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Paradigm

Leo S. Lo

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## Generative AI and Open Access Publishing: A New Economic Paradigm

Leo S. Lo

## Abstract

The integration of generative artificial intelligence (AI) in scholarly publishing presents both opportunities and challenges for open access. AI can streamline workflows, reduce costs, and enhance the discoverability of research, potentially making open access more financially sustainable. However, the same AI capabilities also raise concerns about exclusivity and the creation of a tiered system that limits access to knowledge. Publishers face a strategic decision between embracing open access and leveraging AI for proprietary content and services. Libraries play a crucial role in advocating for open access and ethical AI use, building expertise, and influencing policy development. Balancing the benefits of AI with the principles of equity and inclusivity requires collaboration among stakeholders. By working together, publishers, librarians, and policymakers can harness the power of AI to democratize access to knowledge while upholding ethical standards, fostering a more inclusive and equitable academic community.

#### **Keywords**

open access, generative AI, scholarly publishing, proprietary content

## INTRODUCTION

The landscape of scholarly publishing has undergone significant transformations over the past few decades, driven by technological advancements and changing economic models. From print journals and subscription-based access, the field has shifted toward digital formats and open access (OA) publishing. The advent of the Internet in the 1990s marked a pivotal shift, enabling faster dissemination and broader

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accessibility of academic research (Laakso et al. 2011; Ware and Mabe 2015). This digital revolution laid the groundwork for OA, a model that seeks to make research freely available to everyone, challenging traditional economic paradigms in academic publishing.

In parallel with the rise of OA, another technological innovation is now poised to revolutionize scholarly publishing: generative artificial intelligence (AI). Generative AI, capable of creating new content such as text, images, and code based on learned patterns, has the potential to transform how research is written, reviewed, and disseminated. This technological leap brings with it profound economic implications for the publishing industry.

The integration of generative AI into scholarly publishing presents a complex economic landscape. On one hand, AI technologies promise to streamline workflows, potentially reducing the costs associated with manuscript preparation, peer review, and publication. Generative AI tools can assist in drafting papers, performing literature reviews, managing peer review, and generating data-driven insights (Checco et al. 2021), therefore potentially cutting down on labor-intensive tasks. This cost reduction could make OA publishing more financially sustainable, addressing one of its key challenges.

However, the economic implications extend beyond mere cost savings. Generative AI also opens up new avenues for value creation and monetization in publishing. AI-driven analytics, personalized content recommendations, and advanced search capabilities could become premium services, potentially creating a new tiered system of access to knowledge. This raises questions about the future of truly "open" access in an AI-enhanced publishing landscape.

Moreover, the development and implementation of advanced AI systems require significant upfront investment, potentially favoring larger, well-resourced publishers. This could lead to a concentration of market power, affecting the diversity of the publishing ecosystem. Smaller publishers and those in resource-constrained settings may struggle to keep pace, potentially exacerbating existing inequalities in global knowledge production and dissemination.

As we stand at this critical juncture, stakeholders across the scholarly communication landscape must grapple with these economic shifts. Publishers face strategic decisions about investing in AI technologies and balancing open access principles with new monetization opportunities. Libraries and research institutions must consider how to ensure equitable access to AI-enhanced research tools and publications. Policymakers are challenged to create frameworks that foster innovation while preserving the core values of open science.

This paper explores the emerging economic paradigm at the intersection of generative AI and open access publishing. It examines how AI technologies are reshaping cost structures, creating new value propositions, and potentially altering market dynamics in scholarly publishing. By analyzing these economic implications, I aim to provide insights that can guide stakeholders in navigating this rapidly evolving landscape, ensuring that the benefits of AI and open access are realized while mitigating potential risks to equitable knowledge dissemination.

#### TYPES OF AI IN SCHOLARLY PUBLISHING

Artificial intelligence in scholarly publishing encompasses a range of technologies, each with distinct capabilities and applications. To understand the specific impacts on the publishing process, it is crucial to differentiate between generative AI and other forms of AI.

Generative AI refers to artificial intelligence systems capable of creating new content, such as text, images, or code. In scholarly publishing, generative AI is poised to revolutionize content creation. It can assist in drafting manuscripts or sections of papers, generate abstracts or summaries of research, create data visualizations based on research findings, and even produce initial drafts of literature reviews. Large language models such as GPT-4, which can generate humanlike text, and DALL-E, which can create images from textual descriptions, are prime examples of generative AI's potential in academic publishing.

