Journal of Intellectual Property Rights
Vol 31, November 2026, pp 1092-1107
DOI: 10.56042/jipr.v31i6.30356

Copyright Enforcement and Access to Knowledge in the Open Access Era: Comparative Regulatory Approaches in India and Uzbekistan

Anuttama Ghose[1,2†] and Abdumumin A Yuldashov[2]
[1]Vinayaka Mission's Law School, Vinayaka Mission's Research Foundation (DU), Chennai — 603 104, India
[2]Tashkent State University of Law, 35 Sayilgoh Street, Tashkent — 100 047, Uzbekistan

Received: 2nd April 2026; revised: 13th October 2026

Open access is changing the academic publishing business model, which is leading to a reassessment of copyright law and the public's right to benefit from scientific advancements. Research outputs must be accessible and available for any country to develop scientifically, innovate socially, and economically. Using India and Uzbekistan as case studies, this study examines how informal libraries and formal open-access infrastructures affect copyright enforcement disputes. This study discusses contrasted approaches to copyright governance and evaluates the scope and limits of the fair use concept by evaluating legislative frameworks, judicial judgements, and institutional practices in each nation. The research also suggests a balanced copyright system that protects creators' interests while enabling equal access to information, particularly in resource-constrained educational environments, through the proposed Access Asymmetry Index (AAI).

Keywords: Access Asymmetry Index (AAI), Access to Education, Copyright, Open Access Platforms, Shadow Library

Over the past decade, the academic community has witnessed substantial progress in the development and promotion of Open-Access (OA) policies by major publishers worldwide. However, there has been no clear indication of how publishers are addressing the open access rules of governments, funders, and institutions to facilitate researchers' ability to freely read and share their journal articles up until now. Since its inception, open access has faced a significant obstacle in the form of copyright.To ensure the widest possible reach of research via open access, widespread reform is necessary. It is a common belief among researchers that copyright is making it harder to share, access, and utilise or reuse academic knowledge.[1] This, in turn, hinders the ability to validate study results, conduct more research and innovation, and make scientific information accessible to the general public. In the digital era, through licensing practices rather than outright sale of content and through the use of digital locks and barriers, copyright inherently encompasses extensive rights to exclude. Academic libraries spent more than USD 8.1 billion in 2016 to provide access to scholarly material, with the average cost of journal subscriptions increasing at a 6% annual pace.[2] Subscribing to paywalled academic books allegedly costs Indian universities and research institutes around USD 200 million per year.[3] Public declarations have been made in the past by well-funded colleges, including Harvard[4] and the University of California[5], indicating their struggle to keep up with the increasing costs of academic publications. Academic publication, according to George Monbiot, is nothing more than economic parasitism.[6]

In response to widespread dissatisfaction with academic publishing and the lack of systemic reform to improve readers' access to literature, the Pirate Open Access Movement emerged.[7] LibGen, Sci-Hub, and Z-Library are prominent examples of shadow libraries, providing researchers with access to books, articles, and other scholarly materials. Especially in underdeveloped nations where access to information behind paywalls is restricted, these platforms have proven to be helpful for scholars. These behaviours bring up issues with copyright and reveal the difficulties of controlling open access platforms, which may obstruct research and teaching. To enhance their knowledge base and share it with their trainees, academics rely heavily on journals, theses, books, and presentations. The advent of open access is fundamentally altering the business paradigm of academic publishing, prompting a re-evaluation of copyright law in relation to the public's right to benefit from scientific advancements. Beiter, in his work, advocated for changes to copyright laws that

†Corresponding author: Email: anuttamaghose@gmail.com

would make scholarly publications more accessible to the public.[8] The issue of how copyright law should be amended to accomplish this is currently more relevant than ever. The authors of this research aim to investigate the ways in which informal libraries and formal open-access infrastructures contribute to enforcement conflicts within copyright regimes, with a focus on India and Uzbekistan. In addition, this study will examine the issue from the perspective of Benjamin Sobel's theory of copyright acceleration, assess the theories of hyper-enforcement, and draw conclusions about the varying approaches of the judiciary, administration, and platform-based governance. This article further presents a comparative analysis to assess the breadth and limitations of the fair use doctrine, as well as its divergent applications within the frameworks of educational access and copyright enforcement in India and Uzbekistan. Additionally, the paper proposes the need for a balanced copyright system that safeguards the interests of creators while facilitating equal access to information, especially in resource-constrained educational environments, through the proposed Access Asymmetry Index (AAI). Even though termed an "index", the AAI is not intended to generate quantitative scores or rankings, rather, the term "index" here is denoting a structured evaluative construct that is systematically identifying and analyses the principal dimensions which are influencing access to knowledge across different copyright regimes. Accordingly, the AAI functions as a qualitative analytical framework for the comparative copyright analysis rather than a statistical measurement tool.

In this paper, India and Uzbekistan have been selected as comparative case studies because they represent a very distinct yet complementary approaches to copyright governance within the developing economies. India, is a constitutional democracy of the Global South, which has witnessed a significant judicial engagement with copyright, educational access, as well as digital enforcement alongside an expanding Open Access ecosystem, while, Uzbekistan, by contrast, represents a post-Soviet civil law jurisdiction with an emerging repository-based Open Access infrastructure and comparatively limited copyright litigation. Byexamining these contrasting legal and institutional contexts, it provides the readers with a useful basis for evaluating how different copyright regimes seeks to balance proprietary interests with that of equitable access to scholarly knowledge in the present digital era.

This study adopts a qualitative doctrinal and comparative legal research methodology to examine the relationship between copyright enforcement and access to knowledge in the open-access era, where it analyses primary legal sources, including statutes, constitutional provisions, judicial decisions, and international instruments, alongside scholarly literature and institutional reports. By using India and Uzbekistan as comparative case studies, the paper evaluates their legislative frameworks, judicial approaches, and institutional practices through the theoretical lenses of copyright accelerationism and hyper-enforcement. Further, the proposed Access Asymmetry Index (AAI) is developed in this paper as a conceptual analytical framework to assess the legal, economic, and technological dimensions shaping equitable access to scholarly knowledge.

Conceptualising Formal and Informal Open Access Infrastructures

Evolution and Conceptual Foundations of Open Access

The quantity of knowledge has grown exponentially over the last few decades, and there are now more ways than ever before to disseminate that information. Suber argues that there is considerable discussion about the cost of this information and who should have permission to use it.[9] The term "scholarly open access" has been defined in various ways over the years.[10] According to the Budapest Open Access Initiative, “open access”means,

"....*its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself*.” Further, UNESCO also defines open access as “*free access to scientific information and unrestricted use of electronic data for everyone*” and explicitly notes that “*expensive prices and copyrights will no longer be obstacles to the dissemination of knowledge*.”[11]

There were three significant declarations, the Budapest Open Access Initiative in 2002, which tried to eliminate high prices and formulate a global policy for it, secondly, the Bethesda statement in June 200, which was also there to advocate for open-access publication in scientific journals, specifically in the

area of biomedical sciences and encouraged institutions and funding bodies to have open access policies in place and lastly, the Berlin Declaration in October 2003 which further expanded the movement's scope.[12] Green open access, gold open access, and diamond open access are the three categories that comprise open access publication. An article published in a commercial open-access journal, which may at times require payment from the author or the institution, is considered to be gold open access.[13] Green open access refers to a galley proof or publishing draft that has been preserved by the author. Last but not least, the term "diamond open access" refers to a work that is published instantly as open access in a journal without any author fees being charged.[13] With the emergence and widespread adoption of digital technologies for science communication over the past two decades, the notion of access to scholarly resources has evolved. In response to the critical need for post-publication access to information, the majority of long-standing publishers have established online libraries, also known as e-libraries, for the benefit of their individual and institutional customers. These comprise the Formal Open-Access platforms that facilitate knowledge; however, their accessibility is often questioned due to high costs and associated fees.

