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**EPISTEMOLOGICAL TAXONOMY IN MANAGEMENT &
 ACCOUNTING RESEARCH PHILOSOPHY**

This paper studies the application of various epistemology dimensions in management & accounting research philosophy. The notion and implications of each discussed epistemology – positivism, neopositivism, critical theory, pragmatic-critical realism, conventionalism and postmodernism, for management research is reviewed. It is evident that epistemology has an enormous influence on the research process. This paper exhibits that each epistemology has its own attributes and emphasis on distinctive commitments. Nevertheless, in relation to implications in management research, the variety of epistemologies offers a broad exposure in conducting research and in particular, research issues arising from the research processes.

Keywords: management, accounting, philosophy, epistemology.

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ЕПІСТЕМОЛОГІЧНА ТАКСОНОМІЯ В УПРАВЛІННІ
ТА БУХГАЛТЕРСЬКІЙ СПРАВИ

У статті досліджено застосування різноманітних епістемологічних підходів до управління та бухгалтерської справи. Описано такі епістемологічні напрями, як позитивізм, неопозитивізм, критична теорія, прагматико-критичний реалізм, конвенціоналізм та постмодернізм, а також їх застосування в управлінні. Очевидно, що епістемологія суттєво впливає на дослідницький процес. Описано особливості кожного виду епістемології відносно економічних досліджень. Різноманітність епістемологічних підходів додає дослідженням широти, у т.ч. у сфері теорії науки.

Ключові слова: управління, бухгалтерська справа, філософія, епістемологія.

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ЭПИСТЕМОЛОГИЧЕСКАЯ ТАКСОНОМИЯ
В УПРАВЛЕНИИ И БУХГАЛТЕРСКОМ ДЕЛЕ

В статье исследовано применение различных эпистемологических подходов в управлении и бухгалтерском деле. Описаны такие эпистемологические направления, как позитивизм, неопозитивизм, критическая теория, прагматико-критический реализм, конвенционализм и постмодернизм, а также их применение в управлении. Очевидно, что эпистемология существенно влияет на исследовательский процесс. В статье описаны особенности каждого вида эпистемологии применительно к экономическим исследованиям. Разнообразие эпистемологических подходов добавляет широты исследованиям, в т.ч. в области теории науки.

Ключевые слова: управление, бухгалтерское дело, философия, эпистемология.

Introduction. To conduct a research, regardless in which discipline or science, it is essential to have an underpinning epistemological framework that governs the research process, and such a framework plays a substantial role in determining what to research, how to research and consequently the conclusions reached. It is ultimately significant for an epistemology to be deployed in any research, it is the epistemological commitments that allow the researchers evaluate knowledge (Neurath, 1944). More importantly, although human cognition is a powerful ability, for

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Neurath, it needs certain philosophical assumptions to be embedded in our mind to assess reality.

Essentially, there are various epistemologies to serve compelling purposes in various academic disciplines. In this paper, 6 epistemologies discussed in Johnson and Duberley (2003) will be reviewed in terms of their application to management research. The epistemologies are positivism, neopositivism, postmodernism, conventionalism, critical theory and pragmatic-critical realism. This review includes the origin of epistemology, epistemological and ontological commitments that uphold the process implications for management research. To begin, it is necessary to understand the meaning of the term "epistemology" prior to discussing the functions it serves.

What is epistemology? The word "epistemology": derives from the integration of two Greek words, "episteme" and "logos". "Episteme" means knowledge or science, whilst "logos" denotes knowledge, theory and information (Johnson & Duberley, 2003). From these definitions, Johnson and Duberley (2003) further defined epistemology as "the study of the criteria by which we can know what does and does not constitute warranted knowledge".

In brief, the above definition signifies that epistemology is the knowledge of knowledge. It specifies the criteria for which particular knowledge could be warranted.

Accordingly, it is argued that the term "epistemology" emerged in the 17th century Europe (Rorty, 1979). The emergence of such terminology presumably was triggered by the development of science during the Enlightenment era. The need to understand the reality or external world entails a scrutiny of a pre-understanding of the world, i.e., epistemological assumptions.

Epistemology does not stand alone. Ontological assumptions which define research elements, work closely with epistemology (Bhaskar, 1975). In other words, ontology may be seen as the subset of epistemology. Without ontology, it is impossible to operationalize epistemology.

Application of Various Epistemologies in Management Research. Johnson and Duberley (2003) presented a 'two-axes' matrix of reflexivity of approaches to undertaking a management research (Figure 1).

