

Artificial Intelligence in Scholarly Publishing: Ethical Considerations and Best Practices

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Abstract

Artificial Intelligence (AI) is no longer a futuristic concept; it has become an integral part of scholarly publishing, influencing research writing, peer review and ethical considerations. This study examines AI-related policies, guidelines and standards from ten publishers, out of which 8 are within the DRDO e-Journal Consortium, with a focus on AI usage in research and academic publications. Among these, Elsevier, Springer Nature, Wiley, IEEE, Taylor and Francis and Emerald rank among the top 20 global publishers, as per the Scilit database (February 2025). A thematic analysis of these policies reveals notable inconsistencies in key areas such as AI authorship, disclosure requirements, AI-assisted writing and image generation. While most publishers mandate human accountability and transparency, variations exist in how AI-generated content is regulated, particularly in peer review and research integrity. These findings highlight the urgent need for standardised ethical guidelines to ensure responsible AI integration in scholarly communication. As AI technology continues to advance, academic publishers must regularly update their policies to uphold research integrity, transparency and ethical best practices.

Keywords: Research Ethics, Scholarly Communications, Research Integrity, Artificial Intelligence, Generative AI, Large Language Models (LLMs)

Introduction

Artificial Intelligence (AI) is no longer a futuristic concept; it has become an integral part of our daily lives, driving significant technological advancements and enhancing operational efficiency. It has significantly impacted many industries, such as precision agriculture, air combat and military training, education, finance, healthcare, human resources and recruitment, music composition, customer service, reliable engineering and maintenance (predictive maintenance), autonomous vehicles and traffic management, social media news feeds and work scheduling and optimisation (Hoke, 2024). The publication industry and libraries are no exception, as they have long been a vital source of knowledge and resource management for societies. The rapid evolution of AI, particularly generative AI (Gen AI), has introduced new possibilities and challenges in scholarly communication. Gen AI, a subset of AI that generates human-like text, images and other content, is reshaping how research articles are conceptualised, written and reviewed. While it enhances efficiency, aids language articulation and democratises access to scholarly writing, it also raises critical ethical concerns related to authorship, data integrity, plagiarism, bias and the reliability of AI-generated content. This article explores the applications of Gen AI in scholarly publication and highlights the ethical principles that

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authors must uphold when preparing manuscripts with AI assistance. As AI-generated content becomes more prevalent, the scholarly community must navigate issues of transparency, proper attribution and accountability to ensure that AI-driven innovations uphold the integrity of academic publishing.

Artificial Intelligence: An Overview

The evolution of AI can be traced back to the early 1950s, when Alan Turing introduced the ‘Turing Test’ to assess whether a machine could exhibit human-like intelligence. His groundbreaking paper, *Computing Machinery and Intelligence* (SPIE, n.d.), laid the conceptual foundation for AI as an academic discipline. The term ‘Artificial Intelligence’ (AI) was later coined by John McCarthy at the 1956 Dartmouth Conference, where he proposed that intelligence could be systematically defined and replicated in machines.

As computing technology advanced, AI applications became more widespread in the 1970s and 1980s, leading to new possibilities and challenges. The 1990s saw the emergence of AI-driven interactive systems, such as Dr Richard Wallace’s *Artificial Linguistic Internet Computer Entity* (ALICE)—one of the first chatbots designed to communicate with humans (Kocak, 2024; Stone & Brooks, 2016). Since then, the increasing sophistication of AI has raised significant ethical concerns, prompting discussions on the necessity of regulatory frameworks to ensure responsible AI usage.

Modern AI is commonly defined as the development of systems capable of learning, adapting and making informed decisions. According to Chen (2020), AI encompasses technologies that exhibit autonomy in task execution and intelligence in decision-making. Britannica defines AI as “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings” (Copeland, 2025).

