

September 2025

Editorial Reflection on Generative AI and Doctoral Education in Information Systems

Iris Junglas

Noel Carroll

Varun Grover

Blake Ives

Bill Kettinger

See next page for additional authors

Follow this and additional works at: <https://aisel.aisnet.org/misqe>

Recommended Citation

Junglas, Iris; Carroll, Noel; Grover, Varun; Ives, Blake; Kettinger, Bill; Koch, Hope; Mocker, Martin; Niederman, Fred; Piccoli, Gabriele; Pigni, Federico; Proudfoot, Jeffrey; and Watson, Richard T. (2025) "Editorial Reflection on Generative AI and Doctoral Education in Information Systems," *MIS Quarterly Executive*: Vol. 24: Iss. 3, Article 2.

Available at: <https://aisel.aisnet.org/misqe/vol24/iss3/2>

This material is brought to you by the AIS Journals at AIS Electronic Library (AISeL). It has been accepted for inclusion in MIS Quarterly Executive by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Editorial Reflection on Generative AI and Doctoral Education in Information Systems

Authors

Iris Junglas, Noel Carroll, Varun Grover, Blake Ives, Bill Kettinger, Hope Koch, Martin Mocker, Fred Niederman, Gabriele Piccoli, Federico Pigni, Jeffrey Proudfoot, and Richard T. Watson

EDITORS' COMMENTS

Editorial Reflection on Generative AI and Doctoral Education in Information Systems

Gaining MIS Quarterly Executive Senior Editors' Perspectives on GenAI

Generative AI (GenAI) has entered research and teaching with unprecedented speed. For doctoral programs in information systems—and surely for all other academic disciplines—GenAI raises fundamental questions.

As editor-in-chief of *MIS Quarterly Executive*, I asked 11 of the journal's senior editors (SEs) to address these questions in 500-word essays. This editorial reflects some of their diverse perspectives on GenAI in information systems doctoral education. Their contributions, which are anonymized below, richly capture the uncertainties and controversies regarding GenAI that we all are feeling in discussions with our fellow faculty and students.

To further enrich those discussions, I have used GenAI (ChatGPT 5.0) during the qualitative analysis for this editorial to identify key areas of controversy reflected in the essays. I also relied on GenAI to shape my conclusions and to assist with copyediting. In what follows, I have not paraphrased the senior editors' contributions, so as not to distort their voices, but instead focused on grouping them into five issues, which I then condensed. My aim is not to prescribe—though several SEs did—but to spark and broaden the conversation.

1. Deciding When to Encourage Doctoral Students to Begin Using GenAI

A recurring concern was the optimal time for encouraging doctoral students to begin using GenAI as a research tool. The more pragmatic SEs see immediate adoption as inevitable: "Students will already be familiar with the technology and will use it, with or without your endorsement.

So endorse it!" "AI is already part of research practice, acknowledged or not."

One SE argues that students should use AI to build tutorials for core research concepts: "From the very first class, teach them how, and expect them, to create tutorials to help them—for instance, to learn about the history of the field, how to develop theory or how to frame a research paper."

But other SEs insist that early, uncritical use of GenAI risks undermining the very foundations of doctoral education: "Doctoral students and junior faculty need to first learn the fundamental skills necessary to wield the power of AI properly and responsibly." Another argues that "If a training academic does not have the ability to do research without AI, how can [he/she] effectively audit the results from an AI system?"

There seems to be a clear divide between pessimists who see GenAI as a potential crutch that will stunt scholarly development on one hand, and, on the other, optimists who view it as an accelerant to doctoral progress.

To my surprise, two SEs felt that GenAI could eventually dramatically accelerate doctoral progress: "By the end of the first semester ... students may be capable of something we used to expect in year three. Might doctoral programs be shrunk to three years? To two even?" Another SE concurred: "The Ph.D. should be shortened. Not because corners are being cut, but to emphasize what counts in the age of AI: critique, rigor and voice."

