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Panels

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### The Future Impact of AI on Academic Journals and the Editorial Process

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**Presenter Information**

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# The Future Impact of AI on Academic Journals and the Editorial Process

*“Please welcome our newest Editorial Advisory Board member, ChatGPT”*

Panel

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## Abstract

*This panel explores the emerging impact of Artificial Intelligence (AI) on academic journals and editorial processes. Scholarly publishing is on the cusp of transformation, as generative and other AI technologies challenge established norms and procedures. Advancements could either revolutionize or gradually evolve the intricate ecosystems of academic journals, responsible for validating and disseminating knowledge. How might this happen? Panelists will consider how AI could reshape editorial boards, redefine reviewer roles, and influence the academic value chain. The panel will address concerns about AI-driven review processes, biases, training data, and the integration of Human-in-the-loop AI. The panel will also examine the role of academic journals as drivers of research and innovation, with AI's potential to alter communication, quality assessment, and the building blocks of archival knowledge. Highly experienced editors will share insights, concerns and predictions, engage with audience perspectives, and illuminate the challenges and opportunities that AI brings to scholarly pursuits.*

**Keywords:** journals, scholarship, LLM, artificial intelligence, generative AI, editorial board.

## Introduction:

Academic journals can be seen as systems designed to publish academic articles that impact research and practice in a dynamic environment. These systems include editorial, production and distribution interrelated processes. Importantly, these systems can adapt and learn from feedback. The recent advancements in AI have the potential to strategically and operationally affect the structure and processes of academic journals, such as their economic models, social and ethical procedures, learning capabilities, knowledge dissemination and sharing mechanisms, and intellectual contributions. Advancements that bear upon the classification, generation, evaluation and communication of knowledge through various media may be especially relevant to the components and processes of journals.

Journals are rapidly moving to announce restrictive guidelines and ethical standards regarding the use of large language models (LLM) and generative pre-trained transformers (GPT) in the *writing* process. The Committee on Publication Ethics (COPE), released a clear position statement covering two main points: AI cannot be assigned authorship; and authors who use AI tools in the writing of a manuscript, must be transparent in disclosing in the Materials and Methods (or similar section) of the paper how the AI tool was used and which tool was used (“Authorship and AI Tools” 2023). So too have mainstream research publications *Science* (Thorp 2023) and *Nature* (Editors 2023; Stokel-Walker 2023). The AIS code for Research Conduct (AIS, Research Conduct Committee 2014), last updated in 2014, is clearly in need of an update in this regard. Both generative AI (gAI) and more established machine learning (ML) models have the potential to drastically alter many aspects of academic scholarship starting with knowledge production through assessment, verification, dissemination and beyond.

### What of the entirety of the academic journal publication process?

Our panel goes beyond the question of AI authorship (Dwivedi et al. 2023) and reaches into the heart of the journal production process and value chain, examining aspects ranging from the use of AI by reviewers (Checco et al. 2021) to editorial decisions based on AI (Yuan et al. 2022), in a world in which many core scholarly activities will increasingly be conducted using gAI (Susaria et al. 2023). This panel will present and discuss cutting edge thought addressing the challenges that academic journals are beginning to face given the progress and increasing pervasiveness of AI. The panel participants, including five experienced editors in chief, study AI in organizational or societal contexts and will provide a stimulating and varied view of the challenges and opportunities ahead.

Consider the following editorial, written (full disclosure) by ChatGPT (OpenAI 2023) in response to the following prompt<sup>1</sup>:

“Write a journal editorial welcoming ChatGPT as a new member of the editorial advisory board and explaining what role and contribution will be made, addressing how ChatGPT might replace the role of reviewer.”

It is with great excitement that we announce the newest member of our editorial advisory board - ChatGPT, an advanced AI language model developed by OpenAI. We are delighted to welcome ChatGPT as an esteemed member of our team, and we believe that its unique abilities will bring a new dimension to our journal's editorial process.

One of the key roles that ChatGPT will play in our editorial process is as a reviewer of academic manuscripts. With its advanced natural language processing capabilities and vast knowledge base, ChatGPT can analyze manuscripts quickly and thoroughly, identifying key points and areas for improvement. ChatGPT can also provide suggestions for revisions and offer insights into the latest research in the field.