In the realm of scholarly communication, AI is reshaping research methodologies, refining data analysis and automating complex processes. When implemented responsibly, AI fosters innovation, enhances research productivity and accelerates scientific progress for the benefit of society (Flanagin et al., 2024). However, as AI

becomes increasingly embedded in academic publishing, ethical considerations surrounding its application must be critically examined to ensure integrity, transparency and fairness in scholarly discourse. The present article assesses the ethical considerations in scholarly communication, highlighting the pros and cons in use of Gen AI in the process of manuscript writing, editing, reviewing and publishing.

Objectives and Scope

The following objectives & scopes are set for the present study:

- To study the Guidelines published by the Committee on Publication Ethics (COPE).
- To examine the publication policies of leading publishers regarding the use of generative AI.
- Ethical Consideration and use of Gen AI in scholarly publishing.

COPE Guidelines on AI in Scholarly Publishing

The Committee on Publication Ethics (COPE) outlines ethical standards for the integration of AI in academic publishing. The COPE differentiates AI from standard automation processes used in editorial management, submission systems and plagiarism detection tools. AI, as defined by COPE, involves the creation of intelligent systems, software and machines that mimic human intelligence and behaviour (Artificial intelligence (AI) in decision making | COPE, 2021, September 24). AI-driven tools, particularly those using Natural Language Processing (NLP) and Machine Learning (ML), are designed to enhance human intelligence and assist in research-related tasks such as analysing data, generating text and detecting patterns. While AI can support academic writing and editorial processes, COPE emphasises that the sole reliance on AI to generate manuscripts or make editorial decisions raises ethical concerns. These include disputes over authorship attribution, the generation of inaccurate or misleading information, risks of intellectual property violations and increased potential for plagiarism (Carobene et al., 2024). AI-assisted writing tools, such as ChatGPT, have gained popularity in academic research for

tasks like drafting research abstracts, structuring essays and summarising data (Dergaa et al., n.d.). However, the credibility and authenticity of AI-generated content remain questionable, as these models may lack deep analytical reasoning, critical thinking and human creativity. COPE acknowledges that AI is not inherently unethical, but its use must be transparently declared by authors. Ethical publishing requires all contributors to a manuscript to be identified, and AI cannot be credited as an author since it lacks accountability (Flanagin et al., 2024; Parikh et al., 2019). The improper use of AI has also raised concerns about research misconduct, particularly in the case of paper mills—businesses that produce fraudulent research articles for publication. Additionally, AI tools may inadvertently introduce biases (e.g., gender, racial, ethnic, or geographical) based on the datasets they are trained on, which could influence the fairness and validity of research outcomes (Kocak, 2024). Another critical issue is confidentiality. During peer review, if manuscripts or sections of research papers are uploaded into AI tools, there is a risk of data breaches and intellectual property violations. Currently, there are no fully automated tools capable of detecting AI-generated manuscripts with complete accuracy, though several detection methods are under development (Artificial intelligence (AI) and fake papers | COPE, 2023). To uphold research integrity, COPE

insists that authors take full responsibility for their work, ensuring transparency about AI usage and maintaining ethical research practices.

Methodology

This study adopts a descriptive research approach, using a thematic analysis of literature to identify primary themes and subthemes in the policy documents of various publishers. The results were synthesised into proposed ethical guidelines for the use of generative AI and AI-assisted tools in academic publishing (Veiga, 2025). The study reviewed the AI-related publication policies of ten publishers listed under the DRDO e-journal consortium as of February 2025.

Data Collection

The policies, guidelines, or standards addressing AI usage in research and publications were downloaded from publishers' websites in February 2025. Ten publishers, as listed in Table 1, were analysed, out of which eight are covered under the DRDO e-Journal Consortium. Among these, Elsevier, Springer Nature, Wiley, IEEE and Taylor & Francis rank among the top 20 publishers globally, according to the Scilit database as of February 28, 2025.

