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Debate Section Editorial Note: Is Information Systems a Science?

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1 Introduction

In 2014, I wrote a brief editorial note for the inaugural *Communications of the Association for Information Systems (CAIS)* debate section that Nik R. Hassan kicked off by asking whether a crisis about the IS discipline's value exists and, if so, what kind of crisis, and how we can maintain any value IS research. The debate tapped into the ongoing discussion of what we might term IS discipline's identity crisis and whether it has a right to exist at all given that the schools that we practice our discipline in rarely carry the IS discipline's name, occasionally change names, and do not always recognize the discipline in our Faculties and Colleges to the extent we would like. This phenomenon will probably continue to exist, especially now since the concepts of digitalization and digital transformation have come to take center stage in the IS community. However, beyond the wave of the "digital" as a concept, deeper lying reasons why members of our community regularly question what information systems as a scholarly discipline concerns might exist.

In this debate section, now four years later, Neil McBride (affiliated with the Centre for Computing and Social Responsibility at De Montfort University in Leicester in the United Kingdom) asks: "is information systems a science?"

Do we reside in what Kuhn would term a "scientific revolution" or do we need one? Have we in the words of Kuhn ever reached the stage of normal science, and, if so, what are the norms of IS discipline if they exist? Do we have a shared understanding or at least a dominant paradigm as to what the discipline is? Are we at the beginning or in the middle of (recognizing) a crisis and emerging anomalies of IS research? Or has our discipline always contained anomalies? Are members of the IS community pushing for a revolution, a paradigm shift to (re)construct the discipline from new or different fundamentals as Kuhn would put it when he argued that, in a scientific revolution, the previous norm is neither compatible nor commensurable with what is accepted and valid after?

All these questions came to mind when I first read McBride's paper. He postulates that some members of the community have falsely compared IS discipline to the physical and biological sciences and, in challenging this position, puts forward that such grounding has negatively affected the discipline. He presents an alternative view of IS as a discipline in the humanities that might rather twin with the dance studies discipline. This standpoint has initiated a lively debate with five rejoinders mostly from colleagues whose work and stances McBride directly addresses in his paper.

In the first rebuttal, Steve Alter counters quite bluntly by asking whether he should care whether information systems is a science and then presents an interesting framework that applies seven images of science to explore whether IS is a science and refutes McBride's position as one that goes too far.

Jason Thatcher, Wenxi Pu, and Daniel Pienta slightly change the starting question and state "information systems IS a (social) science". They argue that the IS discipline—in contrast to McBride's premise that many wrongly compare IS to the hard sciences—has interdisciplinary roots that join various ontological, epistemological, and philosophical understandings of information technology-related phenomena. For them, this diversity represents a strength that they (in an entrepreneurial model of scholarship) would like to see extended.

In the second rebuttal, Bob Galliers and Mari-Klara Stein argue along similar lines. Placing their rejoinder firmly in a historical context (i.e., with a link back to the IFIP 8.2 conference in Manchester, UK, in 1984, which ended with a conference review titled "IS Research? A Doubtful Science" by Niels Bjørn-Andersen) of a debate that has been going on for nearly 40 years and pitching it as "a debate that refuses to die", they see the foundation of the IS discipline in systems thinking and, on this ground, argue for a careful distinction between the concept of science and that of the "scientific method" when discussing the topic. Galliers and Stein see the application of the "scientific method" as one of the great challenges of IS research. They therefore propose that, to take the debate forward, we should not focus on the discipline itself or its institutional constraints but on the practice of research work where, through "rites of passage", we actually support or do not support the "making of" creative IS researchers.

In contrast, Shirley Gregor outright refutes the position that McBride posits. She argues that the opening viewpoint of the debate proposes a course with potentially negative effects for the discipline. Grounding her stance on a perspective that alternative views about the type of science to which IS belongs exist, she holds the view that information systems is a "science of the artificial" and believes that such a perspective offers more promise for the future of IS research. Arguing that McBride makes arguments based on generalizations, she claims that he provides no compelling justification why dance studies might be an

appropriate discipline to look at when resolving (the) challenges with IS research. Instead, she puts forward medical science, which, like information systems, deals with complex situations and the interplay of humans and technology as a more adequate discipline to learn from.

Finally, Alan Dennis, Joseph Valachich, and Susan Brown close this part of the debate. Applying a broad understanding of what IS means, they strongly state that IS indeed is a science that creates knowledge in a similar form than disciplines such as psychology, sociology, economics, computer science and engineering do. Like others in the debate, although they have their own preferred methods, they argue that many different methods of inquiry and discovery are appropriate for IS research and that each has its own strengths and weaknesses. As such, they caution the discipline from limiting the range of the methods researchers apply or from believing belief that only one best path to knowledge exists.

On these rejoinders, McBride has much more to say, and he does in his own rejoinder to the commentaries. As I do not further want to spoil readers' suspense of how this counterargument develops and of how McBride stands by his position, I do not provide another resume. Readers can read themselves to discover the provisional state of the dispute. Be forewarned, the debate at times has a tendency of getting heated with Alter's rhetorical and flippant overture why he or, by way of him, we readers should care about the very question, Gregor's referral to sweeping generalizations and a lack of rigor in McBride's opening conclusions, and Dennis et al.'s use of the concept of methodical extremism in arguing against one best way. The topic definitively again hit a spot, but it is all in a good collegial spirit. We are humans and feelings are involved—so much for the objectivity of research; in other words, a real debate with all the ethos, pathos, logos, and kairos to convince the target audience. Of course, I am not an innocent bystander, though, for me, my own questions still remain: are we in a scientific revolution or do we need one? I invite readers to find their stance, develop their own opinion, and continue the debate.

About the Author

Karlheinz Kautz holds the position of Professor of Digital Business at the School of Business Information Technology and Logistics in the College of Business at RMIT University, Melbourne, Australia. His current research interests are in Digital Innovation and Transformation, Information Systems Development, and the organizational and societal impact of IT. He is the co-founder and former chairperson of the International Federation of Information Processing (IFIP) Working Group 8.6 on the Adoption, Transfer and Diffusion of IT. He has served the Information Systems (IS) community in numerous capacities as editor and board member of journals such as *Scandinavian Journal of Information Systems*, *Journal of Information Technology*, *Information Technology & People*, the *Journal of the Association of Information Systems* (AIS) and the *Communications of the AIS*.

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