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<sup>1</sup> ChatGPT. (2023, April 16). Response to the question "Write a journal editorial welcoming ChatGPT as a new member of the editorial advisory board and explaining what role and contribution will be made, addressing how ChatGPT might replace the role of reviewer." [Text response].

We understand that the role of reviewer is traditionally filled by human experts, and we recognize the importance of maintaining high standards in our publication process. However, we believe that ChatGPT can serve as a valuable addition to our team, providing quick and efficient feedback that complements the work of our human reviewers. Moreover, the use of AI for manuscript review can reduce the burden on human reviewers and speed up the publication process.

While ChatGPT's ability to review manuscripts is impressive, we recognize that it is not a perfect replacement for human reviewers. Therefore, we will continue to use human reviewers in conjunction with ChatGPT's feedback to ensure that the manuscripts we publish are of the highest quality. We believe that this combination of AI and human expertise will enable us to produce even better results than we could with either alone.

Aside from its role as a reviewer, ChatGPT will also assist in the development of our editorial strategy, identifying emerging trends and topics of interest in various fields. With its vast knowledge base, ChatGPT can help us to stay on top of the latest research and provide insights into potential authors and reviewers.

In conclusion, we are thrilled to welcome ChatGPT to our editorial advisory board and believe that its unique abilities will make a significant contribution to our publication process. While it cannot replace the role of human reviewers entirely, we are excited to see how ChatGPT's feedback can complement the work of our expert reviewers, ultimately leading to a better publication experience for our authors and readers alike.

Considering the above “editorial”, and the potential use of other AI technologies in the editorial process, our panelists will address a number of burning issues.

## **Issues:**

**AI impact on the editorial process:** The editorial process is the core of academic journal publication. Beginning with the definition of journal goals, relevant topics, and acceptable methodologies, continuing to editorial board composition, roles of senior and associate editors and reviewers, are all shaped by editorial leadership. (Shmueli et. al. 2023, Eva et al. 2023, Steingard and Linacre 2023, Yuan et al. 2022),

- How might editorial boards use AI to define, update, and monitor journal goals and focus?
- Can AI be used to retrospectively assess published article quality or journal quality?
- Will AI change the roles we currently fill in academic journals?
- Can AI be used to proactively source relevant submissions and special issue topics?
- By what process might AI be vetted and added to the journal team in its proposed role?

**Integration of AI with human reviewers:** Reviewers and the review process compose the engine that drives manuscripts from submission through evaluation, critique, improvement and recommendation, ultimately providing editorial leadership with the assessment and information with which to make a publication decision. Human reviewers are also the primary bottleneck in the publication process. Identifying appropriate reviewers, soliciting and receiving review commitments, actual receipt of thorough reviews in a timely manner - all are challenges editorial teams face on a daily basis. (Checco et al. 2021, Kumar et al. 2023, Pradhan et al. 2021, Shmueli et al. 2023, Susaria et al. 2023)

- Can AI be applied to the reviewer selection/assignment process to improve review quality and timeliness?
- How might AI be used by reviewers to assess research quality as part of the review process?
- Are AI-driven desk rejects acceptable and how might they affect journal quality and processes?
- In what ways might Human-in-the-loop (HITL) AI (Te'eni et al., 2023) be applied to assessing a submitted manuscript?

- How might SE/AE's use gAI to provide an integrated analysis of reviewer comments helping prioritize, and resolve potential contradiction between reviews?
- What are some of the risks in an LLM trained on a given journal, a select "basket" of journals, a narrow scientific field, or an interdisciplinary scientific corpus? Might the use of multiple LLMs trained on different data address risk bias in a gAI review process?

**AI impact on the academic journal value chain:** Academic research journals are a fundamental building block of science, innovation and progress. We base our new research manuscripts on prior literature, taking care to cite research considered to be thorough, trustworthy, and of rigorous high standards - but that fundamental knowledge creation process itself is poised to change (Susaria et al. 2023). Journal articles create a 'conversation' between generations of researchers and practitioners. (Eva et al. 2023, Steingard and Linacre 2023)

- What disclosure standards of AI use in writing should be established?
- Can AI improve the communication and mutual feedback between research and practice?
- Will AI enable new economic models for academic journals in existing or new markets?
- Might the archival "journal article" as a core epistemic element be replaced by something else?

