Interpretivism in IS – a Postmodernist (or Postpositivist?) Knowledge Theory

Jan H. Kroeze

School of Computing, University of South Africa, Pretoria, South Africa., kroezjh@unisa.ac.za

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Jan H. Kroeze
University of South Africa
kroezjh@unisa.ac.za

ABSTRACT

This paper explores the association between postmodernism and interpretivism. The paper's objective is to show that the interpretivist research paradigm shows very clear postmodernist traits. After defining the two concepts the paper attempts to answer the research question whether interpretivism is a typical postmodernist approach to Information Systems science and research. The paper is conceptual, using a philosophical-logical approach. It makes a contribution to the discipline of Information Systems by taking the reflection on the continuum of positivism-interpretivism-critical research a level deeper by connecting interpretivism with the broader, encompassing paradigm of postmodernism.

Keywords

Interpretivism, postpositivism, positivism, postmodernism, Information Systems.

INTRODUCTION

This paper explores the associations between postmodernism and interpretivism. The paper's objective is to show that the interpretivist research paradigm shows very clear postmodernist traits. After defining the two concepts the question is asked whether interpretivism may be regarded as a typical postmodernist approach to Information Systems (IS) science and research. A substantial body of scholarship exists on these topics, but postmodernism has received little attention in IS literature and very little research outputs have been found so far that reflect on the possible linkages between this overarching philosophy of our times and alternative research theories in our discipline. One exception to this statement is a study using postmodernist principles to suggest ethical guidelines which may help to improve the success rate of IS development projects (Chattejee, Sarker and Fuller, 2009). This paper aims to make a contribution to IS theory and philosophy by attempting an answer to the intricate research question, whilst acknowledging that all knowledge is provisional, especially when it touches on fluid belief systems. The paper is a follow-up of Kroeze (2010b) in which a linkage between interpretivism and postmodernism was suggested and discussed briefly. It also builds on and extends some of the ideas in Kroeze (2012).

In interpretivist research it is preferable to use the term "premise" or "proposition" for the central theoretical statement (golden thread) of a piece of research, rather than the positivist term hypothesis (cf. DeLuca, Gallivan and Kock, 2008:58). The premise of this paper is that interpretivism may be regarded as a postmodernist epistemology. The presupposition of "multiple subjective realities" and "dynamic, socially constructed meaning" (e.g., how different IT company cultures experience truth, knowledge and methodologies) is an essential part of the interpretivist paradigm (Oates, 2006:292-293). Interpretivist studies try to understand a pluralistic world based on the principle that people assign meanings and values to their unique contexts. These propositions will be explored in more depth and the essential characteristics of interpretivism will be contrasted with positivism on the one hand, and aligned with postmodernism on the other hand.

The conceptual research approach adopted for this paper is typical of humanities research, more specifically "conceptual philosophical research" using "philosophical-logical arguments" (cf. Becker and Niehaves, 2007:199-200). The literature review is more than a mere summary of what has been written on the subject before. The relation between the relevant concepts, that has not been discussed in depth in IS literature, is explored in an analytical and synthesizing way. The paper is a study in the philosophy of science. The philosophy of science explores the foundational issues and assumptions of science in general and with regard to specific disciplines.

DEFINING INTERPRETIVISM

Orlikowski and Baroudi (1991:13-18) define interpretivism as an alternative research philosophy with its own ontological and epistemological assumptions. It focuses on reality as a human construct which can only be understood subjectively. Although it is possible and even probable that there is an independent, concrete reality out there, humans can only know it through the filtering lenses of their sensory organs and a priori assumptions. We could never be one hundred percent sure that the world exists like we perceive it. Social realities are even less concrete since they are created by cultural communities.

Traditionally, interpretivism is the opposite pole of positivism, a "[p]hilosophical system ... recognizing only positive facts & observable phenomena" (Concise Oxford, 1964:949). Positivism provides a framework to explore reality as a concrete, given entity which can be understood objectively.