Following the transformation of the publishing system, the primary concern revolves around the quality of publications and the unwarranted escalation of article-processing charges. The prevailing discontent with the academic publishing industry and the absence of comprehensive reforms to address access to scholarly literature have led to the emergence of the Pirate Open Access Movement, resulting in the creation of "shadow libraries" or informal open-access practices.[14] Shadow libraries, often referred to as "pirate libraries," are digital repositories of copyrighted works that have been distributed freely online without the owners' knowledge or consent. Despite being illegal in most nations, they have progressively become important actors in the transmission of scientific information.[15]

Along with establishing the normative foundations of the Open Access (OA) movement, the Budapest Open Access Initiative (2002), the Bethesda Statement on Open Access Publishing (2003), and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003) collectively shaped the legal as well as the institutional framework that is governing scholarly communications. The Budapest Initiative defined OA as the free online availability of scholarly literature and advocated strongly for the removal of financial, legal, and technical barriers, while recognising that copyright should primarily secure authors' attribution and integrity of their work, rather than restricting lawful access and reuse, thereby laying the foundations for open licensing and repository-based dissemination mechanisms.[16] Further, the Bethesda Statement advanced these principles by encouraging authors to retain sufficient rights to permit unrestricted reproduction and distribution with proper attribution and also urging research institutions and funding agencies, particularly in biomedical sciences, to adopt repository mandates for publicly funded research.[17] Lastly, the Berlin Declaration further expanded the movement by securing institutional commitments to interoperable repositories, long-term preservation of these scholarly outputs, and recognition of Open Access within the research evaluation systems.[18] Collectively, these declarations transformed Open Access from an ethical aspiration into an emerging global governance framework which aimed to influence universities, research funders, repository development, and contemporary copyright policies.

Authors tend to choose Open Access not only to enhance the visibility, citation, and societal impact of their research, but also to comply with institutional and funder mandates to promote public access to publicly funded scholarship. Thus,rather than abandoning copyright, authors typically retain ownership while licensing broader dissemination and reuse, thereby prioritising scientific collaboration and knowledge diffusion over the exclusive commercial exploitation of their scholarly works.

Challenges to Open Access Infrastructure

Despite the rapid expansion of Open Access (OA), as we have observed in the previous segment of the paper, publishing and institutional repositories face significant legal, economic, and technological barriers that continue to impede equitable access to scholarly knowledge. These persistent challenges have not only exposed the limitations of the conventional scholarly communication models but have also contributed to the emergence of informal access infrastructures, including shadow libraries such as Sci-Hub and LibGen, which seek to circumvent copyright and subscription barriers while simultaneously intensifying debates over copyright enforcement and access to knowledge.[19]

While many in the publishing and scientific editing industries condemn these libraries for allegedly infringing on copyright and erasing data on publication frequency, some academics and organisations support them, albeit indirectly, for their role in reducing academic inequality, especially in low-income nations.[19] Given the current state of scholarly communication, academic libraries are actively promoting open access through initiatives such as institutional repositories and open-access publishing funds. However, with the rise of shadow libraries and black open-access initiatives, concerns have arisen about the ethical and legal implications of accessing and distributing copyrighted content.[20] In order to responsibly provide access to scholarly materials while adhering to legal and ethical standards, academic libraries must navigate the complexities of copyright law and intellectual property rights.

Economic Sustainability of Open Access and Copyright Exceptions

The long-term sustainability of scholarly publishing is supported throughdiversified Open Access (OA) funding models rather than that of exclusive reliance onsubscription-based revenue.[21] While the Article Processing Charge (APC) model has expanded Gold OA, the emerging concerns regarding cost-shifting have simultaneously encouraged the growth of Diamond OA, institutional funding, library consortia, transformative ("read-and-publish") agreements, and the Subscribe-to-Open model, which collectively redistribute publication costs among universities, research funders, governments, and scholarly communities rather than individual readers.[22] The recent public initiatives, including India's One Nation One Subscription (ONOS) programme as well as expanding national and institutional repositories, further demonstrate how centrally negotiated funding and repository-based dissemination can broaden access while also maintaining viable publishing infrastructures.[23]

Most importantly, neither Open Access nor fair use (or fair dealing) is inherently incompatible with the economic sustainability of scholarly publishing, because, Open Access primarily restructures the financing of the publication, whereas fair use and fair dealing here functions as a carefully circumscribed statutory limitations which is facilitating socially beneficial activities such as research, teaching, criticism, and also private study without substituting the normal commercial exploitation of the protected works. Consistent with that of the three-step test embodied in Article 9(2) of the Berne Convention and Article 13 of the TRIPS Agreement, these mechanisms try to balance authors and publishers legitimate economic interests with the broader public interest, in the dissemination of scientific knowledge, and thereby reinforcing rather than undermining a sustainable copyright ecosystem.

Theorising Enforcement, Control, and Access in Digital Copyright Law: Accelerationist and Hyper-Enforcement Approaches

To accurately identify the increasing copyright issues in the era of digital technologies and artificial intelligence, it is helpful to lay forth clear theoretical standards for measuring the effectiveness of legal frameworks in this new setting.[8] Since copyright does not exist in a vacuum, it has been pointed out that in order for a system to be desirable, some criterion or reason must be satisfied. Additionally, the article assesses how the copyright framework's limiting effects on people's liberties have prompted demands for stronger justifications of copyright laws to forestall a legitimacy crisis in which people doubt the framework's existing usefulness and rationale. Before delving into the theoretical insights, it is essential to understand that current enforcement mechanisms have evolved beyond traditional legal mandates and courtroom adjudications, and also include automated algorithmic practices that simultaneously detect, filter, restrict, and eliminate access to digital content, as argued by Perel and Elkin-Koren.[24] This paper in this part shall attempt to analyse the existing tensions between legal formalism and technological control with the help of Benjamin Sobel's idea of *copyright accelerationism*[25] and the phenomenon of "*hyper enforcement*".

In the context of open access platforms, Bollier and Helfrich argue that it is often observed that digital copyright enforcement mechanisms play the role of knowledge enclosure, where scholarly knowledge, which was previously perceived as a public good, is transformed into a privatised and controlled commodity.[26] Using this paradoxical self-governance structure, open access platforms themselves weaponize copyright enforcement to limit access and usage of knowledge. According to Sobel, the idea of Copyright Accelerationism provides a theoretical response: when a system is pushed to its extreme, in our case, implementing copyright enforcement in a

rigid, uniform manner without any exceptions or asymmetries, it will create a system so dysfunctional that it will necessitate necessary legal reforms.[25] Sobel, in his work, identifies the foundational tension between the purpose of copyright and its current application.[25] In our current scenario, copyright was initially created to promote knowledge, but in reality, it is used to restrict knowledge, making access to information costly and limited in scale. However, Sobel stated that digital technology highlights this restrictive feature of copyright further and thus shall transform this problematic regime into a fundamentally unworkable one.[25]

In a contrasting way, hyper-enforcement theory develops from practices centred on algorithmic and digital governance of copyright. Scholars like Mayan Paerel and Niva Elkin Koren pointed out how modern take-down notices, filter applications, and right management tools, which are used by online platforms, give adjudicative and enforcement powers to dominant intermediaries rather than courts.[24] They also argued that these systems often overpower fair use or other statutory exceptions, creating systematic overblocking as well as a *chilling effect* on existing laws.[24] Julie Cohen considers this a transformation of *ex post enforcement* mechanisms into *ex ante control,* impacting copyright to be treated as a liability rule rather than a *de facto property* rule enforced by codes rather than law.[27]

Together, hyper-enforcement theory and copyright accelerationism suggest a distinct perspective on the regulation of open-access platforms. Hyper-enforcement analysis explains how technological interventions associated with open access platforms produce barriers to access, which is way beyond what copyright legislation intended to create when it was enacted, while accelerationism advocates that expanding the rights and powers of intermediaries controlling open access will only deepen the structural inequalities and not achieve the true essence of copyright. Together, these theories contextualise the imperative that has driven the development of shadow libraries as an alternative infrastructure, as formal open systems become inaccessible, thereby emphasising the tensions between copyright's objectives of fostering knowledge and its functioning within the digital domain.

