EDITOR’S COMMENTS

The Rhetoric of Positivism Versus Interpretivism: A Personal View

Many years ago I attended a conference on interpretive research in information systems. My goal was to learn more about interpretive research. In my Ph.D. education, I had studied primarily positivist research methods—for example, experiments, surveys, and field studies. I knew little, however, about interpretive methods. I hoped to improve my knowledge of interpretive methods with a view to using them in due course in my research work.

A plenary session at the conference was devoted to a panel discussion on improving the acceptance of interpretive methods within the information systems discipline. During the session, a number of speakers criticized positivist research harshly. Many members in the audience also took up the cudgel to denigrate positivist research. If any other positivistic researchers were present at the session beside me, like me they were cowed. None of us dared to rise and speak in defence of positivism.

Subsequently, I came to understand better the feelings of frustration and disaffection that many early interpretive researchers in the information systems discipline experienced when they attempted to publish their work. They felt that often their research was evaluated improperly and treated unfairly. They contended that colleagues who lacked knowledge of interpretive research methods controlled most of the journals. As a result, their work was evaluated using criteria attuned to positivism rather than interpretivism.

My most-vivid memory of the panel session, however, was my surprise at the way positivism was being characterized by my colleagues in the session. I was a positivist, but I subscribed to none of the assumptions that my colleagues in the panel session alleged I made when I undertook my research. I was baffled. I was unable to understand the basis for the rhetoric, nor at the time of the panel session the basis for the distress that many of my interpretive colleagues so clearly felt.

Subsequent to the panel session, I have read a number of books and articles about interpretive research and, in particular, the alleged differences between positivist and interpretive research. I am concerned that the alleged differences continue to be characterized in particular ways. Indeed, they have become so deeply ingrained in our discourse about research methods that, for the most part, they are taken for granted. They have become folklore. For me, however, the discourse remains unsatisfactory because basically I believe it is founded on false assumptions and tenuous arguments. If indeed differences exist between positivist and interpretive research, I believe they are not those canvassed in the typical rhetoric. Rather, other factors are at play.

1I am indebted to Jörgen Sandberg for helpful discussions that motivated me to write these editorial comments. I am grateful, also, to Gordon Davis, Cynthia Beath, and the Senior Editors of the MIS Quarterly for comments on an earlier version of these editorial comments. Of course, they are in no way responsible for nor do they necessarily agree with my comments. I stress, also, that the views expressed in these editorial comments are personal views and not official views of the MIS Quarterly.
In this editorial, I commit sacrilege. I tread on the hollowed ground of positivist versus interpretive rhetoric with muddy boots. One of my goals is to debunk much of the rhetoric. In this regard, I am not seeking to be a curmudgeon. Rather, I hope to motivate reflection on whether the current rhetoric has substance or whether it is built on straw-man arguments. I believe it is time we revisit the key assumptions and arguments that underlie the rhetoric and assess their merit. I contend that many are vacuous and that they lead us down unhelpful paths. I believe more-productive paths exist that we can follow. Clearly, both positivist and interpretive approaches to research have substantial value. Moreover, contrary to the current rhetoric, I believe deep similarities rather than deep differences underlie them. I hope this editorial will inspire both positivist and interpretive colleagues to respond—to engage with me and with each other to either support my arguments or to refute them.

Alleged Differences between Positivism and Interpretivism

My colleague, Jörgen Sandberg, is a fine interpretive researcher in the management discipline. He teaches courses on research methods within the University of Queensland’s business school. In his classes, Jörgen uses the following table to characterize the differences between positivist and interpretive research approaches.

<table>
<thead>
<tr>
<th>Metatheoretical Assumptions About</th>
<th>Positivism</th>
<th>Interpretivism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology</strong></td>
<td>Person (researcher) and reality are separate.</td>
<td>Person (researcher) and reality are inseparable (life-world).</td>
</tr>
<tr>
<td><strong>Epistemology</strong></td>
<td>Objective reality exists beyond the human mind.</td>
<td>Knowledge of the world is intentionally constituted through a person’s lived experience.</td>
</tr>
<tr>
<td><strong>Research Object</strong></td>
<td>Research object has inherent qualities that exist independently of the researcher.</td>
<td>Research object is interpreted in light of meaning structure of person’s (researcher’s) lived experience.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Statistics, content analysis.</td>
<td>Hermeneutics, phenomenology, etc.</td>
</tr>
<tr>
<td><strong>Theory of Truth</strong></td>
<td>Correspondence theory of truth: one-to-one mapping between research statements and reality.</td>
<td>Truth as intentional fulfillment: interpretations of research object match lived experience of object.</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>Certainty: data truly measures reality.</td>
<td>Defensible knowledge claims.</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>Replicability: research results can be reproduced.</td>
<td>Interpretive awareness: researchers recognize and address implications of their subjectivity.</td>
</tr>
</tbody>
</table>