While generative AI is driving many of the most dramatic changes, other forms of AI also play crucial roles in the publishing ecosystem. Natural language processing (NLP), for instance, focuses on the interaction between computers and human language. In scholarly publishing, NLP enables automated article classification and tagging, enhances plagiarism detection, facilitates sentiment analysis of peer reviews, and extracts key information from papers. Although not generative, NLP is fundamental to many AI-driven publishing tools.

Machine learning algorithms, which learn from and make predictions or decisions based on data, have found numerous applications in publishing. They can predict article impact or citation rates, recommend relevant articles to readers, identify potential reviewers for manuscripts, and detect patterns in research trends. These capabilities are reshaping how publishers understand and respond to the needs of their audience.

It is important to recognize that these various AI technologies often work in concert. A generative AI system might utilize NLP to understand the context of existing research before generating new content. Similarly, machine learning algorithms might be employed to refine the output of generative AI, ensuring its relevance and quality.

The integration of these AI technologies is reshaping the entire publishing workflow, from content creation to dissemination and discovery. As publishers explore the economic implications of AI in OA publishing, it is crucial to consider how these different types of AI, particularly the transformative potential of generative AI, are influencing costs, creating new value propositions, and potentially altering the balance of power in the scholarly communications ecosystem. The synergy between AI technologies promises to drive innovation in publishing but also raises important questions about the future of human involvement in the research and publication process.

#### IMPLICATIONS OF GENERATIVE AI

As generative AI becomes increasingly integrated into the scholarly publishing ecosystem, it presents a double-edged sword for open access. On one hand, AI holds the promise of democratizing knowledge further by enhancing efficiency and reducing the costs of publishing, thereby supporting the OA model. Generative AI tools such as GPT-4 and DALL-E are already being used to assist in drafting manuscripts, creating illustrations, and even generating research hypotheses. For instance, tools such as Elicit AI can perform literature reviews and summarize findings, while Grammarly uses AI to improve academic writing style and clarity.

On the other hand, the same capabilities of AI that can support OA also pose risks of exclusivity. The unique content publishers own represents a valuable asset that they may choose to keep away from their competitors in order to use it for their AI models. By retaining exclusive rights to their unique content, publishers can create proprietary services and tools that are accessible only to paying customers. This proprietary approach can lead to higher subscription fees and the development of premium, AI-enhanced services, potentially creating a tiered system where access to cutting-edge research is limited to those who can afford it. Such a scenario undermines the inclusive ethos of OA and poses ethical challenges regarding the equitable dissemination of knowledge.

At this critical juncture, publishers face a strategic decision between embracing open access and opting for proprietary content models. This decision involves balancing the long-term value of promoting widespread knowledge dissemination through OA against the immediate financial benefits of exclusive content. Meanwhile, libraries, as stewards of access and advocates for equitable knowledge dissemination, play a crucial role in shaping the future of scholarly publishing in an AI-driven world. By critically assessing the impacts of new publishing models and actively engaging in policy development, libraries can help ensure that the benefits of AI are widely distributed and aligned with the principles of open access.

#### SIGNIFICANCE OF OPEN ACCESS

Open access is a publishing model that aims to make academic research freely accessible to all, potentially removing the paywalls and subscription fees that often restrict access to scholarly journals. The principles of OA are grounded in the belief that knowledge should be a public good,

available regardless of the financial means or institutional affiliations of readers (Suber 2012; Willinsky 2009).

The impact of OA on academic research and public accessibility has been significant. By reducing financial barriers, OA can potentially democratize access to information, fostering greater equity in education and research. This model has enabled researchers worldwide, particularly those in developing countries, to access the latest scientific findings without prohibitive costs, facilitating greater collaboration and knowledge sharing across borders (Piwowar et al. 2018; Tennant et al. 2016).

OA offers numerous benefits for various stakeholders in the academic community:

- Researchers: OA can provide greater visibility and accessibility to their work, potentially increasing readership, citations, and impact. This increased exposure may lead to more collaboration opportunities and funding prospects (Schiltz 2018; Tennant et al. 2016).
- Academic institutions: Supporting OA aligns with institutions' mission to disseminate knowledge widely. It allows them to showcase their research outputs, potentially enhancing their reputation and influence in the academic community.
- Global academic community: OA has the potential to enable more equitable access to scientific literature, particularly benefiting researchers and students in resource-constrained settings. This could foster international collaboration and potentially accelerate scientific progress.
- Public: OA provides access to research that can inform policy decisions, support education, and contribute to societal well-being.

