



ISSN 1536-9323

Journal of the Association for Information Systems (2020) 21(4), 836-842

doi: 10.17705/1jais.00621

RESEARCH COMMENTARY

Commentary on “Demystifying the Influential IS Legends of Positivism”

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Abstract

This commentary questions the argument made in the article, “Demystifying the Influential IS Legends of Positivism” (Siponen & Tsohou, 2018). Contrary to the article, this commentary fully accepts that logical positivism as a school of thought in the philosophy of science has fallen into disrepute, points out that the IS researchers who have characterized positivism in their own ways never said that they were following logical positivism, interprets what these researchers had in mind when characterizing positivism in the ways that they did, and ponders what difference Siponen and Tsohou’s discussion on logical positivism actually makes to the future of IS research.

Keywords: Positivist Research Methods, Positivism, Logical Positivism, Information Systems Philosophy

Ron Weber was the accepting senior editor. This research commentary was submitted on November 24, 2018, and underwent one revision.

“Demystifying the Influential IS Legends of Positivism” (Siponen & Tsohou, 2018) poses the following argument: logical positivism as a school of thought in the philosophy of science has certain tenets; information systems (IS) researchers characterizing positivism (namely, Orlikowski & Baroudi, 1991; Klein & Myers, 1999; Walsham, 1995; Lee, 1991; and Dubé & Paré, 2003) have run afoul of these tenets; therefore, what these IS researchers have characterized as positivist is unwarranted. The purpose of this commentary is to investigate the validity of Siponen and Tsohou’s (S&T’s) conclusion, which is that what certain IS researchers have characterized as positivist is unwarranted. The purpose of this commentary is not to debate the relative merits of positivist and nonpositivist forms of research, nor to examine the circumstances in which positivist research is likely to be useful or not useful, nor to provide a general critique of S&T’s overall argument. These (and likely many other additional) matters are interesting and important but are not germane to the immediate question of whether S&T’s conclusion is valid. Rather, this commentary proceeds

by pursuing four interrelated questions. First, is logical positivism as a school of thought in the philosophy of science even legitimate? Second, did the IS researchers characterizing positivism themselves say that they were following logical positivism? Third, assuming that the IS researchers characterizing positivism are reasonable people, what did they have in mind when characterizing positivism in the ways that they did? Fourth, what difference does S&T’s discussion on logical positivism actually make to the future of IS research?

First, is logical positivism as a school of thought in the philosophy of science even legitimate? Whether logical positivism as a school of thought in the philosophy of science is even legitimate is a pivotal question in this commentary because logical positivism forms the basis of S&T’s argument, described above. S&T conclude that what certain IS researchers have characterized as positivist is unwarranted because these researchers’ characterization of positivism does not hew to or apply the tenets of logical positivism as a school of thought in the philosophy of science. The discrediting of

logical positivism, however, renders such a conclusion invalid. How may one properly conclude that what certain IS researchers have characterized as positivist is unwarranted when the yardstick for measuring what is warranted—logical positivism—has itself been discredited?

In this commentary, I will take the position that logical positivism as a school of thought in the philosophy of science has fallen into disrepute. Taking this position, however, involves two important qualifications. The first qualification has to do with the fact that, on the one hand, there is logical positivism as a school of thought in the philosophy of science and, on the other hand, there is the natural-science and social-science research that logical positivism had sought to observe and explain. It is only logical positivism as a school of thought in the philosophy of science that has been discredited, not the natural-science and social-science research that this school of thought had sought to observe and explain. The second qualification is that the discrediting of logical positivism as a school of thought in the philosophy of science also does not discredit any research in the IS discipline—including what has been labeled positivist IS research—because positivist IS research has not followed or implemented the tenets of logical positivism as a school of thought in the philosophy of science; hence, the discrediting of logical positivism has no bearing on the merits of positivist IS research. Thus, in taking the position that logical positivism as a school of thought in the philosophy of science has been discredited, I am not taking the position that positivist IS research has been likewise discredited.