Source: Class notes provided by Jörgen Sandberg.
One of Jörgen’s objectives is to assist students in acquiring knowledge of a set of criteria that they can use to evaluate the quality of interpretive research. Indeed, the nature of these criteria has been an enduring concern for him. Like me, he rejects the arguments of extreme postmodernists or relativists—namely, all knowledge is contingent on a specific context, and thus evaluative criteria have no meaning. Like Searle\(^2\) and Klein and Myers\(^3\), for example, Jörgen believes that the quality of interpretive research matters. Over many years, he has worked hard to articulate the criteria that might be used to evaluate various types of interpretive research.

No doubt, the alleged differences between positivist and interpretive research approaches can be characterized in a number of ways. Nonetheless, I believe Jörgen’s characterization would be accepted widely. For my purposes, it suffices to illustrate my difficulties with the rhetoric. In this light, in the paragraphs below I examine how positivism and interpretivism supposedly differ in terms of their various metatheoretical assumptions.

**Metatheoretical Assumption 1: Ontology**

Positivists supposedly believe that reality is separate from the individual who observes it. They apparently consider subject (the researcher) and object (the phenomena in the world that are their focus) to be two separate, independent things. In short, positivistic ontology is alleged to be dualistic in nature.

On the other hand, interpretivists believe that reality and the individual who observes it cannot be separated. Often, they root their arguments in Husserl’s notion of life-world\(^4\)—in a nutshell, that our perceptions about the world are inextricably bound to a stream of experiences we have had throughout our lives. The life-world has both subjective and objective characteristics. The subjective characteristics reflect our perceptions about the meaning of some world. The objective characteristics reflect that we constantly negotiate this meaning with others with whom we interact. In other words, it is objective in the sense that it reflects an intersubjective reality.

For two reasons, I find the alleged differences between positivism and interpretivism in relation to ontology to be vacuous. First, surely some kind of reality exists beyond our perceptions of it! In my September 2003 editorial comments, I gave the example of the “reality” that would occur if one were to step off the ledge outside the window of my office (given that my office is on the third floor of my building). I’ve yet to find a colleague who calls herself/himself an interpretivist willing to undertake the experiment to show me that the outcome I’m confident would occur is a perception rather than a reality! Of course, how well we can perceive reality, how well we interpret reality, and what actions we take in light of our perceptions and interpretations are other matters. In this regard, I suspect it is easier to obtain agreement about certain kinds of phenomena (e.g., what happens if we step off the ledge on the third floor of a building) versus other kinds of phenomena (e.g., what happens when several individuals interact with each other, or what some person believes when she or he observes some event).


Second, even if this difference between positivists and interpretivists were true, I contend that it makes no difference to the fundamental goals they have for their research. Both are concerned with trying to enhance their understanding of the world (whatever the world might be). Both also appreciate that they bring biases and prejudices to the research they undertake and that the research methods they use have strengths and weaknesses. Both also seek to improve our shared understanding of the world. Of course, positivists and interpretivists use a different genre to report their research. The latter try to make their personal biases, assumptions, etc., explicit when they describe their research. The former pay little attention to these matters when they describe their research.

Metatheoretical Assumption 2: Epistemology

Positivists supposedly try to build knowledge of a reality that exists beyond the human mind. They apparently believe that human experience of the world reflects an objective, independent reality and that this reality provides the foundation for human knowledge.

On the other hand, interpretivists recognize that the knowledge they build reflects their particular goals, culture, experience, history, and so on. They intentionally constitute knowledge. In other words, they try to make sense of the world, recognizing their sense-making activities occur within the framework of their life-worlds and the particular goals they have for their work. Knowledge is built through social construction of the world.