Table 1: Top 10 Publishers Documents Included for the Document Review

<i>Publishers</i>	<i>Webpage Title</i>	<i>Reference Sr. No.</i>
Elsevier	The use of generative AI and AI-assisted technologies in writing for Elsevier Generative AI policy for journals	12
Springer Nature	AI Policy	26
Wiley	Best practice guidelines on research integrity and publishing ethics Wiley's AI principles	30 31
IEEE	Submission and peer review policies Guidelines for Artificial Intelligence (AI)-Generated Text	18
Emerald	Artificial Intelligence (AI)	13
Taylor & Francis	AI Policy	28
ASME	Authorship and AI Tools	2
ACM	ACM Policy on Authorship ACM Policy on Peer review	5 6
ACeS	Journal publication ethics	1
SPIE	Guidelines for Ethical Publishing Author Guidelines, Use of LLM Reviewers Guidelines, Use of LLM	24 25

(AI: Artificial Intelligence; IEEE: Institute of Electrical & Electronics Engineers; ASME: American Society of Mechanical Engineers; ACM: Association for Computing Machinery; ACeS: American Ceramic Society; SPIE: Society for Photo-optical and Instrumentation Engineers, T&F: Taylor & Francis)

Data Analysis and Interpretations

results were described without statistical analysis (da Veiga, 2025).

Thematic analysis was conducted to identify the themes and sub themes that occurred across the document. The

Table 2: Thematic Analysis of Publisher’s AI Policies or Standard on AI Gen. Texts, Data Analysis, Images and Peer Review Process

Themes	Springer	Wiley	Elsevier	ASME	Emerald	IEEE	ACM	ACeS	SPIE	T&F	Total Mentions
AI Authorship Restrictions	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	10
Disclosure Requirements	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	10
AI-Assisted Writing Policies	☑	☑	☑	☑	☑	✗	☑	☑	☑	☑	9
Generative AI in Images & Figures	☑	☑	☑	☑	☑	✗	☑	✗	☑	✗	7
AI in Peer Review	✗	☑	☑	✗	☑	☑	✗	✗	☑	✗	5
Accountability & Ethical Concerns	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	10
AI in Research Data Analysis	✗	✗	☑	☑	✗	☑	☑	☑	☑	☑	7
Plagiarism & Misuse Prevention	☑	☑	☑	☑	☑	✗	✗	✗	☑	☑	7