The proliferation of OA repositories and journals has increased the visibility and impact of research, as OA studies are more likely to be cited and shared widely (Ottaviani 2016). While the full potential of OA is still being realized, its growing adoption is reshaping the landscape of scholarly communication and knowledge dissemination.

## Article Processing Charges and Their Limitations

The article processing charge (APC) model has emerged as a prominent approach in OA publishing. In this model, authors or their institutions pay a fee, typically ranging from \$1,000 to \$4,000 per article, to publish their work in OA journals (Khoo 2019; Solomon and Björk 2012). These charges fund various aspects of the publishing process, including editorial services, peer review management, typesetting, and dissemination.

While APCs have enabled a significant increase in OA content, this model is not without substantial drawbacks. The primary concern is the creation of new barriers to publication, particularly for researchers from less affluent institutions or developing countries. This system risks creating a scenario where the ability to contribute to scientific discourse is determined more by financial resources than by the quality or significance of the research. Consequently, valuable work from underfunded institutions or early-career researchers might be excluded from publication, potentially skewing the body of published literature toward well-funded research areas or institutions.

Moreover, the APC model can inadvertently pressure researchers to seek out lower-cost publishing options, which may not always align with the most suitable or highest-quality venues for their work. This could potentially impact the overall quality and integrity of published research, as researchers may prioritize affordability over the most appropriate platform for their work.

## Non-APC Open Access Models

In response to these challenges, the scholarly publishing community has been exploring and implementing alternative OA models.

## Diamond OA

Diamond OA represents a significant departure from APC-based systems. In this model, neither readers nor authors bear the cost of publication. Instead, funding comes from institutions, consortia, or grants. This approach aims to remove financial barriers for both readers and authors, promoting equitable access to publishing opportunities and research consumption. However, the sustainability of this model depends heavily on consistent funding sources and institutional support.

## Green OA

In green OA, authors deposit versions of their manuscripts (preprints or postprints) in repositories, typically institutional or subject-specific archives, where they can be accessed for free. This model offers several benefits:

- Cost savings: It allows authors and institutions to provide free access to research without incurring APCs.
- Increased accessibility: By depositing manuscripts in repositories, researchers can ensure that their work is accessible to a wider audience.
- Compliance with funders' mandates: Many funding agencies require that research outputs be made freely available, and green OA provides a way to comply with these mandates without additional costs.

However, green OA faces challenges such as version control (the deposited version may differ from the final published version) and varying publisher policies on manuscript deposition, which can limit its effectiveness.

## Institutional agreements

In the institutional agreements model, universities or research institutions pay set fees to publishers to cover all or a portion of their researchers'

publishing costs. This approach distributes the financial burden more evenly across institutions and can provide more predictable costs for both institutions and publishers. However, it may still perpetuate inequalities between well-funded and less affluent institutions.

## Transformative agreements

Transformative agreements aim to redirect subscription expenditures toward supporting open access publishing. They represent a transitional strategy, facilitating a shift from subscription-based to OA models. While these agreements can accelerate the transition to OA, they have been criticized for potentially entrenching the position of large, established publishers.

## THE ROLE OF PUBLISHERS AND THEIR VARYING PRIORITIES

Publishers play a crucial role in implementing these models, and their approaches vary based on their priorities and missions. It is essential to recognize that there is a spectrum of priorities in the publishing landscape:

- For-profit publishers, while often committed to disseminating knowledge, must balance this with financial sustainability and shareholder interests. They may view profit as a primary goal, with knowledge dissemination as a product of their business model.
- Society publishers or university presses might prioritize the broadest possible dissemination of research in their field, even if that means operating with slimmer profit margins. For these entities, revenue might be viewed primarily as a means to sustain operations and improve services.

This diversity in priorities influences how different publishers approach OA and proprietary content models.

## **PROPRIETY CONTENT AND AI-ENHANCED SERVICES**

While OA models aim for widespread dissemination of knowledge, proprietary content models offer publishers opportunities for monetization and control. By retaining exclusive rights to content, publishers can create competitive advantages, attracting subscriptions and developing premium services.