I know many researchers who claim to be positivists. As best I can tell, all recognize the inherent limitations of the knowledge they seek to build. They understand fully that their culture, experience, history, and so on impact the research work they undertake and thus the results of their work. This recognition is not a privileged insight of interpretive researchers. For instance, witness Kuhn’s account of how natural scientists have built, modified, and rejected theories about physical and biological phenomena. Alternatively, read a few issues of publications like Nature, Science, or Scientific American to see quickly that positivist researchers are acutely aware of the ephemeral nature of the knowledge they construct. In my view, many recognize the temporary nature of and limitations of the knowledge they build more keenly than interpretive researchers.

In any event, it seems to me that irrespective of whether researchers believe in an objective reality that exists beyond the human mind or a socially constructed reality, all accept that the artifacts they build to understand the world (theories, frameworks, constructs, etc.) are socially constructed. Even those who believe in an objective reality understand fully that no foolproof way of knowing this reality exists. Rather, research is a continuous journey to find improved ways to understand this reality. The history of science has shown that little if any knowledge is sacrosanct. All knowledge ultimately can be undermined and discarded.

Metatheoretical Assumption 3: Research Object

Positivists supposedly believe that the objects they research have qualities that exist independent of the researcher. On the other hand, interpretivists believe that the qualities they ascribe to the objects they research are socially constructed—they are products of their life-worlds.

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I suspect that most, if not all, positivists believe the objects they research have inherent qualities in the sense they believe some kind of independent reality exists. At the same time, however, positivists accept they can only know this reality through the artifacts they have created—theories, frameworks, constructs, and so on. Moreover, at least since the time that Werner Heisenberg articulated his Uncertainty Principle, positivists have understood that they affect the qualities of a research object any time they try to measure them. In other words, the research object and the researcher cannot be independent. Thus, the “true” inherent qualities of the research object are inaccessible.

The very nature of interpretivist research means that researchers themselves in effect become measurement instruments. The researchers interpret (measure) the phenomena they observe. This sense-making activity clearly is affected by and affects their life-worlds. In this regard, interpretive researchers understand that their research actions affect the research objects they are studying. They also understand that the research objects in turn affect them. The researcher and the research object are interdependent.

In short, I contend that both positivists and interpretivists understand that they, the research processes they use, and the objects they research are inextricably related.

**Metatheoretical Assumption 4: Research Method**

Positivists tend to use laboratory experiments, field experiments, and surveys as their preferred research methods. They seek large amounts of empirical data that they can analyze statistically to detect underlying regularities. Interpretivists tend to use case studies, ethnographic studies, phenomenographic studies, and ethnomethodological studies as their preferred research methods.

Even with research methods, I contend the distinction between positivism and interpretivism is not clear-cut. For instance, a well-established literature now exists that addresses how case studies—historically, an interpretive research method—ought to be conducted within a positivist tradition. Similarly, an ethnographer might collect large amounts of data within an interpretivist tradition yet still use inferential statistics (typically, a positivistic method of data analysis) to try to determine whether selected behaviors (not all behaviors) of some group manifest certain kinds of regularities.

As a final example of how research methods do not produce a clear signal of whether someone is a positivist or an interpretive researcher, consider protocol analysis. Perhaps ironically, researchers who most likely would be classified as positivists developed protocol analysis as a research method. In many ways, however, protocol studies reflect an interpretive research tradition. The focus with protocol studies is on obtaining thick, rich data to obtain insights about human cognitive processes. Moreover, the data collected from protocol studies is often analyzed from an interpretive perspective as well as a positive perspective.

**Metatheoretical Assumption 5: Truth**

Positivists supposedly believe that a statement made by a researcher is true when it has a one-to-one mapping to the reality that exists beyond the human mind (a correspondence theory of truth).

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On the other hand, interpretivists subscribe to a notion of truth whereby a researcher’s initial interpretation of some phenomenon conforms to the meaning given to the phenomenon through the researcher’s lived experience of it. For example, as an interpretive researcher, I might be concerned with the ways in which systems analysts use conceptual models to understand user perceptions of an application domain. At the outset, I must have some conception (or pre-understanding) of this phenomenon. Otherwise, I have no basis for making sense of the phenomenon (I cannot start with a tabula rasa). As I interview analysts, I evaluate whether my preconceptions match my understanding (lived experience) of the analyst accounts. To the extent that incongruencies exist, I refine my interpretation iteratively until it matches my lived experience of the analyst accounts (the hermeneutic circle).