Copyright and Open Access in India

In the case of Open Access publishing data in India, reports indicate that approximately 24.19% of scholarly articles authored by Indian researchers in the past five years were accessible through open access, either via the Gold or Green OA routes.[28] Compared to the global average of approximately 33% of open-access literature,[29] the proportion of open-access publications in India is comparatively lower. Among the open-access highways in India, the Gold open-access route is the most prominent, accounting for approximately 10-12% of open-access articles published through this pathway.[30] Approximately 6% of OA articles utilise the Green OA model.[30] Over time, as an increasing number of publications transition from print to digital formats, the notion that copyright protection of research works restricts individuals' ability to readily access information has gained prominence. In India, proponents of open access do not oppose the implementation of copyright protections for scientific publications. Instead, they contend that publishers, rather than authors, have traditionally derived advantages from copyright on research articles and that certain publishers are exploiting the system to sustain their profits. In developing nations, where funds are limited for researchers, copyright laws are often perceived as a barrier to the free dissemination of research and scholarship, as they do not fulfil their primary objective of advancing science in the digital age.[31] The emergence of the Pirate Open Access Movement was a direct result of the considerable discontent with academic publishing and the lack of comprehensive change aimed at increasing users' access to literature. One of the most prominent figures in this shift is Sci-Hub, which has grown into a global leader among shadow libraries of academic journals.

Statutory and Judicial Pronouncements onCopyrightability Debates Surrounding Open Access and Shadow Libraries in India

The primary objective of the copyright agreement is to promote innovation by compensating creators of intellectual property while also safeguarding the general public's interests. These two factors are often in conflict with each other.This tension becomes quite apparent in some circumstances. One such issue in India is the current dispute before the Delhi High Court, which concerns the validity of shadow libraries, such as Libgen and Sci-Hub. According to studies, more than 91% of Indian academia is accessible via Sci-Hub, with 18.46% of publications having some kind of open access.[30] Several copyright injunctions have been issued against the Sci-Hub

database in various countries, including the US, France, Russia, Sweden, Belgium, and the UK. The American Chemical Society, Elsevier, and Wiley, three scholarly publishers, sued Sci-Hub in India's Delhi High Court in December 2020 for copyright infringement. Copyright in India is regulated by The Copyright Act, 1957 (hereinafter referred to as 'The Act').Section 13 of the Act stipulates that copyright will remain throughout India in original literary works, while Section 14 defines copyright and elucidates its scope comprehensively as follows, "the exclusive right, subject to the provisions of this Act, to reproduce the work in any material form including the storing of it in any medium by electronic means, to issue copies of the work to the public not being copies already in circulation and to make any translation of the work." Proponents of shadow libraries frequently invoke Section 52 (1) (a) of the Act, which permits the fair use of any work for purposes such as study, criticism, review, or journalism, to support their position. Technical and professional publications, along with other scholarly resources necessary for instruction, are costly and difficult to obtain, which constitutes the primary basis of the argument. Due to a few academic publishers holding monopolies on certain volumes, it is difficult for a market equilibrium to arise.

The relevance of the fair dealing theory was acknowledged by the Indian colonial copyright law in 1842. In *McMillan* v *Khan Bahadur Shamsul Ulama Zaka*, the Bombay High Court held that India shall be governed by Englishcopyrightlaw.[32] By enacting the Copyright Act of 1914, India formally included the fair dealing doctrine into its copyright laws.[33] At present, the affirmative defences and exceptions to copyright infringement in India are shaped by section 52 of the post-colonial Copyright Act of 1957. Different categories of these defences include fair dealing, allowed reproductions, publications, performances, recitations, exceptions for library use, artistic works, computer and computer program uses, broadcasting, uses for people with disabilities, and allowed importation of goods.[34] The most relevant of these categories for the purposes of this Paper is "*fair dealing of works*," which states that one is not liable for copyright infringement if they fairly deal with any work for "*private or personal use, including research*."[35] When discussing the applicability of the four-factor test in a fair dealing evaluation under the Copyright Act of 1957, two decisions handed down by the Delhi High Court, i.e. *ICC Development* v *New Delhi Television* and the *Rameshwari Photocopy case*, are crucial. For the purpose of determining fair dealing under Section 52(1)(a) of the Indian Copyright Act, ICC Development (2012) said that, similar to the four-factor test included in Section 107 of the American Copyright Act, the court would have to take length, context and purpose, and economic effect into account.[36]

The landmark judgement by the Division Bench of the Delhi High Court in the case of *University of Oxford* v *Rameshwari Photocopy Services* is examined through the perspectives of fair use and the public domain, highlighting the importance of educational exceptions in contrast to the private property and trade-oriented discourse of copyright, thereby constituting a crucial decision in this context.[37] The university and the photocopy service provider were sued by five publishers for copyright infringement. The publishers wanted to stop the institution and the photocopy service provider from making and selling course packs that included copies of their works. The plaintiffs stated that the University of Delhi had institutionalised infringement by including excerpts from their books in its curriculum and allowing students to replicate and sell these excerpts as course packs. In a September 2016 ruling, a Delhi High Court single-judge bench upheld the defendants' right to pursue their case under Section 52(1)(i). When making his decision, Justice Rajiv Sahai Endlaw looked to the Copyright Act's fundamental structural logic.[38] The plaintiffs took their case to the Delhi High Court's Division Bench in December 2016 to challenge the verdict of the single judge.In deciding the breadth of Section 52(1)(i), the publishers argued that the Court must use the four-factor test.Section 52(1)(i) of the Copyright Act of 1957 contains the words "*in the course of instruction*," which the Court then proceeded to interpret. The Court's interpretation of the wording was that the word "course" implied that the protection included the full educational process in a semester. The interpretation of the phrase to provide a broad meaning to the word "instruction" was perhaps the most crucial aspect of the two rulings.In reaching its decision, the Division Bench referred to a 1991 High Court of New Zealand decision in the case of *Longman Group Ltd* v *Carrington Technical Institute Board of Governors* (1991).[39]

The jurisprudential significance of the Rameshwari Photocopy Services case extends beyond its interpretation of Section 52(1)(i) of the Copyright

Act, 1957, where the Delhi High Court recognised that copyright exceptions are not merely defences to the infringement but constitute an integral component of the copyright system,which is designed to advance the constitutional and statutory objective of disseminating knowledge. And by adopting a purposive interpretation of the phrase "*in the course of instruction*", the Court here has rejected an unduly proprietary conception of copyright infavour of a contextual balancing of the author's exclusive rights against that of the public's interest in education.[38] This reasoning thus assumes renewed significance in the digital environment, where access to scholarly materials increasingly occurs through electronic rather than physical modes of dissemination, thereby providingan important interpretative foundation for evaluating contemporary disputes over digital access to knowledge.

According to Liang, the pirate OA movement for academic articles is expected to undergo judicial review shortly. He argued that the precedential importance of the Rameshwari Photocopy judgements would be noteworthy when evaluating the piracy of academic literature within the framework of copyright law, if they could be seen as examples of how the law should and must address the practical challenges of access to educational resources.[38]

In December 2020, three academic publishers, Elsevier, Wiley, and the American Chemical Society, appeared before the Delhi High Court and filed a lawsuit against Elbakyan and Libgen for copyright infringement in India.[40] Similar to the Rameshwari Photocopy case, this provoked a significant portion of the academic community. Consistent with the larger Access to Knowledge movement and furthering the goals of academic research and higher education, the Sci-Hub lawsuit is similar to the DU Photocopy case.[41] As a result, there was room to argue for applying the liberal and purposeful interpretation set forth in the DU Photocopy case to the Sci-Hub action as well.[42] By a court order dated December 24, 2020, Sci-Hub was ordered to refrain from publishing any more publications for which the plaintiff has the copyright. At the latest case hearing in August 2025, the plaintiffs' attorneys argued that Sci-Hub promotes itself as a pirate website and that its founder, Alexandra Elbakyan, admits to intentionally violating copyright laws by persistently uploading infringing materials despite the court's directives to cease such activities.[43] The court has issued a directive requiring the Ministry of Electronics and Information Technology, the Department of Telecommunications, and the Ministry of Electronics and Information Technology to promptly implement measures to ban these websites.[43]

This case, hence presents a broader normative question than one of conventional copyright infringement, where the plaintiffs contended that Sci-Hub systematically reproduces and communicates the copyrighted works to the public in a manner that undermines the subscription-based publishing and the licensing markets, intervenors representing researchers, students, libraries, and civil society parallelly, argued that the dispute must also be evaluated against the constitutional commitments to education, scientific progress, and equitable access to publicly funded research. Thus, this litigation encapsulated the contemporary tension between proprietary copyright enforcement and the public interest in knowledge dissemination. If we read this issue, alongside the Rameshwari Photocopy case, the proceedings illustratethe Indian judiciary's continuing engagement with the challenge of reconciling exclusive rights with educational access in an increasingly digital research ecosystem. Thus, the Indian scholars and researchers have vehemently opposed the restriction, even when the publishers wanted more stringent enforcement. Sci-Hub and Libgen continue to play a crucial role in enabling many people to access academic articles that would otherwise be inaccessible due to high payment barriers.

