

UNDERSTANDING POSITIVISM IN SOCIAL RESEARCH: A RESEARCH PARADIGM OF INDUCTIVE LOGIC OF INQUIRY

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Abstract

Social research is conducted on the basis of some theoretical and methodological foundation known as research paradigms such as Positivism, Critical rationalism, hermeneutics or interpretivism or social construction or phenomenology. The particular ontology and epistemology of each research paradigm guide the researcher for using the particular research methodology. The present paper specifically focuses on how the Positivistic research paradigm helps the researcher in solving research questions by using an Inductive Logic of Inquiry.

Keywords: Research Paradigm, Positivism. Ontology, Epistemology, Inductive Research Strategy

Introduction: Meaning of Research Paradigm

Research is generally carried out against a backdrop of some theoretical and methodological tradition. Over more than a hundred years, these traditions have been created and mutated, referred to as a Research paradigm. The literature of different thinkers gives a deeper understanding of the meaning of a research paradigm. The term paradigm was first used by Thomas Kuhn (1962) to mean a philosophical way of thinking. The term paradigm, which implies pattern, has its origin in Greek. The study of paradigm represents fundamentally the views of the researcher about the world in which she/he lives and wants to live. It constitutes the abstract beliefs and principles that shape how a world is seen researcher, and how she/he interprets and acts within that world. When we say that it defines the world-view of the researcher, we mean that a paradigm is the abstract beliefs and principles that shape how a researcher sees the world, and how she/he interprets and acts within that world. It is the lens through which a researcher looks at the world. It is the conceptual lens through which the researcher examines the methodological elements of their study project to determine the research methods to be used and how the information will be analyzed (Kivunj, 2017). Guba and Lincoln (1994) describe a paradigm as a fundamental set of beliefs or world-views that guides research action. Denzin and Lincoln (2000) define paradigms as human constructions, which deal with first principles or ultimate's indicating where they originate in order to construct that are incorporated in data. Paradigms are therefore essential because they give the views and dictates that affect what is to be studied, how it is to be studied, and how the research findings are to be interpreted by scholars in a specific discipline. The paradigm defines the philosophical direction of a researcher. Researchers have suggested a number of paradigms such as positivism, critical rationalism, hermeneutics or interpretivism or social construction or

phenomenology. But one of the leaders in the field, Candy (1989) indicates that they can all be grouped together into three namely Positivist, Interpretivism, or Critical paradigms. Tashakkori and Teddlie (2003a; 2003b) however, are proposing a fourth that borrows from these three components and is known as the Pragmatic paradigm. A research paradigm can be chosen for a research project, just as research strategies (inductive, deductive, abductive and retroductive) can be chosen to answer research questions. A research paradigm is not only the source of theoretical ideas, but also includes assumptions of ontology (nature of reality) and epistemology (how to understand reality). It is essential to have a firm understanding of these components because they contain the fundamental assumptions, beliefs, norms, and values that each paradigm retains. Therefore, in placing your research project in a specific paradigm, it is understood that these assumptions, beliefs, norms, and values of the selected paradigm will maintain and guide your research. It is essential to show that you understand what each of these components means.

Positivistic Paradigm: Evolution and Meaning

The evolution and consolidation of positivism is in the French sociological tradition, then reached to the other regions of the globe and becoming a strong scientific method. Positivism had its appeal. It tries to give the discipline a 'scientific status'. It was rendered acceptable by the quest for accuracy, objectivity, causality, and neutrality of values. Positivistic social scientists have discovered its logical culmination in the numerical cults, in the mathematization of social phenomena, in the desire to decrease qualitative human experiences into quantified statistical figures. The philosophical system which confines itself to the data of experience and experimentation and excludes the metaphysical and theological speculation is known as positivism. Positivism finds its first major elaboration in the hands of August Comte, a French philosopher the father of sociology, labeling sociology as 'social physics' in his book 'Course De Philosophical Positive' 1830. He said we should use positivism as a methodology for the study of society. It has become a powerful sociological method. Comte (1856) postulated that experimentation, observation, and reason based on experience should be the foundation for understanding human behavior, and thus the only valid means of expanding knowledge and human understanding. The scientific method in its pure form includes a process of experimentation that is used to investigate findings and answer questions. Logic, procedures, and methods of natural science used for the study of society. We should study the social laws, principles through scientifically, the study of society in a scientific way.

