Emerging Trends in Artificial Intelligence in Scholarly Communication

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Abstract

This paper deals with the Artificial intelligence is transforming scholarly communication by streamlining workflows, enhancing accessibility, and introducing new ethical challenges. Key trends include operational AI integration in publishing, generative tools for content creation, and advanced discovery systems. AI has shifted from experimental pilots to core operations in editorial, production, and metadata processes. Tools now handle manuscript screening for plagiarism and compliance, language editing for non-native speakers, and automated peer review elements to boost efficiency. artificial intelligence in scholarly communication, Scholarly communication ensures appropriate recognition and reward for all those engaged in research, Presenting, publishing and disseminating research output in print or other digital forms.

Keywords: *Emerging trends, Artificial intelligence, Scholarly Communication, Ai-Powered, US Dept. of Education, Education, Libraries, UNESCO.*

> *"Artificial Intelligence for all"* must be that everyone can take advantage of the technological revolution under way and access its fruits, notably in terms of innovation and knowledge.-*UNESCO*

1. Introduction of Scholarly Communication

Scholarly communication is the process of sharing, disseminating and publishing research findings of academics and researchers so that the generated academic contents are made available to the global academic communities. An author, or a group of authors, prepares a research paper for publication in a scholarly journal. The main objective of publishing the research findings is to share the work, making other researchers known about the methodologies followed, key findings and conclusions and to show how the work significantly contributes to the body of knowledge in a particular discipline.

Submitted research paper in a scholarly journal usually goes through rigorous peer review process before it is accepted. The reviewers are drawn from a pool of subject experts and practitioners in a specialized area matching the submitted manuscript. Peer reviewing is seen as key quality control mechanism for a reputed journal to keep it amongst the best in its subject field. Many reputed journals have very high rates of rejection and accommodate only the best papers with brilliant ideas and novelty.

1) Scholarly communication is a pursuit of research aimed at generating new knowledge and understanding
2) Scholarly communication is aimed at assuring quality of the information output generated by researchers;

3)   Scholarly communication ensures appropriate recognition and reward for all those engaged in research

4)   Presenting, publishing and disseminating research output in print or other digital forms

5)   Facilitates access and use of published output by other fellow researchers

6)   Preserving research output to ensure its accessibility for the future generations

Figure-1: Process of Scholarly Communication

(Source: http://acrl.libguides.com/scholcomm/toolkit)

2)   Artificial Intelligence: Artificial Intelligence (AI) in education is transforming learning by personalizing education, automating tasks, and providing accessible learning experiences, ultimately aiming to enhance student engagement and improve learning outcomes**.** Built from data, hardware and connectivity, AI allows machines to mimic human intelligence such as perception, problem-solving, linguistic interaction or creativity. These technologies contribute to achieving the **2030 Agenda for Sustainable Development**. However, these rapid changes **raise major issues**. **UNESCO** addresses these matters, from **ethics of AI**, **AI in education**, **gender equality**, to **capacity building for governments and judiciary**. **Artificial Intelligence (AI)** has the potential to address some of the biggest challenges in education today, innovate teaching and learning practices, and accelerate progress towards **Sustainable Development Goals(SDGs).**

UNESCO's mandate calls inherently for a human-centered approach to AI. It aims to shift the conversation to include AI's role in addressing current inequalities regarding access to knowledge, research and the diversity of cultural expressions and to ensure AI does not widen the technological divides within and between countries. The promise of *"Artificial Intelligence for all"* must be that everyone can take advantage of the technological revolution under way and access its fruits, notably in terms of innovation and knowledge.

> "I strongly believe in the need for stakeholders to understand the cyclical effects of AI and education. By understanding how different activities accrue, we have the ability to support virtuous cycles. Otherwise, we will likely allow vicious cycles to perpetuate.*" —**Lydia Liu**

3) Objectives of Paper:

1)   To know the access of Artificial Intelligence in Scholarly Communication

2)   To identify the AI in Research publications

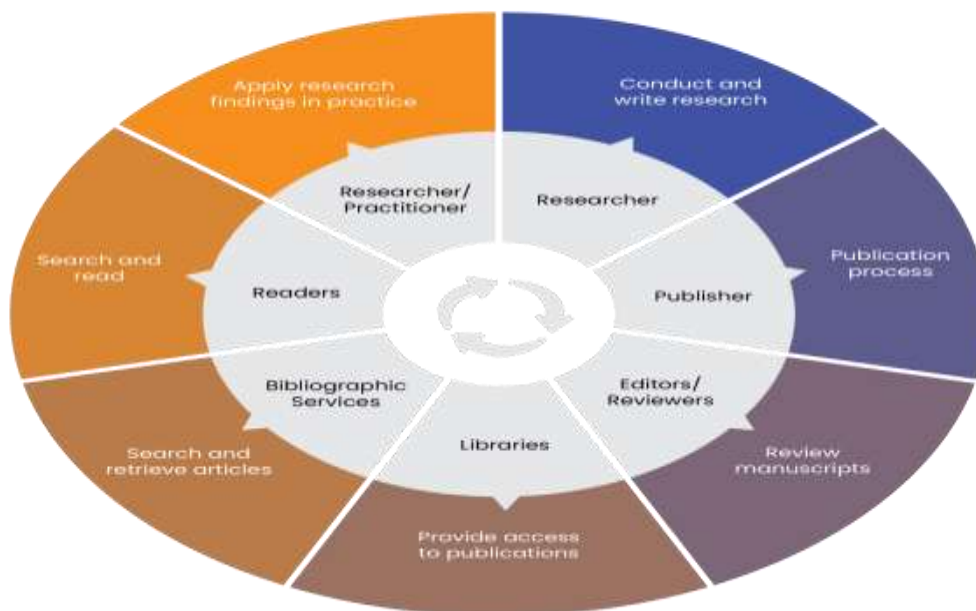3)   To Study the future of AI use in Scholarly Communication

4) AI-Enabled Knowledge Discovery and Writing Support

AI tools are reshaping how scholars **discover, synthesize, and write** research.