Others are far more cautious, with one arguing forcefully that scholarly maturity takes time: "Using AI from the start will provide doctoral students with an answer ... but [it] won't help with skill building ... and without the skill, doctoral students will not be able to judge whether the GenAI output is correct and meaningful."

As a possible compromise, one SE noted: "The skill is not avoiding AI but knowing when to trust, when to doubt and how to document the difference." Indeed, that word, trust, played a central role in several of the essays I received. It was either associated with trusting the AI and the

student's behaviors or with trusting the rigor of the product.

2. Concerns About Trusting the AI and the Student, and Ensuring Risks Are Managed Responsibly

Some SEs believe that trust has to take on new dimensions in the GenAI era. "Bias amplification, hallucinations, IP leakage and green-compute cost are not side issues but central risks," and "GenAI is neither infallible nor a substitute for genuine reasoning when pushing boundaries of doctoral research."

But another SE provides a different perspective: "What about hallucination you may say? Well, isn't that the same as measurement error? Estimate it, bound it and mitigate it."

Others question whether doctoral students have the judgment to manage AI-related risks responsibly, leading to what one SE refers to as "cognitive offloading." "Students [should] be cognitively engaged when using the tool ... rather than just responding to algorithms." That SE's concern goes deeper: "If cognitive offloading becomes the norm, AI is not just assisting your thinking—it is replacing it. Imagine having a brilliant friend take your exam and then you claiming the results as your own. ... This is performative knowledge, a facade of expertise, untethered from genuine understanding.... Blind reliance on the tool will be detrimental to the student as well as the research enterprise."

Some SEs argue that the role of the modern doctoral student must be reframed: "Ph.D. students should move from writing to orchestrating. Prose is no longer a scarce resource ... judgment is the scarce resource now," along with "Ph.D. students need to learn about the new discovery cycle based on codified knowledge."

One SE suggests that doctoral programs should "take a more progressive stance—i.e., normalizing AI use while holding students accountable for intellectual responsibility. ... The question is not whether [GenAI] should be integrated into our doctoral training but how we can do so in a more deliberate, responsible and ethical manner."

3. Ensuring Rigor, Alongside Quality and Originality

Rigor is the crux of the matter for many SEs. "Rigor must now be defined against what AI can already do." "On the one hand, we can treat GenAI as a threat to academic rigor; or on the other hand, we [can] recognize it as the new baseline tool that will redefine scholarly practice."

These perspectives imply that doctoral students are required to disclose and validate their use of AI. One SE states that "Every dissertation should require an AI methods appendix ... with a versioned prompt notebook and change log."

Another concern is that AI shortcuts may erode discovery: "How many of those insights will be missed if these fundamental research processes are automated?" Some SEs also see a risk of eroding rigor by GenAI producing unreliable or shallow outputs that students may not have the expertise to evaluate, thus potentially leading to, as one SE fumed, "the risk of flooding conferences and journals with mediocre and faulty research."

One SE who argues for a shorter program views the rigor inherent in the traditional Ph.D. education model as a roadblock rather than a strength: "The model was built on bottlenecks that no longer exist: months buried in reading lists, years spent on coding and syntax, endless rounds of draft polishing. GenAI now performs those tasks in minutes. Forcing students to slog through them in the name of 'rigor' is less about high standards than clinging to tradition."

4. Rethinking the Role of the Information Systems Faculty

As the above suggests, different SEs have quite different ideas about the role of the information systems faculty. One advocated it should focus on shared learning: "Recognize ... you are accompanying [doctoral students] on [a] journey of exploration. You are not leading them." Another suggested a faculty-as-a-mentor role, instilling enduring scholarly values: "Doctoral value lies not in beating AI, but in showing why humans still matter alongside it."

Mirroring that mentoring/guiding perspective, another SE proposes a curriculum timeline: "The first two years could combine

AI-assisted field mapping with seminars in judgment and AI-supported analysis guided by faculty mentoring. The third year could center on collaborative drafting, refined through workshops, peer feedback and professional enculturation.”