How did logical positivism (the positivism of the Vienna Circle) come to be discredited as a school of thought in the philosophy of science? Bernstein wrote the following in *The Restructuring of Social and Political Theory* (1976, p. 207):

There is not a single major thesis advanced by either nineteenth-century Positivists or the Vienna Circle that has not been devastatingly criticized when measured by the Positivists' own standards for philosophical argument. The original formulations of the analytic-synthetic dichotomy and the verifiability criterion of meaning have been abandoned. It has been effectively shown that the Positivists' understanding of the natural sciences and the formal disciplines is grossly oversimplified. Whatever one's final judgment about the current disputes in the post-empiricist philosophy and history of science ... there is rational agreement about the inadequacy of the original Positivist understanding of science, knowledge, and meaning.

Rosenberg similarly writes the following about logical positivism (2002, pp. 27-28):

For all its neatness and rigor, the Positivists' program fell apart in the immediate postwar period. It did not come unstuck through the attacks of its opponents and detractors, disgruntled metaphysicians who thought that philosophy did provide an alternative route to real knowledge that science could not reveal. The Positivists' program came apart at the hands of the Positivists themselves and of their students. They found that its fundamental distinctions could not be justified by Positivism's own standards of adequacy.

This commentary regards the demise of logical positivism as a school of thought in the philosophy of science to be a fact. Indeed, according to the Encyclopedia Britannica (2015): “Interest in logical positivism began to wane in the 1950s, and by 1970 it had ceased to exist as a distinct philosophical movement.” It is important to note that S&T acknowledge but underplay the demise of logical positivism—indeed, they refer to its “alleged demise” (p. 602). In their argument, they return to logical positivism as the yardstick against which the characterizations of positivism by IS researchers should be judged.

Second, did the IS researchers characterizing positivism themselves say that they were following logical positivism? It is to their credit, given that logical positivism as a school of thought in the philosophy of science had fallen into disrepute, that none of the IS researchers characterizing positivism said that they were following logical positivism. Rather, in their papers, they characterized positivism in their own ways, and their usage of this term (positivism) was consistent with their own characterizations.

I now review characterizations of positivism offered in what S&T call “the most influential papers on IS positivism.” They identify six such papers. I cover those five papers authored by IS researchers. It is important to cover all five because they are what S&T consider to be the “Influential IS Legends of Positivism.”

Orlikowski and Baroudi (1991, p. 5) characterized positivism as follows:

Positivist studies are premised on the existence of a priori fixed relationships within phenomena which are typically investigated with structured instrumentation. Such studies serve primarily to test theory, in an attempt to increase predictive understanding of

phenomena. The criteria we adopted in classifying studies as positivist were evidence of formal propositions, quantifiable measures of variables, hypotheses testing, and the drawing of inferences about a phenomenon from the sample to a stated population.

Klein and Myers (1999, p. 69) based their own characterization of “positivist” on Orlikowski and Baroudi:

Generally speaking, IS research can be classified as positivist if there is evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from a representative sample to a stated population (Orlikowski and Baroudi 1991). Examples of a positivist approach to qualitative research include Yin’s (1994) and Benbasat et al.’s (1987) work on case study research.

Walsham (1995, p. 383), in his characterization of positivism, also relied on Orlikowski and Baroudi:

The criteria used by Orlikowski and Baroudi (1991) to distinguish between positivist and interpretive articles form a good starting point for the discussion here. Positivist articles were identified on the basis of evidence of formal propositions, quantifiable measures of variables, the use of hypothesis testing, and the drawing of inferences about phenomena from a sample to a stated population.

Lee (1991, pp. 343-344) noted the philosophical origins of positivism (“the positivist approach to organizational research puts into practice a view of science that has its origins in a school of thought within the philosophy of science known as ‘logical positivism’ or ‘logical empiricism’”), but then explicitly advanced his own characterization of the positivist approach:

In a nutshell, the positivist approach involves the manipulation of theoretical propositions using the rules of formal logic and the rules of hypothetico-deductive logic, so that the theoretical propositions satisfy the four requirements of falsifiability, logical consistency, relative explanatory power, and survival. Immediately following are the details to this outline.