The integration of AI in scholarly publishing opens new avenues for monetizing content:

- Advanced data analyses
- Comprehensive literature reviews
- Personalized research recommendations
- Predictive analytics and trend analyses
- Automated summaries

These AI-enhanced services can be offered as part of subscription packages or sold as premium features, allowing publishers to differentiate themselves and create additional revenue streams. Moreover, AI can enhance the discoverability and usability of proprietary content through sophisticated search and recommendation systems, potentially leading to higher subscription rates and renewals.

However, this approach raises ethical concerns. The creation of a tiered system where access to cutting-edge research tools and insights is limited to those who can afford it could exacerbate existing inequalities in the academic community. Researchers and institutions with limited financial resources may find themselves unable to access these advanced features, potentially hindering their ability to participate fully in the scientific discourse.

## THE IMPACT OF AI ON OPEN ACCESS AND PUBLISHING ECONOMICS

As AI technologies become more integrated into publishing processes, they present both opportunities and challenges for OA:

- Cost reduction: AI has the potential to streamline various aspects of the publishing process, from manuscript screening to peer review management. This could reduce overall publishing costs, potentially making OA more feasible for a broader range of publishers and possibly leading to lower APCs.
- Quality enhancement: AI tools can assist in improving the quality of published research by enhancing plagiarism detection, improving language and style consistency, and even assisting in the verification of statistical analyses.
- Discoverability: AI-powered search and recommendation systems can improve the discoverability of OA content, potentially increasing its impact and reach.

However, the integration of AI also presents challenges:

- Technological divide: The development and implementation of advanced AI systems require significant investment, potentially widening the gap between well-resourced publishers and smaller or less affluent ones.
- Ethical considerations: The use of AI in content creation and analysis raises questions about authorship, accountability, and the potential of bias in AI systems.
- Data management: AI systems require large amounts of data for training and operation, raising concerns about data privacy, ownership, and the potential for misuse of scholarly content.

# BALANCING OPEN ACCESS, INNOVATION, AND SUSTAINABILITY

The future of scholarly publishing lies in finding a balance between open access principles, technological innovation, and financial sustainability. This may involve

- hybrid models combining elements of OA and proprietary content;
- tiered access levels with basic services available for free or at low cost;
- subsidies or discounts for researchers from low-income regions or underfunded institutions; or
- collaborative efforts to develop shared AI infrastructure that benefits the entire scholarly community.

As the field evolves, stakeholders—including publishers, institutions, funders, and policymakers—must collaborate to develop models that ensure both the economic viability of publishing and equitable access to knowledge. This collaboration should aim to create a scholarly publishing ecosystem that harnesses the potential of AI to enhance efficiency and innovation while upholding the principles of open science and equitable access to knowledge.

The goal should be to create a system where the ability to contribute to and access scientific knowledge is determined not by financial means or technological capabilities but by the quality and significance of the research itself. This will require ongoing dialogue, experimentation with new models, and a commitment to balancing the diverse needs and interests of all stakeholders in the scholarly communication landscape.

## Dissecting Cost Structures

## **Traditional Publishing Costs**

The traditional scholarly publishing process involves several key cost components, each contributing to the overall expenses of bringing academic work to publication. These costs are typically covered by subscription fees or APCs in open access models (Johnson et al. 2018; Van Noorden 2013).

- Editorial services: This includes the labor involved in managing the manuscript submission process, coordinating peer reviews, editing for clarity and coherence, and ensuring adherence to the journal's style guidelines. Skilled editors and administrative staff play crucial roles in maintaining the quality and integrity of published content.
- Peer review management: Coordinating the peer review process involves selecting and inviting reviewers, managing communications between authors and reviewers, and handling revisions. This process is labor-intensive and requires significant administrative oversight to ensure timely and thorough reviews.

- Typesetting and formatting: Once a manuscript is accepted, it undergoes typesetting to ensure that it meets the journal's layout and design standards. This includes formatting text, figures, tables, and references to create a polished, professional publication. Typesetting can be complex and time-consuming, particularly for articles with numerous graphics and intricate formatting requirements.
- Distribution: Traditionally, distribution involved printing and shipping physical copies of journals. In the digital age, distribution costs have shifted toward maintaining online platforms, managing digital subscriptions, and ensuring the seamless delivery of content to readers worldwide. This includes costs associated with hosting, cybersecurity, and maintaining digital archives.

