lincoln &Guba (2003)

From these networksof assumptions, alternative inquiry paradigms have developed, as summarised in Table 12. Forexample, objectivists (or defenders of positivism1) and proponents of the unity of the sciencescontinue to hold the view that the purpose of any science (natural or social) is to offer causalexplanations of social, behavioural and physical phenomena.

7. CONCLUSION

A review of philosophy is a vital aspects of the research process as it opens researchers' minds to other possibilities, which can lead to both an enrichment of their research skills and an enhancement in their confidence that they are using the appropriate methodology. Central to the questions of "How to research?' and 'What to research?' is the researcher's perspective on 'Why research?' This perspective is based on the researcher's assumption concerning the inter-related concepts of ontology, epistemology, human nature and axiology. The science of research necessitates that philosophy is regarded as crucial parameters to 'Why research? If researchers do not perceive that there is a reality, the utilization of a nomothetic methodology contradicts their researcher project's philosophical underpinnings. This type of inconsistency is fallacious to research standards, thereby undermining the very nature of the research discipline.

Researchers must also bear in mind that 'What to research?may have a major impact on methodological choice, therefore their philosophical review also engenders a reflection on the research problem. Researchers should consider that certain philosophical positions might preclude them from investigating a particular research problem, as relevant methodology may be inappropriate to the problem at hand. Additionally, the improper matching of methodology to the research problem may produce spurious results, ultimately having a negative impact on the researcher's professionalism and the authority of research science. We perceive that elasticity in 'What to research?' is gained only through an intermediate philosophical position, thereby allowing researchers o match philosophy, methodology and the research problem.

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