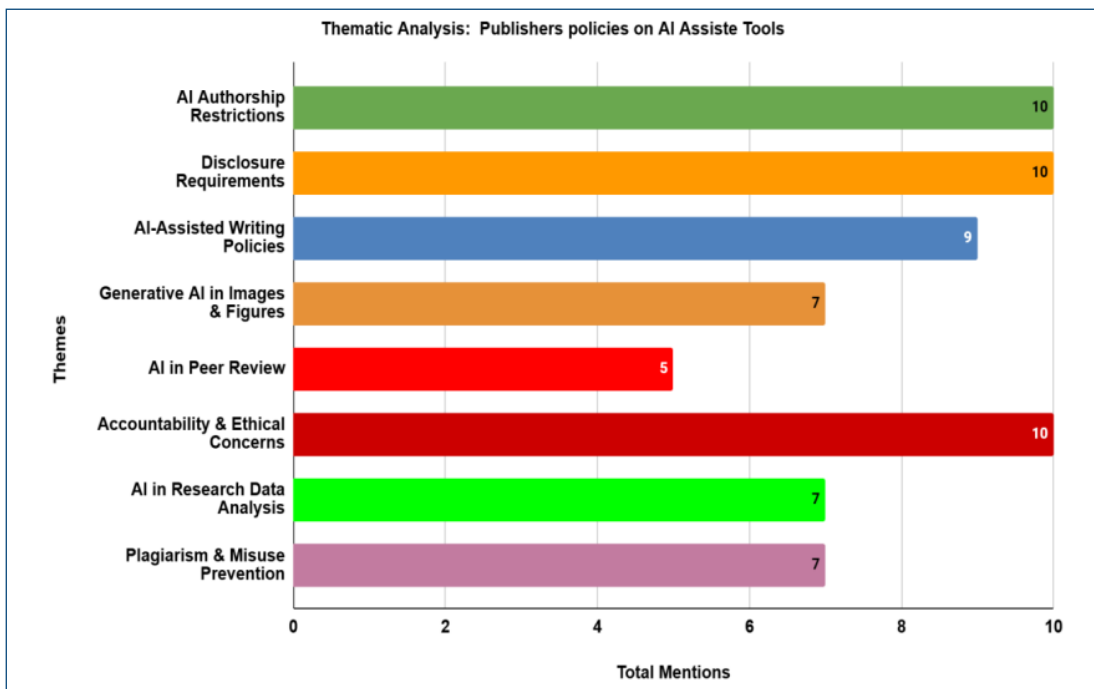


Fig. 1: Thematic Analysis

Results

Ten publishers listed in Table 1 have established AI policies or address AI-related requirements within their research ethics guidelines or author policies. Based on a detailed examination of publishers' guidelines, the following key themes have been identified:

AI Authorship Restrictions

- All analysed publishers explicitly prohibit AI tools (e.g., large language models) from being credited as authors.
- Authorship is defined as requiring human accountability, which AI models cannot fulfil.
- COPE's stance states that AI cannot be credited as an author because it cannot take responsibility for research validity.

AI-Assisted Writing Policies

- AI tools can assist with copy-editing, grammar correction, readability enhancement and referencing (such as ChatGPT, Grammarly, Mendeley, Elsevier, EndNote, Clarivate and Zotero). However, the ultimate responsibility for the content remains with human authors.
- AI-generated content is not allowed for research design, interpretation or autonomous content generation.
- Most publishers (e.g., Springer, Wiley, Elsevier, ASME, Emerald, IEEE, Taylor & Francis, ACM, ACeS, SPIE) require human accountability for any AI-assisted modifications.
- AI must not generate or manipulate research content autonomously.

Disclosure Requirements

- Authors must explicitly disclose any AI usage in manuscript preparation.
- Disclosures are generally required in the Methods or Acknowledgements sections.
- Failure to disclose AI use can result in manuscript rejection or retraction.

Generative AI in Images and Figures

- Most publishers prohibit the use of AI-generated images, figures and videos in scientific publications.
- Exceptions are made for AI-assisted imaging used as part of research methods, provided there is proper documentation and verification.
- AI-generated figures must be clearly labelled and comply with copyright regulations.

AI in Peer Review

- AI tools cannot replace human reviewers.
- Some publishers (Wiley, Elsevier, IEEE, Emerald, SPIE) allow AI tools to assist in language refinement of peer review reports but require full disclosure.
- Uploading manuscripts into AI tools for review is strictly prohibited due to confidentiality risks.

Accountability and Ethical Concerns

- Authors remain fully responsible for AI-generated content in their manuscripts.
- AI tools cannot be held accountable for research integrity, originality, or accuracy.
- Ethical concerns include bias in AI models, misinformation and improper attribution of AI-generated content.

AI in Research Data Analysis

- Seven publishers (Elsevier, ASME, IEEE, ACM, AceS, SPIE and Taylor & Francis) permit AI-assisted data analysis only if transparency is maintained.
- AI must not be used to manipulate or fabricate research data.
- Proper documentation of AI algorithms and parameters is necessary.

Plagiarism and Misuse Prevention

- AI-generated plagiarism is a rising concern, with strict policies to prevent misuse.
- Undisclosed AI assistance in generating text or data is treated as a violation of research ethics.

- Publishers emphasise the use of plagiarism detection tools to verify originality.

Discussion and Recommendation

The study identified inconsistencies in the AI-related policies of top academic publishers regarding scientific research and publications. As AI technology continues to evolve, publishers are expected to update their guidelines regularly to address emerging ethical challenges. Transparency, accountability and responsible AI usage remain central to these policies. Future discussions may focus on AI's role in research collaboration, bias mitigation and enhancing peer review efficiency. Thematic analysis provided a structured overview of AI ethics in scholarly publishing, supporting compliance with best practices and promoting responsible AI integration in academic research.

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