### **Panelists:**

1. Professor Michel Avital, Copenhagen Business School, Denmark, SE EJIS, JIT
2. Professor Sirkka Jarvenpaa, University of Texas, USA, former EIC JAIS
3. Professor Kalle Lyytinen, Case Western Reserve University, USA, former EIC JAIS
4. Professor Galit Shmueli, National Tsing Hua University, Taiwan, EIC INFORMS Journal on Data Science
5. Professor Dov Te'eni, Tel-Aviv University, Israel, former EIC EJIS
6. Moderator: Professor David Schwartz, Bar-Ilan University, Israel, former EIC Internet Research

## Panel Structure:

The panel session will run 90 minutes and follow the format shown in Table 1. Using an interactive audience engagement app (e.g. Mentimeter; QuestionPro) audience members will be polled to share their views on key questions and asked to vote for their choices of what the panel members should address.

Segment	Description	Minutes
Introduction	Moderator will introduce the topic, panelists, and format.	4
Pre-Poll	In this pre-panel poll, audience members will be asked to rate a series of statements related to the panel topic. Figure 1 presents a sample poll. Results will be shown interactively.	2
Meet panelists	Each panelist will voice their main position, concerns and vision	20
Audience choice	<b>Propositions</b> based on the above issues list will be presented to the audience - so they get to choose what the panel members focus on. The <b>top ranked question from each topic</b> (more if time allows) by audience choice will be addressed by the panel. Figure 2 shows an example.	2
Topic 1	3 to 4 panelist will state their views audience followup questions will be taken	8 8
Topic 2	3 to 4 panelist will state their views audience followup questions will be taken	8 8
Topic 3	3 to 4 panelist will state their views audience followup questions will be taken	8 8
Post-Poll	In this post-panel poll, audience members will be asked to again rate the same statements related to the panel topic. Figure 1 shows a sample poll. Results will be shown interactively.	2
Wrap up	A comparison of pre-panel and post-panel poll results will be shown, giving the audience instant feedback of the panel impact on their views. Closing statement by each panelist; Summary by moderator.	12
<b>Table 1: Panel Format with Audience Interaction</b>		