Another SE sees GenAI as a potential aid in evaluating student work: “I spend a lot of time reviewing my students’ work and then sending it back with comments to help them improve. Might we use AI as the initial reviewer to help students shape their work?”

But others stress the need for faculty to restrict and regulate AI use, at least until students are properly trained. One SE complained that “The time doctoral students save is now transferred to the supervisor checking sources.” For that reason, this SE proposes creating “safe environment exercises” and having students deliberately hit the proverbial wall as part of their doctoral program education. In these safe environments, “Students can experience (and thus recognize and internalize) that relying ... uncritically on GenAI causes issues. ... For example, letting students see that some of their key articles are from a predatory publisher and having them figure out what that means. Letting students realize they cannot answer key questions about an article (because they did not read it and certainly did not understand it) is a learning moment. They need to see the issue to believe it is an issue.”

But, though not noted in any essay, faculty committee members, even dissertation supervisors, renowned for their ability to help students develop writing skills, may be among the most threatened by, and resistant to, students’ use of GenAI tools.

5. Redefining the Purpose of Information Systems Doctoral Education

One of the most provocative statements I found across the essays was: “AI-free dissertations are the new academic malpractice.” Another SE advises: “We cannot simply double down on old definitions of rigor or originality. ... We need to articulate the enduring qualities that make doctoral work valuable.” Both these SEs are clearly asking for doctoral education to be vastly redefined.

Another SE, noting that the GenAI challenges are compounded by existing structural trends in academia, commented: “Students are getting into more and more depth about fewer topics ... and have a slender grasp of the field as a whole; and methods and precision are becoming increasingly dominant. ... Interest in applying findings seems to have largely disappeared.”

Yet another SE worries that if GenAI “continues to destabilize our traditional notion of originality, collaboration and authorship” and thus “alters our understanding of the boundaries between ideation, drafting and analysis,” then a redefinition of information systems doctoral programs is inevitable.

Research Role for Humans in the GenAI Era

Above, I have summarized the 11 senior editors’ perspectives on GenAI under five issues. In keeping with my belief that there is an important role for GenAI in research, I entered the following prompt into ChatGPT:¹ “Generative AI can aid scientific research in many ways. What areas are left for humans to do?”

Here is ChatGPT’s unedited response:

- Asking the right questions: AI can generate hypotheses, but deciding *which* questions matter (socially, ethically or scientifically) requires human insight.
- Interpreting meaning: Correlations AI finds don’t equal causation; humans must critically evaluate significance and avoid false leads.
- Ethics and responsibility: Deciding what research should (or should not) be pursued—e.g., in genetics, AI-driven drug design or dual-use technology.
- Creativity beyond patterns: Generative AI excels at recombining existing knowledge, but paradigm-shifting ideas often come from intuition, imagination or serendipity.
- Designing and conducting physical experiments: AI can suggest experiments, but humans must ensure feasibility, troubleshoot unexpected issues and validate results in real-world contexts.
- Cross-disciplinary integration: Human researchers often bring insights from

¹ I did not request references, and ChatGPT did not provide, or offer to provide, references to original sources.

culture, history or philosophy—dimensions AI doesn't naturally integrate.

- Communication and persuasion: Convincing policymakers, funders or the public of a scientific discovery requires narrative, empathy and trust—things humans still do best.
- Moral and societal framing: Deciding the broader impact of research (e.g., AI in healthcare vs. surveillance) is a deeply human responsibility.
- In short: AI is becoming a *co-pilot* in science—handling the grunt work, accelerating discovery, and even sparking ideas. But humans remain essential for curiosity, ethical guidance, interpretation, vision and credibility.