## AI Integration and Cost Reduction

Generative AI has the potential to streamline many of these traditional publishing processes, leading to significant cost reductions. By automating labor-intensive tasks, AI can improve efficiency and reduce the need for extensive human intervention (Kaebnick et al. 2023; Otmar et al. 2024).

- Grammar checks and formatting: AI-driven tools can automatically correct grammar, spelling, and punctuation errors. They can also format manuscripts according to specific journal guidelines, ensuring consistency and saving time. Advanced AI writing assistants such as Grammarly, ProWritingAid, and Trinka AI are increasingly used in the publishing industry to enhance the quality of manuscripts before they reach the editorial desk. These tools not only check grammar and spelling but also offer suggestions for clarity, conciseness, and adherence to academic writing styles.
- Manuscript screening: AI can assist in the initial screening of manuscripts, quickly assessing their relevance, originality, and adherence to submission guidelines. This helps in filtering out unsuitable submissions early in the process, reducing the workload for human editors. AI-powered platforms such as UNSILO use machine learning to streamline manuscript submission, peer reviewer selection, and content checking processes.
- Peer review assistance: AI can aid in identifying potential reviewers by analyzing the content of the manuscript and matching it with experts in the field. This can expedite the reviewer selection process and ensure that manuscripts are reviewed by appropriate experts. AI can also assist in detecting potential conflicts of interest and ensuring the integrity of the review process. Tools such as Artemis (by Hindawi) and Frontiers' Artificial Intelligence Review Assistant are leveraging AI to assist in the peer review process, from reviewer selection to assessing the overall quality and novelty of submissions.

The landscape of AI tools in scholarly publishing is rapidly evolving. Platforms such as Iris.ai for literature review, Semantic Scholar for academic search, and scite.ai for citation analysis are pushing the boundaries of how AI can assist in research and publishing processes.

#### New Costs Introduced by AI

While AI offers potential cost-saving benefits in scholarly publishing, it also introduces new expenses that publishers must carefully consider. The implementation of AI systems in this context brings unique challenges and costs.

A significant investment lies in technology and infrastructure. Publishers need to either develop or acquire AI software tailored to scholarly publishing tasks, such as manuscript screening, peer review assistance, and content recommendation systems. This often requires collaboration with AI specialists who understand both the technical aspects of AI and the nuances of academic publishing.

Data management in scholarly publishing presents distinct challenges. Unlike in general data management practices, publishers must deal with vast archives of academic content spanning various disciplines, formats, and time periods. Preparing this data for AI use involves more than simple storage and processing. It requires extensive curation, including digitizing legacy content, standardizing metadata across diverse publication types, and structuring information from various formats such as PDFs and La-TeX files. Moreover, publishers must ensure compliance with complex copyright laws and licensing agreements that govern academic content.

The scholarly publishing industry also faces unique ongoing costs. AI models trained on academic content need regular updates to stay current with rapidly evolving research fields. This means continuously incorporating new publications into training datasets and potentially retraining models to recognize emerging topics and methodologies. Additionally, as academic publishing often deals with sensitive or embargoed research, there is an added layer of security and ethical considerations in managing AI systems and their data.

It is important to note that while these costs are significant, they may be offset by the efficiencies and new capabilities that AI brings to the publishing process. However, publishers, especially smaller ones or those in specialized fields, may find these investments challenging. The economic impact of AI adoption in scholarly publishing is thus not uniform across the industry, potentially leading to disparities in technological capabilities among publishers of different sizes and resources.

#### STRATEGIC POSITIONING FOR PUBLISHERS

#### **Economic Impact**

#### Analysis of financial sustainability of OA versus proprietary models

The financial sustainability of OA versus proprietary models is a critical consideration for publishers in the era of generative AI. Traditional subscription-based models have long provided a steady revenue stream, allowing publishers to cover the costs associated with editorial services, peer review, typesetting, and distribution. However, the rise of OA, driven by the principles of free and equitable access to knowledge, has challenged this conventional model (Björk 2017; Piwowar et al. 2019).

Open access relies primarily on APCs to generate revenue. While APCs ensure that articles are freely accessible to readers, the financial burden is shifted to authors or their institutions. This model promotes greater dissemination of knowledge but may not always cover the extensive costs of high-quality publishing, particularly for smaller or less well-funded journals.