Unlike positivist research, interpretivist research does not work with "falsifiable statements" or "strict hypotheses" (Ballsun-Stanton, 2010:123). Like the incommensurable viewpoints on the nature of data (digits vs. observations vs. interpretations), it may also be true with reference to these two encompassing research philosophies that "the large subjective-objective gulf between filterable observations and 'hard measurements' seems difficult to reconcile with the same philosophy" (Ballsun-Stanton, 2010:124).

The differentiation between the two 'philosophies' is often used in IS theory to clarify unique, but complementing research approaches. According to Northover, Kourie, Boake, Gruner and Northover (2008), the positivism debate has become irrelevant. They regard agile methods as an emerging paradigm that may overcome the traditional gap between divergent epistemologies and may even replace traditional methodologies. Hovorka & Lee (2010:2, 3, 9), however, want to revive the differentiation, which has become 'muddled', because they believe that IS needs both explanatory and interpretive inputs. Explanation is typical of the natural sciences while understanding is typical of the human sciences. The fact that IS is an interdisciplinary science explains the need for both approaches. The two perspectives should not be separated completely, but should be seen as complementary views that enrich the process of knowledge creation.

DEFINING POSTMODERNISM

Postmodernism is an overarching philosophical paradigm, presupposing that realities are created (ontology), that knowledge is fluid and provisional (epistemology), that interpretive and critical methods are more suitable to study a plural society (methodology) and that no one set of values are per definition better than another (axiology). It is a widespread and deep-cutting cultural phenomenon that is changing perceptions regarding being and knowing the world over. Although people may realize that they cannot revert to a previous worldview, they still yearn for old fashioned lifestyles based on a nostalgic recreation of the past "as a form of substitute reality" (Watson, 2001:55).

Especially the internet has played a major part in accelerating postmodernism by compressing time and space and fragmentizing experience (Watson, 2001:58-59). ICT has caused an overload of information which undermines the viability of a single meta-narrative, while multimedia and hyperlinking allow users to make their own connections and sequences, all of which results in an eclectic experience of life (Watson, 2001:62). The fact that there is so much knowledge available causes a certain degree of relativity with regard to truth (Benton and Craib, 2011:172).

Simulations and hyperreality developed from direct representations of the real world through an intermediate phase of emancipation into independent signs (Watson, 2001:59-60). Simulacra now replace the realities that they represent resulting in a situation where people are not able to differentiate between them (Sim, 2001b:11). Reproduction, copies and images are the essence of postmodern society (Benton and Craib, 2011:172). In the twenty-first century simulacra very often are electronic simulations. Edutainment, for example, represents products in advertisements pretending to be based on rigid research results. The pretention is made all that more feasible by pseudo-scientific, computer-aided graphs and statistics. Artificial intelligence is another good example of electronic simulation. The Turing test is, like postmodernist science in general, more interested in signs and simulations than in reality itself. A machine or program may be regarded as intelligent if it is impossible to differentiate between a human's real intelligence and the computerized simulation thereof (Grant, 2001:66, 73).

The pluralization of research methods used in IS is a typical postmodernist phenomenon. Not only has it become acceptable to use positivist, interpretivist or critical research philosophies, but also to use more viewpoints in one study (mixed methods). This, however, does not imply that anything goes, since the triangulation of, *i.a.,* theory, method and strategy actually corroborates research findings and ensures validity (Myers, 2009; Oates, 2006:37). Another attempt to pluralize research approaches in IS is to borrow more intensely from the humanities in order to enrich IS (see Kroeze, 2010a; Kroeze, Lotriet, Mavetera, Pfaff, Postma, Sewchurran and Topi, 2011).

It is, therefore, not surprising to find postmodernist traits in the computing disciplines themselves. For example, ICT practitioners are called upon to take into account the pluralized concept of reality during systems analysis and design. "IT practioners must serve as the interface between computing and people. They must understand what people actually want and must understand the reality *from which they desire that thing*" (Ballsun-Stanton, 2010:119). Taking people's constructed realities into account may help to make created systems more useful (ibid.:124). Chatterjee et al. (2009) borrow from postmodernist ethics and suggest that information system development teams focus on the moral responsibility of their analysts to create a sense of ownership amongst all role players, which may subsequently improve their projects' success rates.