Debates on Accelerationist Copyright Governance and the Constitutional Imperative of Access to Education in India

The current copyright governance in India is constantly sparking debates surrounding restrictive norms of copyright enforcement in light of constitutionally guaranteed commitments to access to knowledge and education. The ongoing issue regarding restrictive open-access services and the blocking of shadow libraries raises the question of whether technological progress and stringent commercial measures are making copyright exceptions narrower and less effective, which were originally integrated for public welfare. This trajectory coincides with Sobel's theorisation of Copyright Accelerationism, where copyright's expansive doctrines highlight the contradictions between its constitutional objectives and its actual operation.The copyright exception under section 52

demonstrates legislative acceptance of the freedom to study, which is strengthened by constitutional rights. Even if not specifically sanctioned by statute, the right to research may have a constitutional basis. Article 19(1)(a) of the Indian Constitution provides freedom of speech and expression, whereas Article 21 ensures the right to life and personal liberty. It is feasible to interpret these clauses as including a right to study.

The Supreme Court of India acknowledged the multiplicative effect of the Right to Education (hereinafter, RTE) in the *Mohini Jain* v *State of Karnataka* case.[44] Additionally, it was stated that education is the primary factor that restores a person's dignity. Education is the only means by which a person may have their individuality developed, and until then, they cannot be guaranteed human dignity. "We hold that every citizen has a 'right to education' under the Constitution," it said, acknowledging that education is crucial to an individual's progress.[44] In order for its people to exercise this right, the state must provide educational institutions, including the right to education, in Articles 14 and 21 of the Constitution. Furthermore, in the case of *Unni Krishnan, J.P.* v *State of A.P.*,[45] the Supreme Court clarified that the judicially established duty to provide free and compulsory education applies solely to children under the age of 14 years. In this instance, the court also utilised the occasion to chide the government institutions for their negligent enforcement of Article 45.[45] It reaffirmed the enforceability of this DPSP by explicitly stating that any child denied RTE has the right to petition for a writ of mandamus against the appropriate authority to secure the enforcement of their rights.[45] RTE was ultimately codified as a fundamental right through the 86th Constitution Amendment Act, 2002. Recently, the administrations of independent recognised schools in Delhi petitioned the Supreme Court to absolve them of the responsibility of funding the provision of technology and internet bundles to pupils from economically disadvantaged sections, since education moved online during the COVID-19 pandemic.[46] Additionally, they sought financial compensation from the government to cover the expenses of providing the necessary technical equipment and internet access. Claiming budgetary limitations, the state turned down the proposal. The court ruled that economically disadvantaged communities and students were unable to meaningfully attain their RTE because of the significant discrepancies.[46] The court has made it clear that the state must fulfil its obligations under the Constitution, including Article 21A.[46] Additionally, it was determined that the demand for proper online education among disadvantaged children cannot be ignored.[46]

Although Article 21A guarantees free and compulsory education solely for children aged 6 to 14 years, the acknowledgement of education as a fundamental right has had a positive impact on the judiciary's approach to cases concerning educational access. In the matter of *Farzana Batool* v *Union of India* (2021) regarding the denial of admission to a medical institution, the Supreme Court observed that,

"*We would like to take this opportunity to underscore the importance of creating an enabling environment to make it possible for students, such as the petitioners, to pursue professional education. While the right to pursue higher (professional) education has not been spelt out as a fundamental right in Part III of the Constitution, it bears emphasis that access to professional education is not a governmental largesse*."[47]

The Court observed that the government bears an explicit obligation to ensure access to education at all levels. It documented the acknowledgement of the right to vocational education within international human rights law.[47] In light of this stance, one might wonder whether the state, through its judicial branch, should restrict access to protected content, thereby endangering the right to free expression of individuals who rely on it. Recognising the importance of shadow libraries to the RTE's realisation makes it quite evident that the court shouldn't impede the RTE's realisation by declaring shadow library operations unlawful.

Copyright and Open Access in Uzbekistan

According to statistical data on scientific publications issued under the Open Access (OA) model in Uzbekistan, as well as data obtained from the OpenAlex open bibliographic database, a total of 88,720 scholarly works affiliated with institutions in Uzbekistan were indexed during the period 2020 - 2026.[47] Of these publications, 66,580 (75%) are available under Open Access.[48]These figures confirm that a significant proportion of scientific output in Uzbekistan is disseminated in openly accessible form and reflects the growing tendency toward the free circulation of scientific information.

A structural analysis of Open Access publishing platforms reveals that the largest share corresponds to the Green Open Access model. This indicates that

openness is primarily ensured through the deposit of articles by authors in institutional or subject-specific repositories. The considerable share of the Diamond Open Access model further demonstrates that national and regional journals extensively apply fee-free open publishing mechanisms. Conversely, the relatively smaller proportion of Gold and Hybrid Open Access models may be explained by financial constraints associated with publication in International Commercial Journals, particularly the existence of Article Processing Charges (APCs). The remaining 25% of publications that remain under closed access indicate that the full free circulation of scientific information continues to encounter institutional and economic limitations. Thus, although the overall share of Open Access publications in Uzbekistan appears formally positive, it is evident that this openness is largely shaped by repository-based mechanisms and national journal infrastructures. In the absence of a fully institutionalized mandatory Open Access policy, the development of openness primarily depends on author initiative and local publishing frameworks.[48]

Institutional Infrastructure and Copyright Constraints

Although scientific publications in Uzbekistan are increasingly transitioning to digital formats, Open Access policy has not yet been fully institutionalized at the national level. Electronic repositories have been introduced in state higher education institutions; however, copyright protection of scientific articles significantly limits their unrestricted dissemination. For instance, the educational portal *ZiyoNet* provides free access to educational resources,[49] while the *Alisher Navoiy National Library of Uzbekistan* offers access to electronic catalogues and digitized resources.[50]Furthermore, several Uzbek higher education institutions publish dissertations and scholarly articles on their official websites. Nevertheless, Creative Commons licensing is not widely implemented, full integration with DOAJ or OpenAIRE has not been achieved, further the institutional repository policies have not been standardized under a unified national framework.

Copyright relations in Uzbekistan are governed by the Civil Code of the Republic of Uzbekistan (Intellectual Property Provisions) and the 2006 Law "*On Copyright and Related Rights.*"[51]This normative framework is based on the classical continental model of copyright protection. Scientific articles, monographs, textbooks and other academic materials are recognized as copyrightable works and authors (or right holders) enjoy exclusive rights over them, including the rights of reproduction, distribution, communication to the public (including via the Internet), translation and adaptation. Article 3 of the Law *on Copyright and Related Rights* defines the concept of "communication to the public."[51] This concept reflects an exclusive economic right involving the making available of a work or related rights object to an unlimited circle of persons. It encompasses broadcasting, cable transmission and any other technical means enabling public perception. The decisive criterion is not actual perception but the creation of access to the public.

In the digital environment, this institution assumes particular importance, as Internet technologies enable global dissemination without spatial or temporal limitations. Consequently, Open Access platforms operate within the scope of this legal category. Where a work is made available to the public with the prior authorization of the author or right holder, such communication is lawful; absent such authorization, it amounts to an infringement of exclusive rights. It is important to clarify the relationship between Article 27 and the Open Access concept, since although their objectives, namely, ensuring access to scientific and educational information, partially intersect, their legal nature and operational mechanisms fundamentally differ.