According to the above matrix, there are 6 epistemologies that are commonly deployed in management research. They are categorized into 4 parts in accordance to the epistemology and ontology assumptions they uphold. According to Johnson & Duberley (2003), objectivism emphasizes the detachment between a subject (i.e., a scientist/researcher/observer) and the object – subject-object dualism in conducting research. Contrarywise, subjectivism puts a priority on human judgment, an interpretive approach, influenced by a researcher's prior beliefs and experiences to warrant knowledge.

Positivism which is argued as the dominant epistemology in management research is positioned into the first segment which is ontologically and epistemologically objective. Accordingly, neo-positivism shares similar epistemological and ontological assumptions as that of positivism, but the former allows for a certain degree of subjectivity to seize part of a research process. In the next segment, there is discussed critical theory and pragmatic-critical realism. Again, even though they are grouped in the same quadrant, there are several distinctions in relation to their epistemological

assumptions, to be discussed later. Accordingly, conventionalism encompasses subjectivist epistemology as well. However, it is argued that this epistemology at times pursues for objectivist ontology and at other times, a subjectivist view. Thus, Johnson and Duberley (2003: 183) concluded that reflexivity of conventionalism is a variable depending on the conventionalist's position. Finally, the outcome of the most extreme view which incorporates both subjectivist ontology and epistemology is postmodernism. The review of each epistemology; positivism, neopositivism, critical theory, pragmatic-critical realism, conventionalism and postmodernism, their origins, notions and implications in management research is presented in the next section.

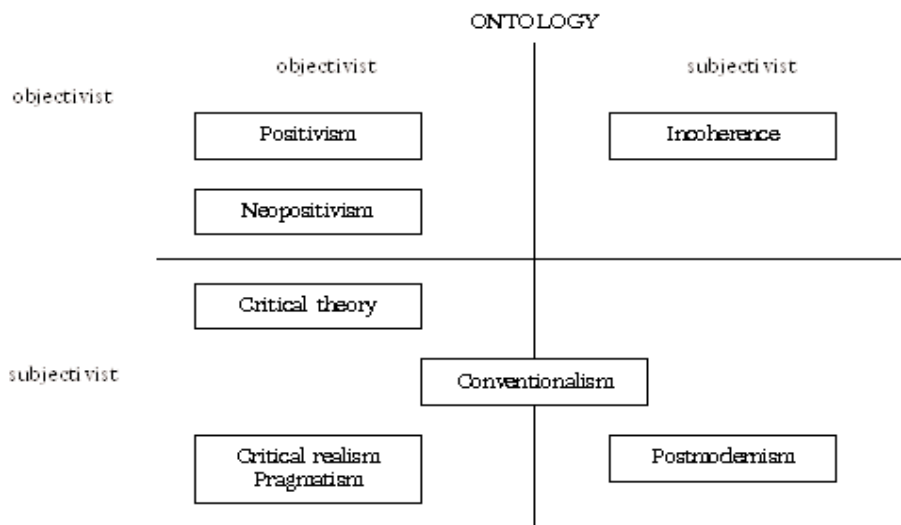


Figure 1. "Two-axes": Matrix of Reflectivity Approaches

Source: Johnson & Duberley, 2003: 180

Positivism. Positivism is fundamentally the mainstream epistemology employed in natural sciences. The development of this epistemology was in harmony with the increased attention to physics during the Enlightenment era. This epistemology relates to causal relationship between predictor and criterion variables and that causal, where this must be necessarily be supported by data and logic (Davis, 1985). Hence, empirical analysis is substantially important in positivistic approach.

The key epistemological assumption of positivism, however, is the emphasis on the objective relationship between a subject and an object of which both should be independently related, this is known as theory-neutral observational language. Here, human judgment is rather undervalued since there is no room for "value-laden" conclusions. Therefore, scientists or researchers are obligated to detach themselves from an observed object as to maintain the objectivity criterion. The acceptance or rejection of new knowledge is subject to the extent that facts are accumulated objectively. In other words, knowledge is warranted when repetition of the result is affirmed within any possible constraints, this repetition of results is the dominating feature of positivism. However, antipositivism argues that employment of this scientific objectivist epistemology in management research is not possible; objectivity which is the key epistemological assumption of positivism cannot be emphasized when dealing with

human behaviors. Human behaviors are influenced mostly by culture, and so it is argued that the results of positivist objectivity cannot be translated into research as it raises the issue of realism (Johnson & Duberley, 2003). Considering that society is continuously changing depending on its evolving environment or situation, a socio-historical evidence set is not secure. Hence, the relevancy of such use of positivist methodology to warrant knowledge is a concern.