The general philosophical view of positivism proposed by Aristotle, who believes general explanatory principles derived from the observation of facts. Roger Bacon and William emphasize the significance of observable data. Isaac Newton and Francis Bacon were empiricists advocated the observation of regularities and patterns in empirical data from which universal laws could be inferred (Mukherji, 2000:16). Contemporary thinker's like Mortiz Schlick, Ernst Mach, Rudolf Carnap and others which assert that genuine knowledge should be based on observation and

advanced by experiment. Induction is the logic of positivism, the view of science propounded by Bacon (1960) and Mills (1897) in the period of the development of natural science and later by Durkheim and Comte and others during the establishment of the social science. By clearing the mind of all prejudices, Bacon saw science as based on presuppositionless observation; the book of nature must be read with fresh eyes. J.S Mills believes that the purpose of science was to establish general laws, proposed an elementary experimental method to identify causes and effects. Again, these causes are to be discovered by unprejudiced observation (Mukherji, 2000). Positivism sees reality as consisting of discrete occurrences that human senses can observe. The only acceptable knowledge of this reality is that which is derived from experience. Positivism, but especially the version known as “logical positivism” denies all non-experienced theoretical or metaphysical notion. Scientific knowledge excludes a value judgment as its validity cannot be tested by experience. Anything that experience cannot verify is irrelevant. In the social sciences positivism is associated with the following assumptions (Delanty, 1997; Bryman, 1988 cited in Mukherji, 2000):

1. Scientific knowledge should be founded on experience alone.
2. The belief that the methods of natural sciences are directly applicable to the social world and on the basis of its laws about social phenomena can be established.
3. The unity of subject matter of science and social science. The subject matter of natural science is the study of reality that is external to itself. The fact that ‘objects’ of social science, namely people are different does not make any substantial difference (Durkheim, social facts considers as things or objects)
4. The axiological principle that normative statements do not have the status of knowledge and maintain a rigid separation between facts and values.
5. Science has generated ‘instrumental knowledge’ that has favored the pursuit of technically useful knowledge.

Positivists usually believe that reality is given objectively and that measurable characteristics independent of the observer (investigator). Positivist studies usually try to test the hypothesis in an effort to improve the phenomena's predictive knowledge. In line with this, Orlikowski and Baroudi (1991: 5) categorized study as positivist when there was proof of formal propositions, quantifiable measurements of variables, testing of hypotheses, and drawing inferences from the sample to a specified population about a phenomenon.

Thus, the strategy of induction has its origins connected to the approach of positivism where the observations analyzed help to drive the outcome. Science was seen as the manner to get to the truth in a positivist perspective, to understand the world well enough to predict and regulate it. The world is deterministic—operated by laws of cause and effect that we could discern by applying the scientific method as distinctive approach. Science was a mechanical or mechanical affair to a large extent. To postulate theories that we can test, we use deductive reasoning. Based on

the results of our research, we can learn that our theory doesn't fit the facts and therefore, to better predict reality, we have to revisit our theory. The positivists believed in empiricism-the idea that the core of the scientific method is observation and measurement. The experiment is the key approach of the scientific method, the attempt to discern natural laws by direct manipulation and observation.

The fundamental characteristics of research that is normally situated within the Positivist paradigm (Neurath, 1973; Fadhel, 2002) are as follows:

- Belief that theory is universal and generalizations can be made across contexts.
- Assumption that context does not matter.
- The conviction that research discovers truth or knowledge.
- The belief that cause and effect can be distinguished and analytical.
- The conviction that inquiry results can be quantified.
- The belief in the scientific research method.
- Employs empirical or analytical approaches.
- Goal of finding out facts
- Believes in the ability to observe knowledge.
- The ultimate aim of the researcher is to establish a comprehensive universal theory, to take human and social behavior into account.
- Scientific method application.

Ontology of a Positivistic Paradigm

Ontology is a branch of philosophy which addresses the assumptions that something is meaningful, true and the nature or essence of the social phenomenon under investigation (Scotland, 2012). Ontological assumptions are about the nature of truth, making statements about what kind of social phenomenon exists, the conditions of their presence, and how they are related (Blaikie, 2000). It is a philosophical analysis of the nature of existence or reality and the basic categories and relationships of the things that occur. It's about the assumptions we make-believe something is important, real or the very nature of the social phenomenon we're studying. It allows you to conceptualize the reality's form and nature and what you believe can be known about that reality. Positivism based on inductive method, ontological assumption of an ordered universe made up of discrete and observable occurrences. It assumes that universal propositions, i.e., generalization of the association between concepts, can represent this order. Only that which can be observed, experienced by the senses, can be considered as real. Positivists think that there is a complex of causal relationships between ideas in social reality. The causes of human behavior are considered outside the person.