The impact of ICT and postmodernism is bi-directional. A typical postmodernist standpoint is to accept and acknowledge that values and beliefs are built into computer programs. These encoded principles cause the technologies to have philosophical implications in turn (Ballsun-Stanton, 2010:119), resulting in a repetitive ICT-Postmodernism cycle.

IS INTERPRETIVISM POSTMODERNIST?

This section contrasts the positivist epistemology with the interpretivist epistemology and compares last-mentioned with the postmodernist paradigm. Table 1 adapts Becker and Niehaves's (2007:202-209) epistemological framework for this purpose. Gregg et al.'s (2001:173) suggestions regarding the essence ("keywords") of the paradigms are included, as well as definitions and ideas by several other authors. The keywords and short phrases in the table will be discussed in detail below to evaluate whether interpretivism mirrors typical postmodernist traits.

Criterion	Positivism	Interpretivism	Postmodernism
Essence	Confirmation	Generation	Antifoundationalism Eclecticism
Conception of reality	External reality	Contextual realities	Poststructuralism
Conception of knowledge	Absolutism	Subjectivism	Theory-laden knowledge
Conception of truth	Reductionism	Holistic and emancipatory view	Emancipatory view
Conception of cognition	Empiricism Rationalism	Interactive knowledge creation	Value-laden process
Methodology	Quantitative methods Hypothesis driven	Qualitative methods Research-question driven	Deconstructionism
Concept of rigor	Reproducibility	Transferability	Performance-driven nature

Table 1. Becker and Niehaves's (2007:202-209) Epistemological Framework (Adapted)
Used to Compare and Align Interpretivism and Postmodernism versus Positivism

Essence

According to Gregg et al. (2001:173) the essence of the positivist epistemology is *confirmation*, for example the proving or falsifying of hypotheses. The essence of interpretivism, however, is *generation*, i.e. the invention of new research concepts and contexts. The idea that interpretivism creates concepts and ideas is in line with the fourth principle of interpretivism identified by Klein and Myers, the principle of abstraction and generalization (1999:75-76). This is typical of postmodernist epistemologies, in which the scientific endeavor may be regarded as a melting-pot of ideas that may eventually give birth to a "fundamentally new form of intellectual vision, one that might both preserve and transcend the current state of extraordinary differentiation" (Tarnas, 1991:402). Postmodernism may therefore be regarded as *antifoundational* – knowledge is created and truth is provisional. "Foundational criteria are discovered; nonfoundational criteria are negotiated" (Lincoln, Lynham and Guba, 2011:119). This leads to an *eclectic* approach in science. Parallel to the postmodernist possibility of choosing a lifestyle rather than to conforming to old traditions (Watson, 2001:55), is the practice to select a suitable research strategy, data generation method and data analysis technique (Oates, 2006:33). In IS a variety of legitimate research approaches exist, which again reflects the wide variety of products available on the postmodernist market. This eclectic drive is mirrored in interpretive IS research. Although empirical studies are perfectly acceptable in interpretivist work, they are not regarded as the only valid method (empiricism) (Hjørland, 2005:131). Research philosophies, approaches and methods can even be mixed and matched to a large extent to suit divergent research fields and objectives.

Conception of Reality

Positivism assumes a certain view of the world (ontology). The basic idea is that the world exists as an *external reality*. It believes that the world is concrete and empirically observable, a single reality that exists "external to human beings" (De Villiers, 2005:12). In contrast to this, interpretivism in IS, like postmodernism in general, believes in *contextual realities (poststructuralism)*. It is an idealistic point of departure which sees reality as a figment/notion of the mind. A more balanced view is to believe that both concrete entities and thought constructs exist. In other postmodernist cultural expressions, like art, context is as important; for example, "postmodern buildings and cityscapes are characterized by sensitivity to context" (Watson, 2001:61). Klein and Myers's (1999:73-74) second principle of interpretivism, the principle of contextualization, reflects this postmodernist principle.