Despite this criticism, positivism has been recognized in management research and it remains the dominant epistemology in this discipline today. This is evident from the large number of papers using a positivist approach that have been published in top management journals, particularly in the United States (Johnson & Duberley, 2003).

Essentially, quantitative methods, for example, surveys and experiments, are commonly associated with this positivistic approach (Johnson & Duberley, 2003), an objectivist ontology. Using these methods, variables are constructed based upon the cause and effect testing of a proposition or assumption, and accordingly, the empirical results will justify and support the theory. In sum, positivism focuses on a deductive approach. Integral to the application of positivistic approach in management research is the assurance of the fulfillment of the following criteria: causality and internal validity, reliability and replication, generalizability and operationalism (Johnson & Duberley, 2003):

- Causality and internal validity concern the "accuracy" of selecting independent variables to explain a dependent variable. The causal relationship between both constructs must be present.

- Reliability and replication – consistency of the results (i.e., replication of the results) is of importance to ensure the reliability of a method used.

- Generalizability – the results (i.e., the warranted knowledge) should represent the population. However, there are several disadvantages of using quantitative methods in fulfilling this requirement, for example, the issue of a sample selection.

- Operationalism – involves with "translating" the concept into observable entities. To understand the phenomenon, indicators are formulated to assess the concept established.

To conclude this topic, management research that employs the positivistic approach generally places emphasis on the "surface" issues ("what" and "how" questions) without having the ability to justify in detail "why" a particular scenario takes place. Additionally, empirical results accumulated basing on a presumed concept and verification of theory depends upon an empirical analysis used.

Neopositivism. As mentioned elsewhere, neopositivism derives from positivism. All the epistemological and ontological assumptions of positivism are retained by neopositivists except for the objectivity notion. For neopositivists, the "objective" or "scientific" methodology deployment in management research is disturbing. To evaluate human behavior, neopositivists view that subjectivity is necessary. However, inclusion of subjectivity does not imply that the theory-neutral observational language is rejected. Specifically, an actor's (i.e., the observed) subjective interpretation of reality should be incorporated into the research process through qualitative methods rather than qualitative methods for better understanding of a situation (Johnson & Duberley, 2003). In other words, the "why" question should be included and justified.

Critical Theory. To understand critical theory, a review of the work of Habermas is necessary, as he developed what is known as 'critical theory'. Habermas belongs to the second generation of Frankfurt School. The early works of this school were mainly focused on various forms of domination and social repression (Johnson & Duberley, 2003). Having those positions as his background, the notion of critical theory was initiated with the intention to examine the problems of modern society and seek the ways to change the conditions supporting social oppression to establish a more democratic society (Layder, 1994).

For Habermas, positivism's stance on objectivity ignores the effects of a knower upon the reality (Johnson & Duberley, 2003). Despite the fact that reality may exist independently, Habermas argued that reality only becomes knowable through human action and interest. Thus, to justify the truth, Habermas (1974a) believes that specific human interests trigger the most important aspect of humanity – the power of understanding. According to Habermas (1972) there are 3 types of knowledge derived from specific human interests:

- Empirical analytical science – which emphasizes that human interest controls natural environment.

- Historical hermeneutic science – which emphasizes that human practical interest arises from the need interpersonal communication.

- Critical science – derives from "emancipatory interest" that seeks to free people from domination (Johnson & Duberley, 2003).

From the works of Habermas, it can be derived that critical theory emphasizes emancipatory interest to warrant knowledge. To escape from being associated with relativism, Habermas introduced the proposition of a consensus theory of truth. According to his 'systematically distorted communication', the validity claims through engagement in discourse is automatically reserved to produce consensus. This consensus is assured by an 'ideal speech situation' where there is freedom from internal and external constraint (McCarthy, 1978). However, this Habermas proposition has been challenged as it is impossible to have a situation that is free from dominance and political pressure. In relation to its application to management research, critical theory encourages researchers to consider management and organizational practices as (Alvesson & Willmott, 1996):

- Distorted communication – as modern corporations incline towards hierarchical authorities rather than participative.

- Mystification – as managers tend to "cosmetically" shape the perception of people on themselves as well as organizations through arrangement of symbols and ceremonies.