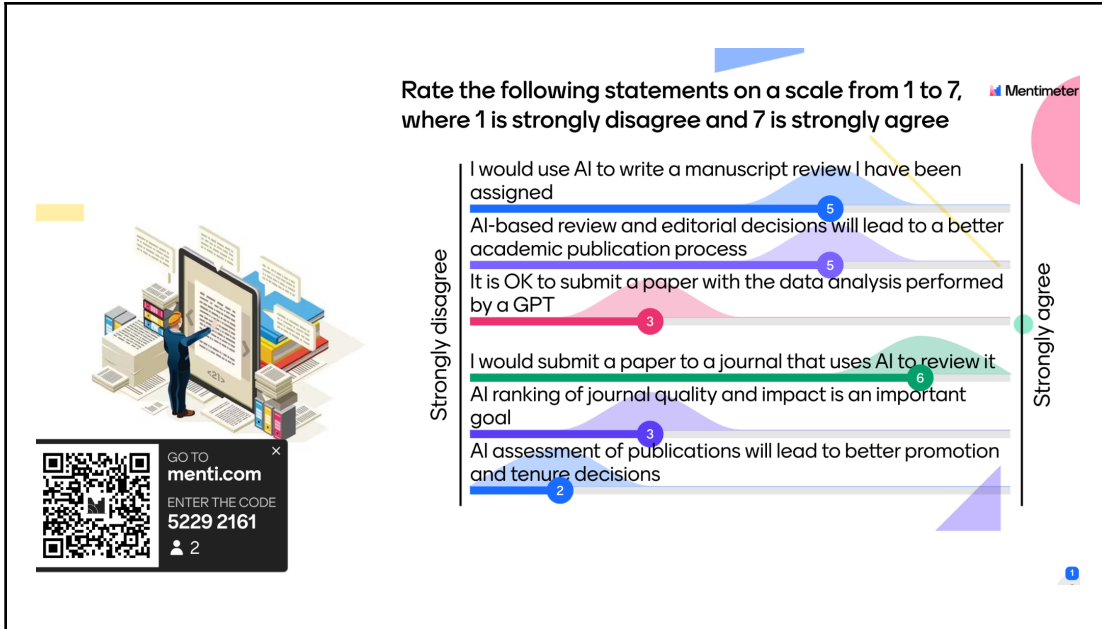


Figure 1: Example of pre-panel and post-panel polling of audience views

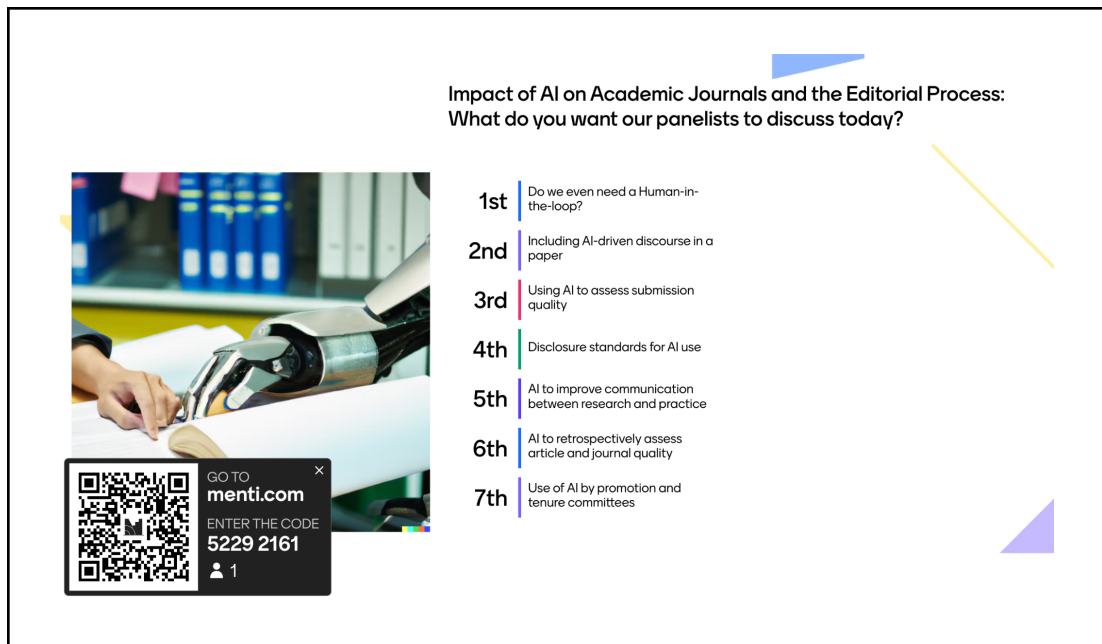


Figure 2: Example of audience voting interaction to select preferred questions for panel to address



## Biographies:

**Michel Avital** is Professor of Digitalization at Copenhagen Business School. Michel is an advocate of openness and an avid proponent of cross-boundaries exchange and collaboration. His research focuses on the relationships between digital innovation ecosystems and organizational practices. He studies how emergent technologies are developed, applied, managed and used to transform and shape organizations. He has published more than 100 articles on topics such as blockchain technology, the future of work, sharing economy, open data, open design, generative design, creativity, and innovation. He is a **senior editor and editorial board member of leading IS journals** and serves in various organizing capacities at major international conferences on digital technology and organization studies. Michel is a recipient of the AIS Fellow Award. Further information: <http://avital.net>

**Sirkka L. Jarvenpaa** is Professor of Information Systems and Bayless/Rauscher Pierce Refsnes Chair in Business Administration at the McCombs School of Business, The University of Texas at Austin. She oversees the largest doctoral program at the McCombs School of Business. She has held many distinguished appointments such as the Marvin Bower Fellow at Harvard Business School and Finnish Distinguished Professor at Aalto University. Her work has appeared in information systems, management, engineering, accounting, marketing, psychology, and anthropology journals. She recently published a co-authored book “Words Matter: Communicating Effectively in the New Global Office.” Dr. Jarvenpaa has received numerous best paper awards in information systems and management journals. Dr. Jarvenpaa serves or has served as the **senior editor or editor-in-chief for several journals: Journal of Association for Information Systems, Journal of Strategic Information Systems, MIS Quarterly, Information Systems Research, Organization Science, and European Journal of Information Systems**. She holds a B.S. in Business Administration from Bowling Green State University and Masters and Ph.D. degrees in Business Administration from University of Minnesota. She is a recipient of Association of Information Systems (AIS) Fellow and LEO Awards. She has received the Information Systems Society (ISS) Distinguished Fellow Award. She is a recipient of the Alexander Humboldt Prize for her research achievements. She has been awarded four honorary doctorates.