An example of "multiple subjective/constructed realities" in IS practice is the creation of unique working cultures by system developers in different organizations (Oates, 2006:292-293). In many qualitative research approaches – often underlain by interpretivism – taking into account the social context is very important. Action research, for example, is a research strategy where the researcher is actively involved with interventions in the field of research. The importance of taking context into account again implies a "plurality of acceptable ethics and lifestyles" (Easthope, 2001:21-27). Chatterjee et al. (2009:801) regard IS development teams as ethical agents who should try to minimize any distanciation and estrangement between the developers and users of a system. Being aware of these ethical intricacies also prompts the constitution of ethics research committees that need to scrutinize research proposals and give ethical clearance before any empirical work on humans or animals may be carried out.

Conception of Knowledge

In positivist epistemology knowledge is believed to be *absolute* and objective (De Villiers, 2005:12). "Positivist research is intended to produce an exact representation of reality, free from perceptions and biases of the researcher" (ibid.). Interpretivism, however, believes that inquiry is value-related and findings are *subjective* (De Villiers, 2005:13). It studies "people in their natural social settings" (Oates, 2006:292-293) and focuses on the uniqueness of each situation (ideographic standpoint) (De Villiers, 2005:20). According to the third principle of interpretivism, the principle of interaction between the researchers and the subjects, "facts are produced as part and parcel of the social interaction of the researchers with the participants" (Klein and Myers, 1999:74-75). In IS, a formal ontology is a negotiated artifact, a taxonomy of a subset of reality, which defines the relationships between the entities and ensures consistency and reliability by means of description logics. Postmodernist epistemologies acknowledge that all knowledge is *theory-laden* (Hjørland, 2005:133). This prompts qualified views on humanism, progress and consumerism (Easthope, 2001:21-27). A bigger awareness of research participants' communities and values is another reason for the relatively recent upsurge in ethical committees and ethical clearance processes in Social Informatics research, referred to above.

Conception of Truth

In a positivist thought-framework truth is *reductionist* (De Villiers, 2005:20). Positivism isolates research objects and ignores the wider context (Hjørland, 2005:136). Modernism, the encompassing paradigm of which positivism is part and parcel, even tries to standardize a code of ethics and regard alternative systems as problems or distortions (Chatterjee et al., 2009: 799). For postmodern interpretivists, however, truth is *holistic and emancipatory* (De Villiers, 2005:20). It accepts that researchers influence their study objects and change perceptions (Oates, 2006:292-293). Researchers and participants negotiate and agree on what is the truth for them. Since there may be multiple versions of the same events, more than one interpretation is possible and acceptable; this is the sixth principle of interpretivism, the principle of multiple interpretations (Klein and Myers, 1999: 72, 77). Similarly, postmodernist perspectives are *emancipatory* (De Villiers, 2005:28) and skeptical about "a firm founding for deciding between truth and falsehood" (Easthope, 2001:21-27). Ethicality is viewed as the product of communities' values and not of a universal preordination (Chatterjee et al., 2009: 799).

Conception of Cognition

"Positivism is equated with the scientific method, whereby knowledge is discovered by controlled empirical means, such as experiments" (De Villiers, 2005:12). This standpoint is called *empiricism* since empirical and measurable methods are regarded as the main or even the only valid knowledge-creation processes. Empiricism and positivism have a very close mapping, even to the extent that they are regarded as synonyms or forms of each other (Gregg et al., 2001:171; Hjørland, 2005:130, 136). This approach includes deductivism, in which individual entities are derived from a universal concept (e.g. mathematical sciences; class to object instantiation in object orientation) and inductivism, in which universal concepts are derived from individual entities (e.g. natural sciences; model creation in IS). *Rationalism* is the assumption that understanding is the result of thought processes. Although still positivist, it is a more qualified view and closer to