Proprietary models, on the other hand, retain exclusive access to content, generating revenue through subscriptions, pay-per-view fees, and licensing agreements. These models can be more financially stable, as they rely on consistent and predictable income from subscribers and institutional buyers. However, they also restrict access to knowledge, which can limit the broader impact and reach of research findings.

#### Hybrid models combining OA with premium services

Hybrid models that combine elements of both OA and proprietary content could balance the benefits of OA with the financial sustainability of proprietary models (Björk 2012; Pinfield et al. 2016). For instance, publishers can make primary research articles freely accessible through OA while offering additional premium services for a fee. These services may include enhanced search and discovery tools, automated literature reviews, data visualization and analysis platforms, and personalized research recommendations powered by AI. By charging for these advanced features, publishers can generate additional revenue while maintaining the core principles of OA.

Hybrid models can also include tiered access levels, where basic services are available for free or at a low cost and more advanced functionalities are offered through subscription or onetime fees. This approach ensures that essential research findings remain accessible to all while generating income from value-added services that enhance the user experience.

## **Ethical Considerations**

### Ethical implications of restricting access to knowledge

The ethical implications of restricting access to knowledge are a significant concern in the debate between OA and proprietary models. Open access is founded on the principle that knowledge should be freely available to everyone, regardless of financial means or institutional affiliation. This approach promotes equity, inclusivity, and the democratization of knowledge, ensuring that research funded by public money benefits society as a whole.

Restricting access to proprietary content, however, can exacerbate existing inequalities in the academic community. Researchers and institutions with limited financial resources may be unable to afford subscriptions or premium services, hindering their ability to access the latest research and participate fully in the scientific discourse. This exclusivity can create a divide between well-funded institutions and those with fewer resources, limiting opportunities for collaboration and innovation.

## Balancing profit motives with the principles of equity and inclusivity

Publishers must carefully balance profit motives with the principles of equity and inclusivity. While generating revenue is essential for sustaining high-quality publishing operations and investing in technological advancements, it is equally important to ensure that knowledge remains accessible to all.

One approach is to adopt transparent and fair pricing strategies for APCs and premium services, ensuring that fees are aligned with the value provided and are affordable for a broad range of researchers and institutions. Publishers can also offer subsidies, waivers, or discounts for researchers from low-income regions or underfunded institutions, promoting inclusivity and equity in access to knowledge.

#### LIBRARIES AS CHANGE AGENTS

Libraries have long been champions of OA and equitable knowledge dissemination. As AI increasingly permeates scholarly publishing, libraries are uniquely positioned to foster AI literacy among researchers, students, and other stakeholders in the academic community.

This role extends beyond promoting general AI awareness; it involves cultivating a nuanced understanding of AI's applications in scholarly communication and its implications for OA. By developing targeted educational programs, libraries can help researchers navigate AI-enhanced manuscript preparation tools, to better understand their benefits and limitations in academic writing. They can also illuminate how AI is transforming peer review processes, potentially affecting the trajectory of scholarly discourse. Moreover, libraries play a crucial role in elucidating AI's impact on search and discovery systems. As AI algorithms increasingly influence how scholarly content is indexed and recommended, understanding these systems becomes vital for effective research strategies. This knowledge is particularly crucial for OA content, where discoverability can significantly impact reach and influence.

In the realm of publishing workflows, libraries can bridge the knowledge gap between researchers and publishers. By explaining how AI streamlines various aspects of publishing, from automated typesetting to metadata generation, libraries can help the academic community understand the evolving economics of scholarly publishing. This understanding is crucial for informed discussions about sustainable OA models in an AI-enhanced publishing landscape.

As AI systems become more adept at generating humanlike text, libraries must also lead conversations about AI-generated content and authorship. These discussions should explore the ethical implications of using AI in content creation and how to properly attribute AI contributions in scholarly works. Such conversations are essential for maintaining the integrity of academic publishing in the age of AI.

Furthermore, libraries are well positioned to address the data management challenges posed by AI in scholarly communication. They can guide researchers on issues of data privacy, ownership, and the potential for bias in AI training data, especially pertinent for OA publications where data is often freely available.