From the perspective of legal qualification, Article 27 constitutes a classical limitation to copyright, meaning that it preserves the exclusive rights of the author while permitting use only within narrowly defined conditions expressly established by statute.[52] Open Access, by contrast, does not operate as a statutory exception; rather, it is based on the voluntary decision of the right holder to make the work publicly available under an open licensing framework. Consequently, Article 27 functions as a mandatory statutory restriction mechanism, whereas Open Access is grounded in contractual and licensing autonomy.

In terms of scope, Article 27 permits reprographic reproduction in a single copy, for non-commercial purposes and exclusively to satisfy individual scientific or educational needs. It does not encompass unrestricted dissemination via the Internet or systematic digital distribution to an unlimited audience.[52] Open Access, conversely, entails the provision of free, permanent and global access to a work for an unrestricted circle of users. From a technological standpoint, Article 27 is predominantly

oriented toward traditional, analogue reproduction models, particularly paper-based copying within library and educational contexts.[52] Open Access, however, is inherently embedded in the digital environment and presupposes the placement of works in electronic repositories or open-access publishing platforms, thereby enabling cross-border accessibility without temporal or spatial limitations. With regard to the protection of the author's economic interests, Article 27 operates under the condition that the normal exploitation of the work is not prejudiced and that the legitimate interests of the author are not unreasonably harmed.[52] Open Access, on the other hand, restructures the economic model of dissemination, often through mechanisms such as Article Processing Charges or grant-based funding systems, whereby the costs of publication are covered ex ante rather than through post-publication market control.

Accordingly, although Article 27 and the Open Access model share a common objective in facilitating access to knowledge, Article 27 cannot be equated with Open Access and does not constitute its comprehensive legal foundation.[52] It represents a narrowly construed statutory exception within the classical copyright framework, whereas Open Access constitutes an alternative model for the exercise of exclusive rights in the digital era. Their proximity lies in their functional purpose, yet their legal mechanisms, scope of application and technological foundations remain substantially distinct.

Digital Infringement and Judicial Practice

Large-scale disputes related to "shadow libraries" such as Sci-Hub or Library Genesis have not yet been observed in Uzbekistan. However, this does not imply the absence of digital copyright disputes. In the so-called "*Bygone Days*" litigation,two separate judicial proceedings were examined in different years (2025-2026) and concerned distinct acts of unauthorized digital dissemination of the same translated work.[53]

The first case, adjudicated in 2025, involved a higher education institution that uploaded a translated work previously donated by the author to its official online library without obtaining specific authorization for digital communication to the public. The court found that the placement of the translation in the institution's electronic repository constituted an act of communication to the public falling within the scope of the translator's exclusive rights. The claim was upheld, and financial liability was imposed on the institution. The second case, decided in 2026, concerned the subsequent dissemination of the same translated work by an employee of another university, who uploaded the material to the university's official Telegram social media channel. The translator again initiated legal proceedings, alleging infringement of his exclusive translation rights and unauthorized digital communication of the work to the public. The court ruled in favor of the translator and imposed financial sanctions on the infringing party.

Taken together, these decisions confirm that both the placement of a copyrighted work in an institutional online library and its dissemination via an official social media channel constitute legally relevant acts of communication to the public requiring prior authorization from the right holder. The jurisprudence further demonstrates that educational or non-commercial purposes do not automatically exempt such acts from liability under Uzbek copyright law. Accordingly, systematic unauthorized digital dissemination analogous to the operational model of shadow libraries would likely be qualified as a direct infringement of exclusive rights.[54]

The digitisation of scientific publishing and the gradual transition to Open Access in Uzbekistan are progressing incrementally. Certain institutions maintain repositories; however, no mandatory national Open Access policy or unified normative framework currently exists. The balance between the right of access to scientific information and the protection of copyright remains doctrinally underdeveloped. Open Access in Uzbekistan operates primarily through contractual arrangements. Authors and right holders transfer their economic rights to Open Access journals on the basis of publishing agreements, thereby enabling lawful open dissemination. Consequently, Open Access does not negate copyright but represents an alternative modality for the exercise of exclusive rights within a digital environment.

Comparative Copyright Governance of Access in Open Knowledge Systems: India and Uzbekistan in Perspective

This segment aims to examine the institutional structure, normative perspective, and technical ideologies that are deeply rooted in both jurisdictions in order to compare the copyright governance mechanisms in India and Uzbekistan, by focusing on understanding that, despite the fact that both of these jurisdictions derived their concepts of copyright from

the Berne Convention's framework of exclusive rights and their limitations, their domestic laws reflect different ideologies, especially when it comes to the regulation of digital access to knowledge and proprietary control through copyright norms.

The Copyright Act of 1957 codifies copyright law in India, but it has frequently been interpreted in the context of constitutional principles that offer a purposeful and case-specific understanding of statutory norms, for example, the Delhi High Court's expansive exposition of Section 52 of the Copyright Act of 1957 in the *University of Oxford* v *Rameshwari Photocopy Services case*.[37] In this case, the court placed a strong emphasis on harmonising copyright theory with the public interest in access to education and knowledge. The Delhi High Court's strategy aligns with Lawrence Liand's view that this ruling is a symbol of the politics of access in Indian copyright law, where legal interpretation is influenced by social factors related to knowledge inequality.[38] Therefore, it can be said that India's strategy shows the constitutionalization of copyright, in which statutory rights are balanced with basic rights and social factors that serve the general public's interest. However, it is evident that Uzbekistan's copyright concepts are governed by the Law "On Copyright and Related Rights" (2006), which is a more conventional civil law framework based on the protection of civil rights, where Article 27's strict interpretation even prohibits non-commercial reproduction for educational or scientific purposes as well as any kind of digital dissemination.[52] This approach resembles the idea of 'classical continental model' as described by Paul Goldstein and P. Bernt Hugenholtz, where exceptions are present as a narrow diversion rather than a flexible tool for balancing exclusive rights and social welfare at large.[55] Therefore, we can observe here that the Uzbek copyright system has a formal character, emphasising legal certainty over adaptive flexibility, due to the lack of a constitutional framework linking access to information with enforceable rights.

The divergence present in the legal system of these two countries can be particularly observed from the interpretation as well as the application of copyright exceptions. Even though India has not formally and explicitly adopted an open-ended fair use doctrine, like that of the United States, but has relied on the four-factor test present under Section 107 of the US Copyright Act[56] in various judicial pronouncements, such as *ICC Development* v *New Delhi Television Ltd.*[36]*This has been observed by scholars like Niva Elkin-Koren, who has stated that such formally closed systems often leads to functional flexibility, since the courts encourages purposive interpretation of the law.*[57] *In Uzbekistan, strict adherence to a closed-ended model reflects a more robust application of the Berne Convention's three-step test, which mandates that exceptions be limited to special cases only and avoid any exploitation of the proprietor's rights.*[58] *Hence, this approach can be argued to be providing doctrinal clarity, but it also limits the capacity of legal systems to evolve as per the necessities put forward by digital open access platforms and the dissemination of knowledge at large.*

Another issue to be understood here is that the treatment of shadow libraries such as Sci-Hub and LibGen allows us to access the position ofboth countries on formal enforcement and practical challenges surrounding knowledge governance. Even though enormous public support was observed from the academic community in India, during the litigation, the Delhi High Court's deflection from acknowledging the economic barriers to access and blocking of shadow libraries deflects from the open-ended interpretation, previously exemplified by the Indian judiciary.[43] *It can be asserted that, currently, India is gradually moving toward this model through court-ordered website blocking and intermediary involvement, raising concerns about the erosion of statutory exceptions in practice. In the case of Uzbekistan, even though any such legal disputes have not been filed yet, the activities of similar platforms are usually treated as infringing acts under Article 3 of their 2006 law. Under the lens of Sobel's idea of copyright accelerationism, the long-term implications of these developments can be understood, where in the Indian context, it can be seen that persistent demand for access has crested tensions that could enhance the inequalities present in access, while holding up to the traditional ideals of copyright laws.*[25] *Uzbekistan, however, in the absence of such tensions, shows a pre-acceleration phase where systems are stable due to the clarity of legal norms. With further growth in digital access demands and the possibility of the emergence of such tensions, it is necessary for the domestic laws to be reconsidered to strike a balance between protection and access in a true sense. Thus, this divergence illustrates the need for broader transformation in the*

realm of copyright laws, which will not only consider proprietary interest but also argue for a system rooted in constitutional values, technological realities and global knowledge flow in the statutory design.