- Cultural doping – relates to the way an organization "socialize" their employees in order to influence their attitudes, values and expectations.

- Colonizing power – an emphasis on how a particular set of practices comes to dominate in a workplace.

These 4 metaphors essentially demonstrate that management practices are in reality, not a neutral activity.

Following that, it is argued that critical theory allows the researchers to understand political and negotiated aspects of management (Johnson & Duberley, 2003). Unlike traditional management research that focuses on resources allocation, critical

theory emphasizes inequality, domination and politics in organizational practices (Alvesson & Willmott, 1996), as research seeks to include "values" in management research. Critical ethnography and participative approach is commonly associated with critical theory. Critical ethnography focuses on revealing oppressive practices in organizations (Johnson & Duberley, 2003), and to do this, participation of the researched (i.e., the actors) is necessary.

Pragmatic-Critical Realism. Integration of the notions of realism and pragmatism by critical theorists leads to the development of a distinctive epistemology called pragmatic-critical realism. The key concept of critical realism is the rejection of empirical realism in determining what exists (Bhaskar, 1978). For critical realists, truth must be more than outputs of a language game but truth cannot be absolute (Johnson & Duberley, 2003) due to socio-historical development, as reality is socially constructed.

Having to share similar subjectivist epistemology and objectivist ontology as that of critical theory, pragmatic-critical realism dismisses positivism's theory-neutral observational language. Critical realists believe that although human behavior is triggered by a person's intimate interpretive reasoning, sometimes causes of behavior are neither recognized nor accessible to the subjects (Johnson & Duberley, 2003). Because of this, for critical realists the purpose of social science is to identify the structures that generate behavioral tendencies through examination of social phenomena.

Conventionalism. Immanuel Kant and Thomas Kuhn's works provide generous discussion on conventionalism. In his "Critique of Pure Reason", Kant argues that our minds are not passive receivers, instead actively process the reality and transform it to knowledge. For Kant, there is no such thing called 'value-free' in deriving scientific facts or knowledge, as no researcher would be able to transcribe what they have observed into scientific statements without subjectivity attached to it. Additionally, acquiring direct knowledge of reality is not possible due to 'noumena' (unknowable things) that does not exist in isolation; it has to have 'something' that triggers our mind to study such phenomena, things or both.

On the other hand, Kuhn (1962) in his thesis developed a theory of science which propagates conventionalism to reject the ability of science to verify or falsify knowledge through empirical testing. According to Kuhn, a paradigm is a set of universally recognized scientific achievements for a period of time for a community of practitioners (1970a). This paradigm is created based on the shared understanding of members of a given community, and because of this, each paradigm has its own commitments and language. The established paradigm will then influence the way community sees the world and reality. Accordingly, for Kuhn, scientific ideas remain acceptable as long as they can serve their intended purposes, and this also depends upon the extent of how scientists convince others to accept these ideas.

Given the above, briefly, conventionalism views knowledge as a product of cumulative thinking by a particular group or community. To warrant what we have observed is subject to approval of community to which we belong, and our prior experience, implicitly or explicitly, influences what we want to believe as true. Accordingly, Burrell and Morgan (1979) presented a discussion on how Kuhn's sociological paradigm has effect on organizational analysis. According to them, organi-

zational analysis can be understood in terms of a matrix of 4 paradigms – ontology; epistemology; human nature; and methodology.

All scientific theory should make assumptions along these dimensions (Johnson & Duberley, 2003). Failure to fulfill the condition denotes that a theory is not categorized under social science. Each dimension is represented by dual assumptions – subjectivist versus objectivist. Scientists, by accepting one set of assumptions, deny the alternatives.

To examine the nature of the society, Burrell and Morgan (1979) constructed 2 bipolar extremes: sociology of regulation versus radical change. Sociology of regulation assumes that society and its institutions have a common understanding and interest as they are governed by a same set of standards. This pole is particularly concerned on how to maintain the status quo. The sociology of radical change assumes that society has different interests and is not governed by any parameters. This pole is concerned with the changes within a person in achieving the individual's interest. By accepting the assumptions underlying the sociology of regulation signifies that sociology of radical change is rejected. Morgan further elaborates his previous work with Burrell by developing the concept of metaphor as a metatheoretical tool for analyzing organizations and management. This metaphor, embedded in our cognitive structures, is argued and is a vital tool that enables us to operationalize paradigms. In other words, the metaphor allows us understand and experience a phenomenon, and for Morgan, each metaphor derives from a particular paradigm, following Kuhn's theory.