Epistemology of a Positivist Paradigm

Epistemology is rooted in Greek where the term 'episteme', meant by understanding. Simply put, epistemology is used to define how we get to understand something; how we understand reality or truth. It's concerned about how to know the truth. The epistemological assumptions concern what kind of knowledge is possible, how can we know these things, and when knowledge is both adequate and legitimate (Blaikie, 2000). What counts as knowledge in the world for Cooksey and McDonald (2011) is concerned with the very foundations of knowledge—its nature and forms, how it can be acquired, and how it can be communicated to other human beings. Positivism in its epistemological assumption regards knowledge is produced and verified by the use of human senses. Reliable knowledge can be achieved by a researcher or trained observer who has undistorted contact with reality. Knowledge is certain when it represents the outside world accurately. Knowledge is generated by the use of human senses and by experimental or comparative analysis. The senses give rise to observation or information. Concepts and generalizations about their relationship are considered to be short summaries of a specific observation. It is assumed that reality can be correctly recorded by adopting 'objective' observation processes. Scientific laws are based on the regularities recorded through such observation. These 'objective' observations become theoretical statements about the order in reality. Scientific knowledge comprises of well-established regularities achieved through the accumulation of large amounts of information. General laws are generated by introducing inductive logic to the carefully accumulated observations and experimental outcomes. The researcher must first set aside all preconceptions, how the world operates and then continues with the collection of data using "objective" techniques (Blaikie, 2000: 103).

Inductive Research Strategy and Positivism

Research strategies provide a distinct logic or set of processes to answer research questions. There are primarily four kinds (inductive, deductive, retroductive and abductive) research approaches. Each research strategy is clearly distinct uses different methods to answer research questions (Blaikie, 2000). The objective of the Inductive Research Strategy is to create restricted generalizations about the distribution, of association patterns among observed or measured characteristics of people and social phenomena. The Inductive investigation method creates generalizations from particular event observations. It begins with an individual or specific statements and finishes with general or universal propositions. It presupposes that explanations of the world's functioning should be based on facts derived from pure, dispassionate and neutral observation rather than preconceived ideas; that nature will disclose itself to a passively receptive mind.

The Inductive Strategy assumes that all science begins with observations that provide a safe foundation from which knowledge can be extracted and argues that truth directly impinges on the senses, hence a correspondence exists between sensory experiences, although expanded by

instrumentation, and the objects of those experiences. The conclusion of an inductive argument makes claims that go beyond what is contained in the premises and therefore promises to extend understanding beyond real experience. The more observations show a relation between events, the more likely the general statement is to be true. Verification of generalizations obtained arises through observations of specific phenomena that seem to support it. Inductive reasoning operates in another way, shifting to wider generalizations and theories from particular observations.

The positive character of the inductive research strategy begins with data collection and then generalization using certain types of inductive logic (from particular to general). The objective of the Inductive Research Strategy is to define social regularity or networks of regularity in social lives. Inductive logic is used to generalize the patterns or regularities of the acquired data. The strategy is essential to answer "what" questions, but limited to answer "why" questions (Blaikie, 2000:25). For instance, what kind of individuals involved in drug abuse? The researchers must recognize the specific features such as demographic, social, socioeconomic and individual features and summarize the more common one in order to answer this question.

Blaikie (2001:103) considered the four primary phases of the inductive research approach:

1. It observes and records all the facts.
2. These facts have no hypothesis.
3. The relationship between the facts is inductively drawn up.
4. These generalizations are further tested.

The inductive strategy used for descriptive objectives to answer "what" questions i-e, to describe the phenomenon. It can also be used to pursue explanatory to establish regularities which need to be explained and also to pursue an exploratory to discover laws or very general regularities that can be used to explain observed regularities.

The following methodologies are often used under the Positivist research paradigm.

- Survey research methodology.
- Quasi-experimental methodology.
- Experimental methodology.
- Correlational methodology.
- Causal comparative methodology
- Randomized control trials methodology

Criticism of Positivistic Traditions

The main criticism of positivism can be depicted from the below-mentioned points:

1. It can be said what is applied in the field of nature is not necessarily applied in the field of human society. The subject matter of natural science and social science is different. The causality in natural science is invariant, while in social science it is contingent. Natural science aims at prediction, while, in social science aims at self-fulfilling prophecies.
2. The creativity, reflexivity, and agency of social actors undermine by positivism. The interpretative sociology was a refreshing departure from the positivist tradition.

3. Popper was strongly against the Inductive approach of positivism. Inferences based on many observations according to Popper are a myth. It is absurd to think that we can start with pure observation alone without anything in the nature of theory.
4. Critical rationalists believe that making a pure observation is impossible. Positivism is not a suitable foundation for creating scientific theories. Critical rationalists believe that observation is always made within a frame of reference, with certain expectations in mind.
5. Hermeneutics believe that social reality lies in the objectification of meaning that cannot be reduced only to observation.

Conclusion

From the discussion above, it becomes clear that the positivistic paradigm has a significant place in generating scientific knowledge in both natural and social sciences. Positivism a research paradigm of inductive research strategy with its particular ontological and epistemological assumption exerts significant influence on the methodology to be used in research. The particular ontology and epistemology of positivism guide the researcher towards the particular methodology. The methodological implications of a positivistic research paradigm infuse the specific research questions, choice of respondents, data collection tools and collection procedures, as well as data analysis.

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