The comparative analysis(Table 1) *undertaken in this study demonstrates that achieving an equitable balance between copyright protection and access to knowledge requires a broader normative reorientation of copyright governance rather than just merely stronger enforcement mechanisms, and such transformation should thus include a purposive interpretation and, wherever appropriate, recalibration of educational and research exceptions to ensure that the copyright limitations remain responsive to digital modes of learning and scientific communication. Equally important is the formal recognition of the institutional and national repositories as integral components of scholarly infrastructure, which is supported by clear statutory provisions facilitating repository deposit, preservation, and non-commercial dissemination of research outputs.*[59] *Greater legal certainty regarding the use of open licences, particularly that of Creative Commons licences, would further strengthen authors' ability to retain copyright while also voluntarily enabling broader access and reuse of their works.*[60]

At the same time, copyright reform should also preserve legitimate economic incentives for the creators and publishers through balanced intermediary liability rules that can distinguish between commercial infringement and that of good-faith educational and research uses. Publicly funded research should also increasingly be accompanied by Open Access dissemination mandates, reflecting the principle that the publicly financed knowledge constitutes a public good, which is capable of advancing scientific progress, innovation, and social development. Now, these reforms do not diminish copyright protection; rather, they seek to restore its constitutional and public-interest function by fostering a sustainable ecosystem where the authors' rights, innovation, and equitable access to scholarly knowledge are mutually reinforcing objectives.

The "Access-Asymmetry Index" in Copyright System: A Three-Dimensional Analytical Framework

In order to understand the structural imbalances present in the contemporary copyright regime, the paper proposes a conceptual tool, through the notion of an "Access Asymmetry Index" (hereinafter, AAI), which is a three-dimensional conceptual framework, to evaluate the constraints and challenges surrounding open access platforms and their impact on the availability of scholarly knowledge in the contemporary digital environment. The AAIdoes not treat access as a binary outcome, but rather conceptualises it as a function of three interacting variables that operate in the socio-legal sphere, i.e. the economic, legal and technological dimensions, in order to uphold that knowledge is not only shaped by access to information or legal rules, but also depends on infrastructural and market conditions.[61]

The first dimension of AAI focuses on ***economic access***, which is to evaluate the financial ability of users, such as researchers, students and institutions, to access scholarly content without financial hurdles, as it has been observed that increasing subscription costs and article processing costs have led to financial disparities in access, especially in developing nations.[9] In Uzbekistan, the availability of a high proportion of publications through Green and Diamond models indicates a moderate level of economic accessibility, which is crucial for understanding the country's publishing infrastructure.[27]

In India, despite existing open-access initiatives, the economic burden remains a crucial challenge due to subscription-based journals and limited institutional funding.[62]Further, for instance, the Indian government's One Nation One Subscription (ONOS) program aimed to centralise subscription services across India, regardless of regions and institutions, in order to democratise access to international research, but its APC guidelines reveal a more complex and contradictory economic dynamics than what it was initially envisioned.[63] Even though the state showed willingness to fund APCs through this venture and support research infrastructure, the scheme also risks perpetuating the cost-prone commercial publishing structure. By limiting the eligibility of proscribed journals within the top 1% of Scopus-indexed rankings, the policy is argued to use public funds for the benefit of existing hierarchies in global knowledge production.[64] In fact, this selective nature of access further restricts authors from registered institutions, subject to administrative approvals, which can be seen as a deflection from the initial promise of universality that was envisioned for this initiative.So, a closer look from the economic access point of view, it can be understood that the ONOS initiative may be decreasing the financial burden from a limited section of researchers but inflating and supporting the overall systematic cost and thus not impacting the underlying

Table 1 — Comparative Copyright Governance of Open Access in India and Uzbekistan

Parameter	India	Uzbekistan	Comparative Observation
Primary copyright legislation	The Copyright Act, 1957 (Act No. 14 of 1957).	Law of the Republic of Uzbekistan "On Copyright and Related Rights" (2006) together with the Civil Code (Part IV)	Both the jurisdictions here recognise exclusive copyright protection which is consistent with the Berne Convention, but differ substantially in the scope of statutory limitations and judicial interpretation.
International legal framework	India was a member to the Berne Convention and currently also a signatory to the TRIPS Agreement and the WIPO Copyright Treaty.	Uzbekistan is also a party to theBerne Convention, TRIPS Agreement and the WIPO Copyright Treaty.	Both the countries operate within the same international copyright framework, thus posses differences primarily attributable to domestic legal implementation rather than in the stance of treaty obligations.
Nature of copyright exceptions	India has closed statutory exceptions under Section 52, interpreted purposively by courts, particularly for education and research.	Uzbekistan also has a closed statutory exceptions under Article 27, interpreted narrowly within a civil law framework.	India here exhibits greater functional flexibility through its judicial interpretation, whereas Uzbekistan prioritises mostly statutory certainty as well as textual interpretation.
Judicial approach to educational access	In India, the Delhi High Court adopted an expansive interpretation of educational exceptions in the case of*Chancellor, Masters & Scholars of the University of Oxford v Rameshwari Photocopy Services* (2017) 69 PTC 123 (Del), thus recognising that copyright should not impede with legitimate educational use.	Judicial decisions pronounced by courts of Uzbekistan primarily emphasises on the protection of exclusive rights and the prior authorisation for digital dissemination, including institutional repositories and as well as for online platforms.	Here we can observe that, India balances copyright with constitutional values relating to education, whereas Uzbekistan places greater emphasis on proprietary protection.
Regulation of shadow libraries	In India, litigation concerning Sci-Hub and LibGen (*Elsevier Ltd. v Alexandra Elbakyan*, CS(COMM) 572/2020, Delhi High Court) has been recently pronounced.	In Uzbekistan, no reported litigation concerning Sci-Hub or comparable shadow libraries, as well as unauthorised digital dissemination has been treated as infringement in any recent judicial decisions.	Here we can observe that, India has confronted large-scale digital copyright disputes, whereas Uzbekistan has addressed digital infringement primarily through conventional copyright litigation.
Institutional Open Access infrastructure	Institutional repositories (e.g., Shodhganga), university repositories, Digital India initiatives, and the One Nation One Subscription (ONOS) programme are there in India.	In Uzbekistan, ZiyoNet, Alisher Navoiy National Library, institutional repositories maintained by universities, but no comprehensive national Open Access mandate is yet there	Both countries have developed the repositorybased infrastructures, but India's Open Access ecosystem is institutionally broader and more diversified.
Predominant Open Access model	India is presently having mixed ecosystem comprising Gold, Green, Diamond and subscription-based publishing models.	In Uzbekistan, Green and Diamond Open Access models constitute the majority of openly accessible publications.	Here, Uzbekistan demonstrates a stronger reliance on the repository-based and the publicly supported Open Access, while India maintains a more commercially diversified publishing environment.
Digital copyright enforcement	In India, website blocking, intermediary liability, judicial injunctions, and administrative implementation under the Information Technology Act, 2000.	In Uzbekistan, judicial enforcement is primarily focusing on the unauthorised communication to the public under the copyright legislation, with comparatively limited intermediary regulation.	India ispresently combining judicial and technological enforcement mechanisms, whereas Uzbekistan continues to rely predominantly upon the traditional copyright enforcement.
Underlying governance philosophy	India is presently attempting to balance creators' rights with constitutional commitments to education, research and public interest through the judicial interpretations.	Uzbekistan is providing protection of exclusive rights through statutory certainty and civil law principles which are governing copyright ownership.	The comparison illustrates two distinct regulatory models,one which is constitutionally informed balancing approach and the other is a rights-holder-centred civil law approach.