However, it is argued that the element of subjectivity in conventionalism could lead to a relativistic stand. Hollis and Lukes (1982) asserted there are two possible reasons for that argument. First, conventionalists believe that reality is a creation of our cognitive structures and thus is associated with human cognition; second, while many adopt subjectivist epistemology, some may retain the realist ontology where it is believed that reality exists but does not have any relation to human cognition. Hence, this undoubtedly creates variability in ontological assumptions of conventionalism.

Postmodernism. Like other antipositivism, postmodernism argues that epistemological commitments of positivism do not fit into management research. More importantly, science cannot be used to justify the nature of society and unlike conventionalism which refuses to be associated with relativism, postmodernism explicitly acknowledges relativism. As metanarrative was considered annihilated by postmodernists, relativism is used to replace that empty position.

Essentially, postmodernism encourages dissensus, as it rejects consensus. Postmodernists believe that Kant's noumenal reality which is to justify knowledge from phenomena is no longer acceptable due to changing environments. What had happened in the past may not necessary correspond to current or future events. Postmodernist linguistic turn which is developed to discard positivist theory-neutral observational language, views that language is significant, and that knowledge and truth are linguistic entities constantly open for debate. In brief, the relationship between a concept (the signifier) and its mental concept (the signified) is seen as arbitrary (Johnson & Duberley, 2003).

Accordingly, in justifying the external reality, the linguistic turn suggests that our views on the world are constructed by our reasoning and this process is continuously

repeated in making sense of the world (Parker, 1992) as different interpretations are available with no reference to anything other than language. For postmodernists, knowledge is constructed through language and cannot be justified through metaphors that present an accurate representative of external reality. Rorty (1979), however, refers this concern as language games – there is no foundation to judge the accumulated knowledge of a particular community by other communities due to language differences. With regards to the implications of postmodernism in management research, Johnson and Duberley (2003) argue that there are, in particular, 3 foremost implications. First, postmodernism rejects any analysis of management which posits its development in terms of a progressive accumulation of knowledge, implying a deductive approach. In addition, management research, for postmodernism is a discourse, not a resource for analyzing different aspects of reality. A discourse will be expressed in all that can be thought, written or said about a particular topic and it is a social construction, implying an inductive approach. Because of this, a discourse is subject to change and we can never attain any knowledge save that constructed in and by some discourse.

Secondly, postmodernism decentres the subject. A subject or an observer is dismissed as an autonomous origin of meanings and as the focus of analysis. Alternatively, we collectively justify the reality through the same language we share. As a result, our judgment is constrained by historical and social based existing discourses. With respect to management research, any management discipline would be seen as a particular historical and social mode of engagement that is controlled by particular attributes, such as experience.

Thirdly, postmodernism places emphasis on power. For Cooper (1989), knowledge and power are mutually exclusive. In management practices, individuals with power are able to speak and analyze, while those without or less power are objects of knowledge produced by discourse. Accordingly, human subjectivity is considered as an outcome of power exercise, and without knowledge, it is impossible to exercise power, but more importantly, knowledge triggers power.

As postmodernism encourages an inductive approach in conducting research, empirical analysis is rejected. Researchers play an ultimate role in research and should not distance themselves from research, and more specifically, they have to provide explanation of their involvement in data collection as well as in data analysis. Essentially, ethnography research is well accepted by postmodernists, as it is considered the language of postmodernism (Linstead, 1993b). Even though there is an ethnography research section in positivism which focuses on representation of reality, for postmodernism, ethnography involves deconstructing reality to identify alternatives.

Conclusion. The review of Johnson & Duberley (2003) with regards to application of various epistemologies in management research shows that epistemology plays a substantial role in determining research processes. Even though positivism has received a lot of criticism for its objectivity or theory-neutral observational language, it is evident that such approaches are still employed in management research. This, perhaps, is due to the current nature of mainstream management research that largely focuses on answering the "what" and "how" questions using quantitative research. Nevertheless, the increased number of qualitative research projects, particularly

ethnographical in management research, signifies that other epistemologies apart from positivism are gradually being accepted by researchers. As society is changing as well as environment, a constant paradigm is no longer satisfactory, and there is a compulsion to integrate the outside and inside issues of management to understand practices better.

Finally, despite diverse epistemologies that have been developed, each has its own significance, and accordingly, there is no basis to assess which is superior to others, and a mixture of different epistemologies provides a wider range of enriching knowledge accumulation.

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