interpretivism's assumption that *knowledge is created interactively* (cf. Benton and Craib, 2011:10; Gregg et al., 2001:172). Constructionism or constructivism is regarded in IS theory as a synonym or form of interpretivism (Creswell, 2009:8; Denzin and Lincoln, 2011:5). According to Benton and Craib (2011:175) constructionist approaches are the legacy of postmodernist skepticism. Lincoln, Lynham and Guba (2011:97, 102, 108) also refer to constructivism or interpretivism as a postmodernist paradigm. The idea that knowledge is created socially, is covered by Klein and Myers's (1999:71-73) first principle of interpretivism, the principle of the hermeneutic circle. In postmodernism, which has a fluid view of ontology and epistemology, science and technology are believed to be *value-laden* (Easthope, 2001:21-27). Many case studies in IS are examples of multiple situations that demand unique interpretations (Oates, 2006:142, 300). Meaning is constructed in a dynamic way in societies, as the different IT jargon in various groups and periods demonstrates (Oates, 2006:292-293). Empirical studies are perfectly acceptable in interpretivist work, but this is not regarded as the only valid method (empiricism) (Hjørland, 2005:131). Knowledge is obtained via a combination of observation and interpretation (cf. Hjørland, 2005:144).

Methodology

Positivist research is *hypothesis-driven*, has a preference for *quantitative methods* and aims to find generalizable results which can be used to make accurate predictions (De Villiers, 2005:12). In contrast, interpretive research is *research-question driven*, has an affinity for *qualitative methods* and its goal is to provide deep insight regarding unique social and organizational scenarios (De Villiers, 2005:12-13; Gregg et al., 2001:172). Hermeneutics is its main method. This echoes postmodernism's critique of the "scientific" method (Easthope, 2001:21-27) and its *deconstruction* of grand narratives (Sim, 2001b:14). In this regard, Oates's statements about interpretivism relativize the positivist belief: "[T]he scientific method is itself a social construction, developed by a community of researchers over several hundred years as the 'right' way to do research" (Oates, 2006:292). Laboratories are "artificial worlds" created for experiments (Oates, 2006:293). To be open for other cultures implies a certain amount of skepticism about the researcher's own (often Western) culture (cf. Oates, 2006:300). The seventh principle of interpretivism, the principle of suspicion, requires researchers to look deeper than the surface and to reveal preconceptions and to discover hidden biases and distortion (Klein and Myers, 1999:72, 77-78). Chatterjee et al. (2009:803) applies postmodernist ethical principles to IS development by suggesting the following methods: collaboration with stakeholders; reflection on possible consequences of a new information system; development of personal responsibility among system analysts; and creation of ownership among the system developers.

Concept of Rigor

The principle of rigor has always been non-negotiable in traditional positivist science. This explains the emphasis on *reproducibility*: data that can be measured and results that can be replicated (Hjørland, 2005:136). Interpretivist research also accepts the principle of rigor but uses a different set of parameters to determine and evaluate it, namely trustworthiness, confirmability, credibility and *transferability* (Oates, 2006:294-5). It accepts that multiple interpretations are possible (Oates, 2006:292-293), but tries to ensure reliability by means of triangulation (De Villiers, 2005:13). It finds its integrity in the fact that it is aware of its own preconceptions and tries to make these explicit, according to the fifth principle of interpretivism, the principle of dialogical reasoning (Klein and Myers, 1999: 76-77). Tarnas (1991:404) agrees that science has retained its rigor and value, especially due to its practical application. Relevance, indeed, is very important in interpretivism, as in all postmodernist sciences. This may even have found its epitome in artificial intelligence, in which *performance* has become more important than truth, and simulation of intelligence more significant than the understanding of intelligence (Grant, 2001:73).

Final Remarks

From the discussion above it is clear that interpretivism shows clear similarities to postmodernism. Baert, Weinberg and Mottier (2011:478-479) confirm this result by highlighting their resemblances, such as the social situatedness of knowledge and the antipathy towards overarching theories. They regard antifoundationalism as the essential link between the two points of reference. This conclusion answers the main research question.