1)   **Smart literature discovery**: Recommendation systems and semantic search speed up the identification of relevant prior work.

2)   **Writing assistance**: Language models help draft sections, improve readability, and support non-native English speakers, thereby broadening participation.

3)   **Research summarisation**: AI generates plain-language summaries, making research more accessible outside specialist audiences.

5) Dr.S R Ranganathan's Five Laws of Library Science in AI Age	Key AI Features
1. **Books for Use** : *Artificial Intelligence for Use*	Discovery platforms, chatbots, open-access AI interfaces
2. **Every Reader his/her Book** *: Every Patron his/her AI Tool*	Personalized recommendation engines, user profiling ML
3. **Every Book Its Reader** : *Every Artificial Intelligence for Patron*	Metadata matchmaking algorithms, targeted notifications
4. **Save the Time of the Reader** : *Save The Time Of The Patron*	Automated cataloging (NLP/ML), predictive analytics, RFID integration
5. **Library is a Growing Organism** : *Artificial Intelligence* is a Growing Systems	Cloud-based retraining, modular AI updates, VR/AR integration

Scientific Publication Life-cycle

6) Artificial Intelligence in Research

AI is transforming the research landscape through:

1) **Literature Review Automation:** Tools like **Iris.ai** and **Connected Papers** summarize and visualize related work.
2) **Plagiarism Detection:** AI-based tools like **Turnitin** ensure research originality.
3) **Data Analysis and Prediction:** AI tools such as **SPSS Modeler**, **RapidMiner**, and **Google AutoML** help in processing large datasets.
4) **Academic Writing Support:** Tools like **Grammarly**, **Writefull**, and **ChatGPT** assist in language refinement and content generation.

Artificial Intelligence **in Research** Analysis Tools**:**

1) **Elicit:** https://elicit.com/
2) **OpenRead**: https://www.openread.academy/
3) **Semantic Scholar**: https://www.semanticscholar.org/
4) **Jenni**: https://jenni.ai/
5) **ZeroGPT**: https://www.zerogpt.com/
6) **Litmaps**: https://www.litmaps.com/
7) **Copyleaks**: https://copyleaks.com/
8) **ChatDOC**: https://chatdoc.com/
9) **SpinBot**: https://spinbot.com/

Artificial Intelligence in Evaluation:

1) **Forms.app:** https://forms.app/
2) **BlockSurvey:** https://blocksurvey.io/
3) **Zonka:** https://www.zonkafeedback.com/
4) **QuestionPro:** https://www.questionpro.com/in/

7) Advantages of AI in Improving Research Publications

i. **Personalized Learning :** AI-powered tools can analyze student data to identify individual learning needs and provide tailored support, including virtual tutoring, customized content, and adaptive learning platforms.

ii. **Automated Tasks :** AI can automate repetitive tasks like grading, lesson planning, and administrative work, freeing up educators' time for more focused teaching and student interaction.

iii. **Enhanced Research :** AI can assist with literature reviews, data analysis, and research writing, enabling more efficient and in-depth research.

iv. **Accessibility :** AI tools can be integrated with assistive technologies to support students with disabilities, providing personalized learning experiences.

v. **Increased Engagement:** AI-powered gamification features can make learning more engaging and motivating for students. Increases accessibility and inclusivity, Enhances efficiency and productivity. Supports lifelong and self-paced learning. Reduces the cognitive load for educators and researchers.

AI in Teaching, Learning and Research

8) Ethics of Artificial Intelligence in Scholarly Communication:
The rapid rise in **artificial intelligence (AI)** has created **many opportunities globally.** However, these rapid changes also raise **profound ethical concerns**. These arise from the potential AI systems have to **embed biases**, contribute to **climate degradation**, **threaten human rights** and more. Such risks associated with AI have already begun to **compound on top of existing inequalities**, resulting in further harm to already **marginalized groups.** To correct this, the **Recommendation on the Ethics of Artificial Intelligence** was adopted by acclamation by 193 Member States in 2021. **Global AI Ethics and Governance Observatory**

9) Emerging Trends in AI in Scholarly Communication:
    a)   AI is transforming scholarly communication by integrating into every stage of the research and publishing lifecycle, from ideation to dissemination.
    b)   Concerns around bias, transparency, and AI-generated content detection drive new policies. Publishers use AI for integrity screening and conflict-of-interest analysis
    c)   AI has shifted from experimental pilots to core operations in editorial, production, and discovery processes.
    d)   Post-publication tracking via altmetrics monitors real-world impact ethically.
    e)   Debate over authorship, transparency, and accountability in AI-assisted reviews.
    f)   AI as reviewer assistance rather than autonomous reviewers.
    g)   Publishers updating policies to require disclosures about AI use.

10) Conclusion: Artificial Intelligence is transforming scholarly communication from experimental tools to core operational systems, enhancing efficiency while demanding greater transparency and ethical oversight. This evolution promises accelerated discovery and broader access but requires human stewardship to uphold research integrity. AI has shifted from pilot projects to everyday workflows in editorial screening, metadata generation, and content discovery. Publishers now prioritize clear disclosure of AI usage to maintain trust, extending oversight across submission, review, and publication stages. Trends point to hybrid human-AI models, immersive AR/VR simulations for research sharing, and AI-driven hypothesis generation in labs. Scholarly platforms will evolve into integrated services supporting the full research lifecycle, blending speed with human insight

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