Dubé and Paré (2003, p. 604) offered their own criteria for classifying a case article as positivist:

Specifically, the primary criteria for classifying a theoretically grounded case article as positivist were the following:

- *adoption of a positivist perspective clearly stated in the study*
- *evidence of formal research hypotheses or propositions*
- *evidence of qualitative and/or quantitative measures of variables or constructs*
- *explicit purpose of theory testing or theory building*
- *concern for validity and reliability issues as used in the natural sciences*

In none of the five papers did the authors state that they were defining positivism in the way that logical positivism in the philosophy of science did. Rather, each paper was explicit in providing its own definition. To be critical of the papers’ authors for not hewing to and applying logical positivist conceptions would therefore be misplaced.

A point worth emphasizing is the absence of any mention, in the above five papers, of the tenets of logical positivism as a school of thought in the philosophy of science. In particular, S&T write (p. 601): “the most well-known theses of LP [are] ... (1) analytic/synthetic knowledge, and (2) a verifiable [*sic*] criterion of meaning”; however, neither of these two most well-known theses of logical positivism (the analytic-synthetic dichotomy and the verifiability criterion of meaning) is mentioned in any of the five papers. Because of this, what is considered positivism in IS research is different from logical positivism as a school of thought in the philosophy of science. The five papers offered their own characterizations of positivism independently of what logical positivism in philosophy characterized as positivist. In other words, there is no evidence that the IS researchers who authored the five papers stated that they were adopting logical positivism.

Another point worth making explicit is that none of the five papers above rejected or otherwise denigrated positivism. All were accepting of the value of positivist research. In fact, two of the papers even explained how a positivist methodology can be productively followed (where Lee, 1991, showed how positivist and interpretive methodologies can be compatible in the same study, and Dubé and Paré, 2003, delineated how a positivist methodology can be followed in a qualitative case study). A related point is that, in these five papers, there is no hint of a civil war between positivist and nonpositivist forms of research in IS; in this commentary, no stand is taken or needs to be taken on the relative merits of positivist and nonpositivist forms of IS research.

Now, how is it possible that the IS researchers who authored the five papers still called a given perspective “positivism,” but did not adopt the tenets of logical positivism? The hermeneutics of Ricoeur (1973) suggest an answer. In a face-to-face discourse, a speaker can engage in a back-and-forth with a listener in order to ensure that the latter understands what the former means. However, “with written discourse,” the two parties (now, the author and the reader) are no longer co-present, and as a result, “the author’s intention and the meaning of the text cease to coincide” (p. 95). Ricoeur elaborates (p. 95):

...the text’s career escapes the finite horizon of its author. What the text says now matters more than what the author meant to say, and every exegesis [by a reader] unfolds its procedures within the circumference of a meaning that has broken its moorings to the psychology of its author.

In other words, the authors of the term “logical positivism” may very well have meant certain things by it (for Ricoeur, this is “the author’s intention”), but then, what “logical positivism” or simply “positivism” came to mean for its readers was different from that which the authors intended (for Ricoeur, this is “every exegesis [by a reader] unfolds its procedures within the circumference of a meaning that has broken its moorings to the psychology of its author”). Then, these readers in turn become authors with their own intentions and meanings behind the term “positivism”; thus, what this term comes to mean for new readers can be different from what its authors intended. Over several generations of scholarship, therefore, the original intentions or meaning behind “logical positivism” may be lost. Therefore, it becomes possible for the authors of the five papers quoted above to characterize “positivism” without any mention of its two original, most well-known theses or, indeed, any of its theses. And it also becomes possible for the authors of the five papers to refer to their perspective not by its original name, “logical positivism,” but by a different name, “positivism.”