It should be apparent from my arguments above that I believe few positivists, if any, would subscribe to the correspondence theory of truth. Moreover, even if they did, I suspect that most, if not all, would recognize that it is useless as a basis for evaluating their research. I contend that positivist researchers fully understand that we have no way of knowing the world as it really is, at least for the moment. In this light, pragmatically they can place little value on a theory of truth that relies on the level of correspondence between research statements they make and an unknowable thing.

Perhaps I have a jaundiced view of the interpretivist notions of truth as intentional fulfilment, but to me it seems little different from a positivist’s goal of building a theory and testing it in some way. As a positivist, I contend that the artifacts I build or use to try to understand the world are my preconceptions of the world. I fully appreciate that these artifacts are fallible. Otherwise, why would I bother to test them? The whole point to my having “lived experience” of the data I gather is to evaluate my pre-understandings and to refine them iteratively until they match my experience of my data.

Metatheoretical Assumption 6: Validity

Positivists supposedly strive to collect data that are true measures of reality. Once again, the idea is that a one-to-one mapping exists between the measures and the phenomena that are the focus of the research. To the extent this mapping holds, the data collected by positivist researchers are deemed valid. Research methodologists within the positivist tradition have articulated different types of validity that need to be considered—for example, construct validity, internal validity, external validity, and statistical conclusion validity.

On the other hand, interpretivists are concerned that their claims about the knowledge they have acquired via their research are defensible. The idea is that colleagues should be able to examine the evidence the researcher has collected, the research process that she or he has used, the context in which she or he has conducted the research, and perhaps some aspects of the researcher’s life-world, and conclude that the claims made by the researcher are reasonable. Colleagues do not necessarily have to agree with the claims, but they should be willing to concede that the researcher’s conclusions are plausible, at least from the perspective of the researcher herself or himself. Research methodologists within the interpretive tradition propose criteria for evaluating knowledge claims like credibility, transferability, dependability, and confirmability.

In my view, there are no differences between positivist notions of validity and interpretivist notions of validity. For a start, as a positivist I reject the notion that I try to measure reality in my research. I have no way of knowing reality, so how can I know whether my measure of reality, whatever reality might be, is valid? Moreover, I have a large stockpile of science to remind me that it appears I cannot measure reality without affecting what I am trying to measure. The best I can do, therefore, is build constructs that I find useful in understanding the world and see whether colleagues will agree with me that my constructs
in some sense are useful. In this regard, I am happy to use interpretivist rhetoric to describe my goal—specifically, even as a positivist I am trying to convince my colleagues that my knowledge claims are defensible. I am seeking shared understanding of the world among my research participants and my colleagues.7

The reason why I believe we see different notions of validity espoused is that as researchers we find it useful to employ different lenses to evaluate the defensibility of knowledge generated via different research methods. In other words, different notions of validity are more usefully applied to evaluate the outcomes (knowledge) generated via different research methods. Indeed, some notions of validity are clearly tied to particular research methods or forms of data analysis. For instance, statistical conclusion validity applies only when I am collecting large amounts of data from a sample or a population and wanting to generalize from the findings I obtain.

As another example, assume that I want to undertake a large-scale survey of some population as part of my research. I know it is important to assess the construct validity of my survey instrument. In this regard, I seek to achieve two goals. First, the items on the instrument somehow need to reflect the meaning I ascribe to the construct that is my concern. Second, I need to try to ensure that the items on the instrument communicate my meaning relating to the construct to potential respondents. Whether the construct is real is irrelevant or at best ancillary to my concern about whether I can somehow create shared meaning with potential respondents.

In a similar vein, as an interpretivist researcher I have these two goals if, say, I interview someone. Presumably, I am seeking to find out someone’s views or opinions or perceptions of some construct. In this light, it is important that I take steps to try to ensure that the person and I share meaning—that they understand me, and just as important that I understand them.

**Metatheoretical Assumption 7: Reliability**

Positivists believe that research is reliable if results can be replicated by the researcher herself/himself and other researchers. Lack of reliability usually is attributed to factors such as researcher biases, inconsistencies in the research processes used, differences in the context in which the research was conducted, and measurement errors.