political economy of academic publishing.[64] Additionally, it should be noted that this program covers only a subset of disciplines, publications and databases, meaning many scholars in those fields will not be able to benefit from its offerings. As a result, the surge in reliance on shadow libraries such as Sci-Hub and LigGen has increased significantly in India, allowing researchers to access knowledge without relying on institutional approvals or government eligibility.[65]

The second dimension is the ***legal access***, which covers the extent to which the copyright system facilitates access to knowledge through statutory exceptions, limitations and flexible interpretation. In the previous segment, this context was highlighted through the respective stands portrayed by India and Uzbekistan, where, in the case of India, Section 52 of the Copyright Act, 1957 and judicial interpretation shaped the evolving nature of educational and research needs, while Uzbekistan's Article 27 of the 2006 Law strictly rejects large-scale digital dissemination. India is also slowly moving toward this model, as courts have ordered the blocking of shadow library websites,[40] as well as through government agencies like the Ministry of Electronics and Information Technology and Department of Telecommunications are enforcing digital restrictions executed through the intermediary liability framework under Section 69A of the Information Technology Act, 2000 and the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009, raising concerns about erosion of statutory exceptions, especially from the context of an education and research perspective, creating a more restrictive legal regime.[66]

The third dimension is ***technological access***, which focuses on the availability of digital infrastructure through which the government can enable or restrict access to scholarly knowledge, including facilities, such as institutional repositories, digital libraries, academic databases, as well as platform-led knowledge dissemination systems. Contemporary scholars contend that technological structures have a big role in shaping the legal rules, more particularly, digital copyright norms, as suggested by Mayan Perel and Niva Elkin Koren that automated enforcement systems and platform governance procedures redistribute decision-making rights from the hands of courts to private intermediaries, who determine content accessibility as per their gains and commercial benefits.[2418] On the same note, Julie E. Cohen pointed out that excessive reliance on technological control for copyright enforcement signals a broader transformation in which information regulation is determined by networked and powerful infrastructures, rather than confined to traditional legal adjudication mechanisms.[27] One of India's initiatives for providing access to knowledge virtually includes the Digital India Programme, which is presently facilitated through institutional repositories and digital knowledge platforms such as *Shodhganga*, an open repository of doctoral theses maintained by the University Grants Commission through the Information and Library Network (INFLIBNET) to enhance the digitalisation of educational resources.[67] In Uzbekistan as well, access to scholarly materials is structured by a more centralised, institutionally mediated framework, a prominent examples of which are *ZiyoNet*, a national educational portal established by the government to provide digital educational materials, research outputs, and learning resources to students and researchers[68] and *Alisher Navoiy National Library of Uzbekistan*, which provides electronic catalogues and digitised collections provided through institutional repositories and maintained by universities.[69]

Hence, the introduction of the Access Asymmetry Index (AAI) can provide a conceptual association between doctrinal analysis and structural considerations, enabling a deeper understanding of copyright systems that can highlight the shortcomings between formal legal systems and actual access outcomes. In fact, it can substantiate the accelerationist perspective arising from greater asymmetry, especially when technological capacities and legal restrictions are misaligned, which may create systematic pressure that eventually necessitates reform. This also opens new avenues for conducting a policy-oriented inquiry which shall combine the legal, economic and technological considerations and achieve a balanced and equitable system of accessing knowledge.

Conclusion

Digital Transformation of scholarly communication has created a critical juncture for copyright governance, as academic knowledge in contemporary times is circulating through online means, necessitating the debate surrounding the demand for equitable access to research. This paper's comparative approach reveals

these challenges and manifestations across different legal systems which are built on different institutional structures, constitutional frameworks and technological environments. While India embraces a dynamic copyright model that relies on judicial interpretation and constitutional commitments to education and freedom of expression, we also witness the application of enforcement tools such as website blocking and intermediary regulations at opposite ends. Uzbekistan's approach here demonstrates a formal, right holder centric stand upholding statutory copyright norms. In light of these findings, the study acknowledges that access to knowledge cannot be understood through only a legal lens, hence this paper also proposes the Access Asymmetry Index (AAI) to put forward a more holistic way of balancing copyright protection with public interest in the age of contemporary information governance.

References

1 Esteve A, Copyright and open access to scientific publishing, *International Review of Intellectual Property and Competition Law*, 55 (2024) 901.

2 Bosch S & Henderson K, Predicting the future in 3,000 words and charts: The Library Journal serials pricing article, *The Serials Librarian*, 74(1–4) (2018) 224.

3 Mallapaty S, India pushes bold 'one nation, one subscription' journal-access plan, *Nature*, 586 (2020) 181.

4 Sample I, Harvard University says journal publishers' prices are unsustainable, The Guardian, 24 April 2012, https://www.theguardian.com/science/2012/apr/24/harvard-university-journal-publishers-prices (accessed on 30 March 2026).

5 Fox A & Brainard J, University of California takes a stand on open access, *Science*, 363 (2019) 1023.

6 Monbiot G, Academic publishers make Murdoch look like a socialist, *The Guardian*, 29 August 2011, https://www.theguardian.com/commentisfree/2011/aug/29/academic-publishers-murdoch-socialist (accessed on30 March 2026).

7 Heller L, Shadow Libraries: Plan B for the Open Access Transformation?, *ZBW MediaTalk*, 5 February 2025, https://www.zbw-mediatalk.eu/2025/02/shadow-libraries-plan-b-for-the-open-access-transformation/ (accessed on30 March 2026).

8 Beiter K D, Open access 'unaccomplished' – Reforming copyright or reconceptualizing science? Access to scholarly publications under a (reinterpreted) right to science, *Nordic Journal of Human Rights*, 42(3) (2024) 281.

9 Suber P, *Open Access* (MIT Press, Cambridge, MA), 2012.

10 Chatterjee P, Biswas T & Mishra V, Open access: The changing face of scientific publishing, *Journal of Family Medicine and Primary Care*, 2(2) (2013) 128.

11 UNESCO, Open Access, https://www.unesco.org/en/open-access (accessed on30 March 2026).

12 Pampel H, Promoting open access in research-performing organizations: Spheres of activity, challenges, and future action areas, *Publications*, 11(3) (2023) 44.

13 Kumari M & Subaveerapandiyan A, Perceptions of open access publishing: A comparative study of gold and diamond models among global researchers, *Alexandria: The Journal of National and International Library and Information Issues*, 35(1–2) (2025) 55.

14 Bohannon J, Who's downloading pirated papers? Everyone, *Science*, 352 (2016) 508.

15 Foss N J & Michailova S (eds.), *Knowledge Governance: Processes and Perspectives* (Oxford University Press, Oxford), 2009.

16 McKenna J, Looking Back at the Budapest Open Access Initiative, *MDPI Blog*, 14 July 2023, https://blog.mdpi.com/2023/07/14/budapest-open-access-initiative/ (accessed on19 July 2026).

17 Scientific Information Working Group, *Submission by MDPI and ENSTA on behalf of the Scientific Information Working Group of the Declaration known as the Bethesda Statement on Open Access Publishing*, Document WSIS/PC-3/CONTR/184-E, World Summit on the Information Society (Geneva 2003 – Tunis 2005), 6 November 2003, https://www.itu.int/dms_pub/itu-s/md/03/wsispc3/c/S03-WSISPC3-C-0184%21%21PDF-E.pdf (accessed on 19 July 2026).

18 Harnad S, The Implementation of the Berlin Declaration on Open Access: Report on the Berlin 3 Meeting Held 28 February – 1 March 2005, Southampton, UK, *D-Lib Magazine*, 11 (3) (2005), https://eprints.soton.ac.uk/260690/2/03harnad.html (accessed on 20 July 2026).

19 Eden B L, Shadow libraries: Access to knowledge in global higher education, *Journal of Web Librarianship*, 13(2) (2019) 201.