**Kalle Lyytinen** (PhD, Computer Science, University of Jyväskylä; Dr. h.c. mult) is Distinguished University Professor at Case Western Reserve University and a distinguished visiting professor at Aalto University, Finland, and currently Otto Mønsted Professor at Copenhagen Business School. He is among the top five IS scholars in terms of his h-index (97); he has the highest network centrality among the IS scholars; he is an AIS Fellow (2004), and the LEO Award recipient (2013). He has published over 400 refereed articles and edited or written over 30 books or special issues and won several best paper awards from AoM, AIS/ICIS and other societies, and served as **SE and editor to most IS journals served also on editorial boards of several leading organization theory and innovation/strategy journals**. He served as the **EiC of JAIS between 2005-2010** managing its indexing in ISI and building a new publishing infrastructure. He currently conducts research on digital innovation concerning its nature, dynamics and organization, complex design work, requirements in large systems, and emergence and growth of digital infrastructures.

**David G. Schwartz** (PhD, Computer Science, Case Western Reserve University) is Professor of Information Systems, and former vice-chairman, at the Graduate School of Business of Bar-Ilan University, Israel, where he chairs the Doctoral Program. David has published over 160 articles and editorials in the field of information systems and technologies. His research has appeared in publications such as Information Systems Research, IEEE Intelligent Systems, IEEE Pervasive Computing, ACM Computing Surveys, Decision Support Systems, Management Science, and JMIR mHealth & uHealth. David has held multiple visiting scholar positions: Columbia University, USA (2004); Monash University, Australia (2007-8); Victoria University, Australia (2016); National Tsing Hua University, Taiwan (2017; 2020-21); Erskine Fellow at the University of Canterbury, New Zealand (2016); and visiting professor at Renmin University of China, Beijing (2018). Between 1998 and 2011 David served as **editor-in-chief of the journal Internet Research and has served as AE of European Journal of Information Systems and JMIR mHealth & uHealth**. David is currently co-editing a special issue of JAIS on “The Future Impact of AI on Academic Journals and the Editorial Process”.

**Galit Shmueli** is Tsing Hua Chair Professor at the Institute of Service Science, College of Technology Management, National Tsing Hua University, Taiwan. Earlier she was Associate Professor at University of Maryland's Smith School of Business, and then the SRITNE Chaired Professor of Data Analytics and Associate Professor of Statistics & Information Systems at the Indian School of Business. Dr. Shmueli's research focuses on statistical and machine learning methodology with applications in information systems and healthcare, and an emphasis on human behavior. She authors multiple books, including the popular textbook *Machine Learning for Business Analytics* and over 100 publications in peer-reviewed journals and books, including *Management Science*, *Journal of the American Statistical Association*, *Journal of the Royal Statistical Society*, *Information Systems Research*, *MIS Quarterly*, *Marketing Science*, *Statistical Science* and *Technometrics*. **Dr. Shmueli is the inaugural Editor-in-Chief of the INFORMS Journal on Data Science, and has served on editorial boards of top journals in information systems and statistics.** She is an IMS Fellow and ISI elected member.

**Dov Te'eni** is Professor Emeritus at Tel Aviv University, where he was Research Associate Dean and held the IS Mexico Chair. He is now Visiting at the Department of Middle East studies at Bar Ilan University. Dov currently studies human-AI configurations and smart human-computer interaction and knowledge sharing. He co-authored *Human-computer interaction for developing effective organizational systems* and co-edited the *Encyclopedia of Knowledge Management*, as well as other books on information systems and innovation. He has written over 200 papers with over sixty co-authors in journals such as *Management Science*, *MIS Quarterly*, *Organization Science*. Dov is the Past President of AIS – the international Association of Information Systems, and **past editor in chief of EJIS - the European Journal of IS**. Dov was awarded the AIS Fellowship (2008) and the life-achievement LEO award (2015). **Dov is currently co-editing a special issue of JAIS on “The Future Impact of AI on Academic Journals and the Editorial Process”.**

## Conclusion

AI will undoubtedly introduce significant challenges and changes to the way academic journals are managed and produced, and may drastically change the way future generations look at the role of our journals. This panel of experts in both journal leadership and artificial intelligence technologies will actively engage with an audience whose primary research output and career paths are likely to face significant disruption in the coming years. The AIS flagship ICIS conference is the right place to begin discussing and understanding the implications of advanced AI on our journal and research ecosystem, and that is the role this panel will serve.

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