Interpretivists believe that research is reliable if researchers can demonstrate interpretive awareness. In other words, in the conduct of their research, interpretive researchers need to show they have acknowledged the subjectivity they bring to the research process and that they have taken steps to address the implications of their subjectivity. For instance, interpretive researchers might purposefully try to withhold their preconceptions when seeking to understand some phenomena, remain open throughout the research process to alternative explanations of phenomena they observe, focus first on description and then on explanation, and constantly check the plausibility of alternative interpretations of the phenomena they observe.8

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7 Of course, even if some level of shared understanding is achieved, others might not agree with how I understand the world. Nonetheless, in the context of my research results, I hope that others’ understanding of my understanding of the phenomena that are my focus will help them form their own conclusions about the phenomena (conclusions that they find useful in some sense).

8 See, for example, Jörgen Sandberg, “How Do We Justify Knowledge Produced within Interpretive Approaches?” *Organizational Research Methods*, forthcoming.
Fundamentally, I see little difference in positivist and interpretivist notions of reliability. Both groups of researches are concerned ultimately with idea of replicability. In the case of positivists, the strategies and methods for achieving replicability are more straightforward because the research methods they tend to use are well-defined and routinized. In the case of interpretivists, replicability is a more-difficult goal to achieve because (1) the research methods they tend to use are less well-defined and (2) the subjective nature of interpretation is acknowledged explicitly. For these reasons, interpretivists try to lay out clearly their research methods and the ways in which they have achieved certain kinds of interpretations. Why would they take these steps unless they were seeking agreement from their colleagues that in some sense their research actions and interpretations are reasonable?

What are the Real Differences between Positivism and Interpretivism?

I have argued above that many, if not all, of the alleged metatheoretical differences between positivism and interpretivism are spurious. In the case of positivism, I contend that the metatheoretical assumptions that are supposedly made by its adherents are outdated and misplaced ideas. Indeed, I believe positivists would dismiss some as ludicrous.

Do any real differences exist, therefore, between positivism and interpretivism? I believe the differences lie more in the choice of research methods rather than any substantive differences at a metatheoretical level. In this regard, researchers who are labeled as positivists tend to use certain kinds of research methods in their work—experiments, surveys, and field studies. Interpretivists, on the other hand, tend to use other kinds of research methods in their work—case studies, ethnographic studies, phenomenographic studies, and ethnomethodological studies. Rather than continuing the rhetoric of positivism versus interpretivism, I believe a more-productive and more-interesting discourse, at least for a time, would relate to trying to understand better why different researchers choose different research methods. I suspect a variety of factors are at play—for example, the types of training provided to researchers, social pressures associated with advisers and colleagues, and preferences for obtaining certain types of insights during the conduct of research.

Clearly, the specific ways in which we evaluate the quality of research need to be adapted depending on the research methods we use. In the case of more-traditional research methods such as experiments, the criteria are well-developed—for example, external validity, internal validity, construct validity, statistical conclusion validity, and reliability. The criteria for evaluating a number of newer research methods like case studies and ethnographies, however, are still evolving (although good progress has now been made on the criteria to be used). Whatever the research method, our common concern is to be able to justify the knowledge claims we make whenever we use it.

Why Does the Rhetoric Persist?

For many years, I have wondered why the rhetoric of positivism versus interpretivism has persisted. Of course, one possible reason is that substantive, deep differences between positivism and interpretivism do, in fact, exist (in other words, the views I have expressed above are completely misguided!). For some time now, however, I have discussed and debated my views with a number of colleagues who are fine interpretive researchers. On each occasion I have come away having concluded that the differences between positivism and interpretivism, if indeed any exist, are shallow rather than deep.

I wonder, also, why positivists have not been more vociferous in debunking the allegations made by some interpretive researchers about the assumptions that positivists supposedly make when they do their
research (pointing out that in fact the emperor is wearing no clothes!). If my own experience is any indication, I suspect that one major reason has been the difficulties positivists have in understanding the arcane language used by some interpretivists—language that is rooted in the works of certain philosophers. If in the first place one does not understand clearly the alleged differences between positivism and interpretivism, it is easy to understand why one engages in any debunking exercise with some fear and trepidation. In this regard, I believe it would help immensely if we eschewed obfuscation in the rhetoric on positivism versus interpretivism—if we used simple language rather than arcane language when we engaged in discourse.