20 Bakhsh Z, Delhi HC ban on 'shadow libraries' is pushing Indian researchers up against the paywall, *The Print*, 30 August 2025, https://theprint.in/india/education/delhi-hc-ban-on-shadow-libraries-is-pushing-indian-researchers-up-against-the-paywall/2731667/ (accessed on31 March 2026).

21 Pinfield S, Salter J & Bath PA, A "Gold-centric" implementation of open access: Hybrid journals, the "Total cost of publication," and policy development in the UK and beyond, *Journal of the Association for Information Science and Technology*, 68 (9) (2017) 2248.

22 Borrego A, Anglada L & Abadal E, Transformative agreements: Do they pave the way to open access?, *Learned Publishing*, 34 (2) (2021) 216.

23 Rao YS, One Nation One Subscription (ONOS) Initiative: SWOT Analysis, *Annals of Library and Information Studies*, 72 (3) (2025) 298.

24 Perel M and Elkin-Koren N, Accountability in algorithmic copyright enforcement, *Stanford Technology Law Review*, 19 (2016) 473.

25 Sobel B, Copyright accelerationism, *Chicago-Kent Law Review*, 100 (2025) 73.

26 Bollier D and Helfrich S (eds.), *The Wealth of the Commons: A World Beyond Market and State* (Levellers Press, Amherst), 2012.

27 Cohen JE, Copyright and the perfect curve, *Vanderbilt Law Review*, 53 (2000) 1799.

28 Martín-Martín A, Costas R, van Leeuwen T & Delgado López-Cózar E, Evidence of open access of scientific publications in Google Scholar: A large-scale analysis, *Journal of Informetrics*, 12 (3) (2018) 819.

29 Johnson R, Watkinson A & Mabe M, *The STM Report: An Overview of Scientific and Scholarly Journal Publishing*(International Association of STM Publishers, The Hague), 5th ed., 2018.

30 Singh V K, Srichandan S S & Bhattacharya S, What do Indian researchers download from Sci-Hub? An analytical introspection, *Journal of Scientometric Research*, 10 (2021) 259.

31 Willinsky J, *Copyright's Broken Promise: How to Restore the Law's Ability to Promote the Progress of Science* (The MIT Press, Cambridge, Massachusetts), 2022.

32 *McMillan* v *Khan Bahadur Shamsul Ulama Zaka*, (1895) ILR Bom 557.

33 Copyright Act, 1914 (India), §2(1)(i).

34 Copyright Act, 1957 (India), §52(1)(a).

35 Copyright Act, 1957 (India), §52(1)(a)(i).

36 *ICC Development* v *New Delhi Television Ltd*, 193 (2012) DLT 279.

37 *Chancellor, Masters & Scholars of University of Oxford* v *Rameshwari Photocopy Services*, (2017) 69 PTC 123 (Del).

38 Liang L, Paternal and defiant access: Copyright and the politics of access to knowledge in the Delhi University photocopy case, *Indian Law Review*, 1 (2017) 36.

39 *Longman Group Ltd v Carrington Technical Institute Board of Governors*, [1991] 2 NZLR 574.

40 *Elsevier Ltd v Alexandra Elbakyan*, CS(COMM) 572/2020 (Delhi High Court).

41 Banks M, What Sci-Hub is and why it matters, *American Libraries*, 47(6) (2016) 46.

42 Ram Mohan M P & Gupta A, Right to research and copyright law: From photocopying to shadow libraries, *NYU Journal of Intellectual Property & Entertainment Law*, 11(3) (2022) 426.

43 The Hindu Bureau, Delhi High Court orders Sci-Hub to be blocked in India, *The Hindu*, 23 August 2025, https://www.thehindu.com/sci-tech/technology/delhi-high-court-orders-sci-hub-to-be-blocked-in-india/article69967768.ece (accessed on30 March 2026).

44 *Mohini Jain* v *State of Karnataka*, (1992) 3 SCC 666.

45 *Unni Krishnan J P* v *State of Andhra Pradesh*, (1993) 1 SCC 645: AIR 1993 SC 2178.

46 *Action Committee Unaided Recognised Private Schools v Directorate of Education*, 2021 SCC OnLine SC 3301.

47 *Farzana Batool v Union of India*, 2021 SCC OnLine SC 3433.

48 Priem J, Piwowar H & Orr R, OpenAlex: A fully-open index of scholarly works, authors, venues, institutions, and concepts, *arXiv preprint*, arXiv:2205.01833 (2022), https://doi.org/10.48550/arXiv.2205.01833 (accessed on 27 February 2026).

49 ZiyoNET Portal, Ministry of Digital Technologies of the Republic of Uzbekistan, https://ziyonet.uz (accessed on 5 March 2026).

50 National Library of Uzbekistan, Agency of Information and Mass Communications under the Administration of the President of the Republic of Uzbekistan, https://natlib.uz (accessed on 5 March 2026).

51 Law of the Republic of Uzbekistan No 42, *On Copyright and Related Rights* (20 July 2006), Art 3.

52 Law of the Republic of Uzbekistan No 42, *On Copyright and Related Rights* (20 July 2006), Art 27.

53 *Judicial Decision of the Republic of Uzbekistan Administrative Court*, Case No 3-1701-2604/113 (2025) and Case No 3-1007-2525/6900 (2025), https://public.sud.uz/report/ADMINISTRATIVE_NEW (accessed on 10 March 2026).

54 Rakhmatullaev M & Hedrich A, Academic libraries of Uzbekistan: Challenges and development prospects, *Slavic & East European Information Resources*, 24(4) (2024) 242.

55 Goldstein P & Hugenholtz P B, *International Copyright: Principles, Law, and Practice* (Oxford University Press, Oxford), 4th ed., 2019.

56 US Copyright Act, 1976, §107.

57 Elkin-Koren N, Can formalities save the public domain? Reconsidering formalities for the 2010s, *Berkeley Technology Law Journal*, 28(3) (2013) 1537.

58 Geiger C, Gervais D & Senftleben M, The three-step test revisited: How to use the test's flexibility in national copyright law, *American University International Law Review*, 2 (3) (2013) 581.

59 Lessig L, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (Penguin Books, New York), 2004.

60 UNESCO, *UNESCO Recommendation on Open Science*, Document SC-PCB-SPP/2021/OS/R, United Nations Educational, Scientific and Cultural Organization (Paris), 2021, https://unesdoc.unesco.org/ark:/48223/pf0000379949 (accessed on 20 July 2026).

61 Benkler Y, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (Yale University Press, New Haven), 2006.

62 Gutam S, Addressing Copyright Limitations: Enabling Open Access to Publicly Funded Research in India, *Zenodo*,17 May 2025, https://doi.org/10.5281/ZENODO.15447449 (accessed on 20 July 2026).

63 Rao Y S, One nation one subscription (ONOS) initiative: SWOT analysis, *Annals of Library and Information Studies*, 72(3) (2025) 298.

64 Ansari H A, ONOS's APC guidelines: Opening access or opening pockets?, *SpicyIP*, 16 October 2025, https://spicyip.com/2025/10/onoss-apc-guidelines-opening-access-or-opening-pockets.html (accessed on 31 March 2026).

65 Ahluwalia A, When the library went dark: What the Sci-Hub & LibGen ban means for Indian students, *Homegrown*, 28 August 2025, https://homegrown.co.in/homegrown-voices/when-the-library-went-dark-what-the-sci-hub-libgen-ban-means-for-indian-students (accessed on 31 March 2026).

66 Bhardwaj S, Nayak N, Dandamudi R V K, Singh S & Handa V, Rising internet shutdowns in India: A legal analysis, *Indian Journal of Law and Technology*, 16(1) (2020) 122.

67 Ganesan P, Mangai G & Deepa R, Shodhganga: An institutional repository for e-theses in India, *Proceedings of the International Conference on Libraries, Information and Society (ICOLIS)*, (2016) 112.

68 Shukurov V S, The status of digital content in the Uzbek language on the internet and ways to develop it, *Science and Innovation International Scientific Journal*, 4(5) (2025) 72.

69 Rakhmankulova Z, The National Library of Uzbekistan as a digital humanities centre in Uzbekistan, *The American Journal of Social Science and Education Innovations*, 2 (10) (2020) 25.