Another research question that may be asked is whether interpretivism is also postpositivist. According to Creswell (2009:7) postpositivism differs from positivism in not accepting the assumption about knowledge that absolute truth can be found. However, postpositivists still starts with a theory which they try to prove or falsify. Measurement and quantification is still regarded as important and decisive. This implies that postpositivism is a continuation of positivism. Lincoln, Lynham and Guba (2011:99) say that the essential difference between positivism and postpositivism is verification vs. falsification (which may be an oversimplification). According to this view, interpretivism cannot be regarded as postpositivist. However, other authors have a wider understanding of postpositivism. Fischer (1998:129-130, 136), for example, talks about neopositivism

as a continuation of the basic points of positivism, while his ideas about postpositivism are similar to those related above to interpretivism (seeking a holistic view of the various perspectives and interpretations of social reality, which is constructed, complex and multidimensional). Denzin and Lincoln (2011:1) also suggest an underlying connection between postpositivsm and constructivism when they refer to the first paradigm war of these two epistemologies against positivism. The relationship between positivism, neopositivism, postpositivism – not to mention neo-postpositivism and antipositivism (Denzin and Lincoln, 2011:10, 11) – and interpretivism, therefore, needs to be discussed in more detail in follow-up work.

IMPLICATIONS

From the small number of studies exploring postmodernist traits in IS one can infer that IS researchers try to avoid this paradigm. Wrong perceptions of postmodernism may be the culprit. A study like this could first of all help to overcome the barrier of negative perceptions. Since the postmodernist concept of a fluid understanding of a constructed social reality is likely to overtake the modernist idea of a fixed perception of a concrete world (Guba, Lynham and Lincoln, 2011:120), IS theorists cannot afford to ignore the study of postmodernism.

Orlikowski and Baroudi (1991:24) already appealed more than two decades ago that IS researchers should be aware of the research approaches that they use, the implications thereof, and the possibilities of alternative traditions in order to select methodologies that are applicable to their research endeavors. The continuum of positivism-interpretivism-critical research has since become widely accepted in IS research, and this paper makes a contribution by taking the self-reflection one level deeper by linking the interpretivist epistemology to the wider, encompassing philosophical paradigm of postmodernism.

Once IS scholars using interpretive approaches have come to terms with using postmodernist approaches a whole new theoretical world could open up which may be used to enrich IS research. Scholars may discover new avenues for research by getting ideas in the broader literature of social and human sciences and may better understand their own theoretical assumptions by comparing them with the contemporary research in the philosophy of social science. According to Preissle (2011:694) qualitative researchers are challenging the traditional boundaries of their knowledge theories by using mixed methods: "innovative and creative problem solving often mean finding ways of putting things together that convention has separated". In addition to stretching our minds and imaginations to find ground-breaking solutions, an awareness of our epistemology may lead, also in IS theory, to a richer insight and understanding of our research questions and to alternative outcomes of our research processes; indeed, "[e]pistemology matters" (Lincoln and Denzin, 2011:716). Cross-pollinating interpretivism from other postmodernist epistemologies and methodologies may prepare us to enter the conceptual age, to move on from being knowledge workers to become pattern recognizers and meaning makers (cf. Lincoln and Denzin, 2011:715). Not only the way in which IS researchers gather data and make sense of it could be enriched but also the format in which the results are reported. Blashki (2002), for example, suggests the use of narrative research reporting techniques to encapsulate the temporal and human aspects in research reports on IS practice.

CONCLUSION

Postmodernism is a philosophical paradigm that influences all cultural activities including science. A philosophical paradigm is a set of theories which is typical of a historical phase in the philosophy of science. Postmodernism refers to a set of assumptions regarding ontology (realities are created), epistemology (knowledge is fluid and provisional), methodology (interpretive and critical methods are more appropriate to study a plural society) and axiology (the study of values: no one set of values are by definition better than another). Positivism and interpretivism are examples of knowledge theories or epistemologies often used in IS. While positivism focuses on reality as a concrete given entity which can be understood objectively, interpretivism focuses on reality as a human construct which can only be understood subjectively. Interpretivism echoes many postmodernist traits in terms of its assumptions about reality, knowledge, truth, cognition, methodology and rigor. Therefore, it may be concluded that interpretivism, as it is used in IS (and other social sciences), is a typical postmodernist theory of knowledge. Realizing this link creates a gateway to other postmodernist methods and insights which may be used to enrich IS theory and methodology.

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