I remain concerned that the enduring rhetoric reflects another problem. Specifically, I hope it does not mean that interpretive researchers still feel they are experiencing bias and prejudice when they submit their work for publication consideration. All of us are affected by biases and prejudices of some sort when we evaluate another colleague’s work. We cannot avoid them. To the extent we are reflexive researchers, however, hopefully we have developed self-awareness of some of our biases and prejudices. We then can then take steps to mitigate their effects.

**Positivism Versus Interpretivism: Some Conclusions**

In my view, it is time to assign the rhetoric of positivism versus interpretivism to the scrap heap. It no longer serves a useful purpose. On the contrary, it promotes unhelpful schisms among scholars. It also leads to analyses that in my view are fundamentally flawed and vacuous. Moreover, it promotes prejudice instead of alleviating it when we engage in an evaluation of a piece of research.

I believe that arguments that ascribe the metatheoretical assumptions listed in the table above to positivists are spurious. Some are even nonsense. They reflect a naïve, archaic view of positivism. Moreover, even if the alleged differences are true, I believe they have little impact on how excellent researchers conduct their research. Rather, excellent researchers simply choose a research method that fits their purposes and get on with the business of doing their research. They understand both explicitly and implicitly the criteria that their colleagues will use to evaluate their research. They also are reflexive researchers.

As researchers, our goal is to improve our knowledge of some phenomena. Different research methods and different data-analysis methods have different strengths and weaknesses. They provide us with different types of knowledge about the phenomena that are our focus. Moreover, different research methods have different strengths and weaknesses depending on our existing knowledge about the phenomena. If we are to be consummate researchers, we need to have a deep understanding of the strengths and weaknesses of different research methods and data-analysis techniques. We also need to have a deep understanding of the different sorts of knowledge we obtain using different research methods. In my view, obtaining this understanding is inhibited rather than facilitated by the current but longstanding positivist versus interpretive rhetoric.

I am pleased that some interpretive researchers are beginning to question the validity of the rhetoric of positivism versus interpretivism. For instance, in their discussion of one type of hermeneutics, Alvesson and Sköldberg comment:

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Fuchs and Wingen...(regard) Kuhn’s paradigms as “forms of life” within natural science....Rather than the study of an objective reality by a researcher/subject, natural science then becomes a collection of ways to live their understanding for a community of researchers. Researchers—be they natural or cultural scientists—are always members of a particular, historically and culturally conditioned, ever-changing “lifeworld,” and their practices are always already laden with theory and temporality....This also dissolves the boundary between natural and cultural science, since understanding as a form of life becomes basic to them both....

In other words, we can conceive Kuhnian paradigms (and presumably the normal science that ensues) not as truthful, one-to-one descriptions of some objective reality but as useful foundations for discourse that we employ for a time to try to improve our understanding of the world. As a positivist, I am surprised that Kuhn’s ideas could be interpreted in any other way. The whole notion of scientific revolutions is that paradigms eventually are torn down and replaced with new forms of understanding of the world. Moreover, Kuhn clearly recognizes the impact of factors like history, culture, and politics on the ways in which paradigms emerge and normal science is conducted. I believe that most positivists, if not all, have always recognized Kuhn’s paradigms as “forms of life,” although of course they have not engaged in arcane discussions about life-worlds.

Historically, the rhetoric of positivism versus interpretivism may have been useful as a way of laying the foundations for change—of unseating the positivist hegemony and allowing newer, interpretive forms of research to grow and prosper. From this perspective, the rhetoric has been successful. We now see information systems journals publishing a variety of research that follows both positivist and interpretive precepts.

For my part, however, I no longer want to be labeled as a positivist researcher or an interpretive researcher. It is time for us to move beyond labels and to see the underlying unity in what we are trying to achieve via our research methods. The commonalities in my view are compelling and paramount. We ought to celebrate them because they underpin the value of our role as scholars. The differences, on the other hand, are ancillary. We should understand them, but they should not divide us. The challenge for us now is to rethink and develop a new rhetoric so we come to a deeper understanding of the meta-theoretical assumptions that underlie our research.

Ron Weber
Editor-in-Chief
Ron.Weber@infotech.monash.edu.au