By fostering this specialized AI literacy, libraries can empower stakeholders to harness AI's benefits while navigating its challenges in OA publishing. This effort goes beyond mere technology adoption; it is about ensuring that AI integration aligns with the core principles of open, equitable access to knowledge. Libraries can achieve this through various means: offering workshops tailored to different academic disciplines, collaborating with publishers to provide insights into AI-driven publishing processes, and partnering with computer science departments to develop interdisciplinary approaches to AI in scholarly communication.

In essence, by championing AI literacy in the context of scholarly communication, libraries can help shape a future where AI enhances rather than hinders the goals of OA. This proactive approach positions libraries as key players in evolving the scholarly communication ecosystem, ensuring that it remains efficient, accessible, and equitable in the face of rapid technological change.

## POLICY INFLUENCE AND PARTNERSHIPS

## Engaging in Policy Development to Advocate for Ethical Standards in AI Use

Libraries can play a critical role in shaping policies that govern the use of AI in scholarly publishing. By actively engaging in policy development, libraries can advocate for ethical standards that ensure transparency, accountability, and fairness in AI applications.

Libraries can collaborate with academic institutions, publishers, and policymakers to draft guidelines and regulations that address the ethical use of AI. This includes advocating for policies that promote data privacy, mitigate biases, and ensure that AI technologies are used to enhance rather than restrict access to knowledge.

## Forming Partnerships to Influence the Direction of Scholarly Communication

Forming strategic partnerships is essential for libraries to influence the direction of scholarly communication in the AI era. By collaborating with technology companies, academic institutions, and publishers, libraries can drive innovation and promote ethical practices in AI-driven publishing.

- Tech collaborations: Partnering with technology companies allows libraries to access cutting-edge AI tools and expertise. These collaborations can lead to the development of innovative solutions that enhance research and publishing workflows.
- Academic partnerships: Working with academic institutions enables libraries to stay at the forefront of research and education in AI. These partnerships can facilitate joint initiatives, such as research projects, conferences, and educational programs, that advance AI literacy and ethical practices.
- Publisher collaborations: Collaborating with publishers helps libraries advocate for OA and ethical AI use in publishing. By working together, libraries and publishers can develop policies and practices that promote equitable access to knowledge and ensure the responsible use of AI technologies.

## FUTURE OUTLOOK

As we look to the future of scholarly publishing in an AI-driven world, it is clear that AI holds tremendous potential to enhance the efficiency and impact of OA. By automating labor-intensive tasks, AI can reduce publishing costs, accelerate the dissemination of research, and improve the discoverability of scholarly content. AI-driven tools and services have the potential to provide advanced functionalities, such as personalized recommendations and automated literature reviews, which may enhance the research experience and could contribute to scientific progress. Future applications of generative AI might include AI coauthors, automated generation of follow-up research questions, or even AI-driven hypothesis generation. These developments could dramatically accelerate the pace of scientific discovery, but they also raise questions about the nature of authorship and scientific creativity.

However, realizing this potential requires careful consideration of ethical issues. Ensuring that AI applications are transparent, unbiased, and aligned with the principles of equity and inclusivity is crucial. The integration of AI should not exacerbate existing inequalities in access to knowledge but should instead promote broader and more equitable dissemination of research findings.

#### CALL TO ACTION

To achieve a future where AI enhances OA while upholding ethical standards, collaboration among publishers, librarians, and policymakers is essential. Publishers must explore innovative models that balance financial sustainability with the principles of open access. Libraries should continue to advocate for OA and ethical AI use, building expertise and forming strategic partnerships to influence the direction of scholarly communication. Policymakers must develop guidelines and regulations that ensure the responsible use of AI, protecting data privacy, mitigating biases, and promoting transparency.

In conclusion, the integration of generative AI into scholarly publishing presents both opportunities and challenges. By working together, stakeholders can harness the power of AI to democratize access to knowledge, fostering a more inclusive and equitable academic community. This collaborative effort will ensure that the benefits of AI are widely distributed, enhancing the efficiency and impact of OA while upholding the fundamental principles of scholarly communication.

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Leo S. Lo serves as the dean and professor at the College of University Libraries and Learning Sciences at The University of New Mexico. His work centers on integrating AI into library services, elevating the community's AI literacy, and teaching intelligent, responsible use of the technology. Lo studied artificial intelligence at University of Oxford, and Lo holds a doctorate degree in higher education management from the University of Pennsylvania, an MLIS from Florida State University, and master's degrees in both screenwriting and survey research.