Toward Embracing GenAI in Information Systems Doctoral Education

AI is not a destination. Rather it is an evolving and uncertain journey, one that is now well underway and still accelerating. As one SE reminds us: “[GenAI] has entered our classrooms, our research workflows and our doctoral projects almost overnight. ... [It has] barged into the room, demanding a seat, upending the menu and questioning the very cutlery.” Another SE asks us to recognize that “doctoral education should train people to do what machines cannot: ask sharper questions, imagine new theories, make integrative judgments and shape lasting contributions. The rest—synthesizing literature, processing data, formatting and even producing drafts—AI can already handle or soon will.”

Some of the limitations and issues identified above will likely diminish with time, even as new ones emerge. However, all of us—students, faculty members, dissertation supervisors or journal editors—are, like it or not, already on board this AI starship that is heading toward uncertain destinations. Each of us must decide if our role is to be tugging on the brake, attempting to steer or pushing on the gas pedal; or, perhaps, the role is to remain only a passenger, holding on tightly and hoping for a soft landing. As one of our most technology forward-looking SEs, reflecting on and ultimately declining to

contribute an essay, explained: “the capabilities are outpacing me.”

Unfortunately, we do not have the luxury of letting these tools outpace our doctoral programs. Graduates of our doctoral programs will be expected to both understand and harness GenAI technology for their work—be it in research or practice. Students entering our programs will expect this too!

About the Editors

Iris Junglas

Iris Junglas (junglasia@cofc.edu) is the Noah T. Leask Distinguished Professor of Information Management and Innovation at the College of Charleston's School of Business. She is an awardee of the Fulbright (2018) and DAAD (1999, 2015) scholarship programs. Over her 25-year career, Iris has worked in both academia and at a variety of consulting firms, inside and outside the U.S. Iris is the editor-in-chief of *MIS Quarterly Executive*.

Noel Carroll

Noel Carroll (noel.carroll@universityofgalway.ie) is Associate Professor of Business Information Systems at the J.E. Cairnes School of Business & Economics, University of Galway, Ireland. He serves as the Program Director for the BSc in Business Information Systems and is a Funded Investigator with Lero, the Science Foundation Ireland Research Centre for Software. He is also a senior editor of *MIS Quarterly Executive*. With a strong focus on industry collaboration, his research explores how multinationals, small and medium-sized enterprises and startups can design and implement digital transformation strategies. His work has been widely published in leading international journals and conferences.

Varun Grover

Varun Grover (vgrover@uark.edu) is the George & Boyce Billingsley Endowed Chair and Distinguished Professor at the University of Arkansas' Walton College of Business. He has consistently been ranked among the top five researchers globally on the impacts of IT/digitalization on business and has received numerous awards. Varun has served multiple terms as senior editor of premier IS journals,

including *MIS Quarterly Executive*, and held several significant Association for Information Systems (AIS) roles, including Conference, Program and Doctoral Consortium Chair at ICIS and AMCIS conferences. He is an AIS Fellow and an AIS LEO recipient for lifetime achievement.

Blake Ives

Blake Ives (ivesb@cofc.edu) is Scholar in Residence in the Supply Chain and Information Management Department in the School of Business at the College of Charleston and C.T. Bauer Chair in Business Leadership (emeritus) at the C.T. Bauer College of Business at the University of Houston. He is a senior editor of *MIS Quarterly Executive*, past Director of Research for the Society for Information Management's Advanced Practice Council, Past President of the Association for Information Systems (AIS), holder of the AIS distinguished LEO Award for Lifelong Career Contributions and an AIS Fellow.

Bill Kettinger

Bill Kettinger (wkttngr@clemson.edu) is the W. S. Lee Distinguished Professor of Management Information Systems at Clemson University's Powers College of Business. He previously held the FedEx Chair of Excellence at the University of Memphis and was a Moore Foundation Fellow at the University of South Carolina. He teaches in MBA, Ph.D. and executive programs worldwide, including at the IMD Business School, Switzerland, Vienna University of Economics and Business, Austria, and Tecnológico de Monterrey, Mexico. A Fulbright Scholar, he has over 150 publications and is a senior editor of *MIS Quarterly Executive*.