Third, assuming that the IS researchers characterizing positivism are reasonable people, what did they have in mind when characterizing positivism in the ways that they did? According to one interpretation, IS researchers have not had as their main purpose the endeavor to apply any existing philosophy (such as logical positivism); instead, as their main purpose, IS researchers have simply endeavored to do and publish IS research. In the 1980s, the ability of qualitative and interpretive IS researchers to publish their research was largely overshadowed and often oppressed by another form of research, which they labeled “positivist.” It is important to interpret IS researchers in this context. It was in this context that much of what IS researchers considered to be positivist

was largely shaped—and it was apparently shaped more so by what IS researchers observed to be going on in IS research than, if at all, in the philosophy of science. This explains the characterizations of positivism as involving stable independent and dependent variables, survey research, statistics, generalizability, and so forth. These were characterizations of a stream of research in IS that IS researchers chose to name “positivist.”

According to this interpretation, these IS researchers were shaping a conception of positivism based on a reading of what was going on in IS research rather than a reading or misreading of logical positivism in the philosophy of science. In giving the dominant stream of IS research a name (positivism) and thereby designating it as only one form of research, these IS researchers then opened the door to other forms of research, such as interpretive research (and, much later, design science research). In other words, just as some philosophers of science had chosen to characterize some features of natural-science and social-science research as positivist, IS researchers have chosen to characterize some features of IS research as positivist. There is no reason that the IS characterizations of positivism need to be identical to the philosophical characterizations of positivism.

Fourth, what difference does Siponen and Tsohou’s discussion on logical positivism actually make to the future of IS research? S&T state: “Realizing that certain influential, taken-for-granted assumptions underlying IS research are unwarranted, could have ground-breaking implications for future IS research.” In S&T’s view, for certain assumptions underlying IS research to be warranted would mean that they must be aligned with logical positivism as a school of thought in the philosophy of science, but given its discredited status, any such groundbreaking implications would not be constructive. In other words, because of the invalidity of S&T’s conclusion (which is that what certain IS researchers have characterized as positivist is unwarranted), it would be best for S&T’s discussion not to make a difference to the future of IS research.

What researchers do is itself a form of the social construction of reality. Positivist IS research is what positivist IS researchers do and some IS researchers (Orlikowski & Baroudi, 1991; Klein & Myers, 1999; Walsham, 1995; Lee, 1991; and Dubé & Paré, 2003) have offered accounts of this social construction being undertaken by positivist IS researchers. In the activity of the social construction of their research, these positivist IS researchers have been busy in their activities that involve such elements as independent and dependent variables, survey research, statistics, generalizability, and so forth, which is different from the activity of positing the tenets of the discredited philosophy of logical positivism and deductively applying these tenets in their research. In this regard,

S&T's discussion on logical positivism need not and should not make a difference to the future of IS research.

Assuming that S&T are reasonable people, what did they have in mind when they concluded that what certain IS researchers (in particular, Orlikowski & Baroudi, 1991; Klein & Myers, 1999; Walsham, 1995; Lee, 1991; and Dubé & Paré, 2003) have characterized as positivist is unwarranted? One interpretation is that S&T began with the premise that positivism had certain tenets (namely, the tenets of logical positivism as a school of thought in the philosophy of science, which include the analytic-synthetic dichotomy and the verifiability criterion of meaning). They observed that these tenets did not coincide with those in the IS researchers' characterizations of positivism; therefore, within this framework of reasoning, they rightly concluded that what these IS researchers characterized as positivist is unwarranted.

What S&T's framework excluded, however, is the possibility of the existence of any forms of positivism other than logical positivism—namely, the forms that

evolved from logical positivism in the manner suggested by Ricoeur and that were articulated by Orlikowski & Baroudi, 1991; Klein & Myers, 1999; Walsham, 1995; Lee, 1991; and Dubé & Paré, 2003. S&T's exclusion of other forms of positivism from their consideration allowed them to conclude, incorrectly, that what certain IS researchers have characterized as positivist is unwarranted.

In conclusion, it is correct that IS researchers characterizing positivism have run afoul of the tenets of logical positivism, but it is not correct that what these IS researchers have characterized as positivist is unwarranted. Logical positivism does not hold a monopoly on what positivism is. There are conceptions of positivism outside of logical positivism—for instance, legal positivism and, as discussed above, IS positivism. Positivist research, as defined by IS researchers, is very much alive in IS. IS researchers should feel free to continue to characterize positivism in ways that they consider to be useful to them.

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