Hope Koch

Hope Koch (hope_koch@baylor.edu) is the Godfrey Sullivan Chair and Professor of Information Systems & Business Analytics at Baylor University. Her teaching and research focus on emerging technologies, organizational adaptation and the future of business. A licensed certified public accountant with industry experience, Hope proudly serves as a senior editor of *MIS Quarterly Executive* because of its practical relevance. Her research has been published in leading business journals, including *MIS Quarterly* and the *Strategic Entrepreneurship Journal*. Her mentoring of doctoral students has

led to numerous best paper awards, many of which began as projects in her Ph.D. seminar.

Martin Mocker

Martin Mocker (martin.mock@reutlingen-university.de) is a Professor of Information Systems at ESB Business School, Reutlingen University, Germany. He is also an Academic Research Fellow at the MIT Sloan Center for Information Systems Research (CISR). He co-authored the book *Designed for Digital: How to Architect Your Business for Sustained Success*, published by MIT Press.

Fred Niederman

Fred Niederman (fred.niederman@slu.edu) is the Shaughnessy Endowed Professor in Management, Saint Louis University. His research interests include futures studies, philosophy of technology/IS, project management, and IS personnel. He takes a pluralist approach respecting various conceptualizations of IS and a pragmatic orientation emphasizing the utility of accumulated knowledge. He is an Association for Information Systems Fellow and has been editor-in-chief for *Communications of the Association for Information Systems*. Fred's papers have been downloaded more than 50,000 times. He published a monograph on Process Theory and is a member of the "circle of compadres" for the KMPG Ph.D. Project.

Gabe Piccoli

Gabriele Piccoli (gpiccoli@lsu.edu) is the Edward G. Schlieder Chair of Information Sciences and is a member of the Cultural Computing group at the Center for Computation and Technology at Louisiana State University, and an Association for Information Systems Fellow. Previously, he served as editor-in-chief of *MIS Quarterly Executive*. He is also on the faculty at the University of Pavia (Italy). Gabe's academic, teaching and consulting interests are in digital strategy and his recent research focuses on value creation and appropriation with digital resources.

Federico Pigni

Federico Pigni (federico.pigni@grenoble-em.com) is Director of Knowledge Transfer and Innovation at Grenoble Ecole de Management, France, where he is Professor of Information Systems. He previously served as Dean of Faculty,

Pedagogy and Research. He holds a Ph.D. in Management Information Systems and Supply Chain Management and graduated cum laude in Business Administration and Management. His career spans teaching and research roles in Italy (Carlo Cattaneo University, Catholic University of Milan, Università Bocconi) and a post-doctorate at France Télécom R&D. His research focuses on how innovative digital technologies drive value creation, competitiveness and new business models.

Jeffrey Proudfoot

Jeff Proudfoot (jproudfoot@bentley.edu) is Professor of Computer Information Systems at Bentley University and a research affiliate in the Cybersecurity at MIT Sloan (CAMS) center at the Massachusetts Institute of Technology. His research focuses on cybersecurity governance, compliance and board oversight of cyber risk. He has published over 50 scholarly works, many in top academic and practitioner outlets, including *MIS Quarterly* and *The Wall Street Journal*. He has also contributed to sponsored projects funded by the U.S. Department of Homeland Security, National Science Foundation, and industry partners such as Google and Boston Consulting Group.

Richard T. Watson

Richard (Rick) Watson (rwatson@terry.uga.edu) is the University of Georgia's Regents Professor and J. Rex Fuqua Distinguished Chair for Internet Strategy Emeritus. He is a former President of the Association for Information Systems and was awarded its highest honor, a LEO, for his information systems achievements. Previously, he was the Society for Information Management's Advanced Practices Council Research Director and a visiting researcher at the Research Institutes of Sweden (RISE). In 2021, Rick was awarded an honorary doctorate by the University of Liechtenstein. He is an honorary professor in Australia at Deakin University and the Queensland University of Technology.