



Copyright Literacy and Compliance in Pakistan's Digital Knowledge Economy: AI Authorship, Institutional Gaps, and the Case for Legal Reform

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ABSTRACT

The rapid expansion of digital technology has transformed how knowledge is created, shared, and accessed, and generative artificial intelligence has now added a further layer of legal uncertainty to a copyright system many jurisdictions had only just begun adapting to the internet era. This article examines copyright literacy and legal compliance in Pakistan's digital knowledge economy through a doctrinal and comparative lens, updating an earlier qualitative content-analysis account of the field with the most consequential recent case law and institutional developments. It shows that two 2025 decisions the D.C. Circuit's ruling in *Thaler v Perlmutter*, holding that copyright authorship requires a human being, and the District of Delaware's ruling in *Thomson Reuters v Ross Intelligence*, the first US decision to reject a fair-use defence for AI training on copyrighted material have begun to answer questions that Pakistani law has not yet even framed in statutory terms. Pakistan's Copyright Ordinance 1962, last substantively amended in 2000, retains a closed, word-count-based fair-dealing test that cannot meaningfully evaluate AI training or AI-assisted authorship, while the Higher Education Commission's 2024 Journals and Publications Policy imposes numerical similarity thresholds without any corresponding standard for AI-generated or AI-assisted text, and IPO-Pakistan's inter-agency enforcement committees contain no institution with an explicit mandate over AI-related content. Drawing on Pakistan's existing empirical literature on copyright literacy among librarians, students, and academic staff, the article argues that this legal and institutional vacuum compounds, rather than merely coexists with, Pakistan's documented literacy deficit, and proposes a sequenced reform agenda addressing statutory amendment, institutional guidance, and copyright-literacy infrastructure together.

Introduction

The rapid development of digital technology has significantly changed how knowledge is created, shared, and accessed worldwide. Online databases, cloud storage, and social media have expanded access to information and facilitated education, research, and innovation on a scale earlier copyright frameworks were never designed to anticipate. These same developments have brought a corresponding risk of copyright infringement through unauthorised copying, sharing, and distribution of digital material, a risk copyright law exists specifically to manage by protecting the rights of creators, sustaining creative industries, and supporting knowledge-driven economic development.

Pakistan has a written copyright law, the Copyright Ordinance 1962, intended to safeguard intellectual property and regulate the use of protected content. The practical situation, however, diverges considerably from this statutory design. Weak institutional implementation, the low cost and easy availability of unauthorised digital content, and limited public awareness together sustain a pattern of copyright non-compliance that existing enforcement mechanisms have struggled to address. Academic institutions face this problem with particular intensity: students, researchers, and universities frequently operate with only a partial understanding of what digital reproduction, citation, and content-sharing practices the law actually permits. Artificial intelligence has now added a further, largely unaddressed dimension to this difficulty, since AI systems can generate text, images, and other content in ways that leave questions of authorship, ownership, and attribution genuinely unsettled questions that, as Part 3 shows, courts in other jurisdictions have only begun to answer as recently as 2025.

This article examines copyright literacy and compliance in Pakistan's digital knowledge economy, with particular attention to the two-directional gap this generates: a gap between Pakistan's statutory framework and the digital and AI-driven practices that framework must now govern, and a gap between what Pakistani institutions formally require and what students, researchers, and staff actually understand and practise. Building on an existing body of Pakistan-specific empirical literature on copyright literacy, discussed in Part 6, the article's original contribution lies in connecting that literature to the most recent comparative case law and institutional policy developments most significantly, the two major 2025 American AI-copyright rulings examined in Part 3 and the Higher Education Commission's 2024 Journals and Publications Policy examined in Part 5 and in using that connection to identify specific, addressable deficiencies in Pakistan's existing legal framework rather than treating literacy alone as the problem to be solved.

The stakes of this inquiry extend beyond academic administration. Pakistan's copyright-based industries publishing, software, broadcasting, music, and increasingly digital content platforms contribute measurably to national economic output and cultural production, and existing economic analysis of copyright-based industries in Pakistan has argued that balanced enforcement and improved legal access channels serve this economic function directly, not merely the interests of rights-holders considered in isolation. A copyright framework unable to answer basic questions about AI-generated content risks two distinct harms to this broader economic and cultural function: it may expose Pakistani creators and publishers to unlicensed appropriation of their work as AI training data without any clear domestic remedy, and it may leave Pakistani AI developers and downstream users without the legal certainty needed to invest

confidently in AI-driven products and services, a concern squarely within the ambit of the National AI Policy 2025's own investment ambitions discussed in Part 5.3.

Figure 1 — Five Unresolved Questions Artificial Intelligence Poses for Copyright Doctrine

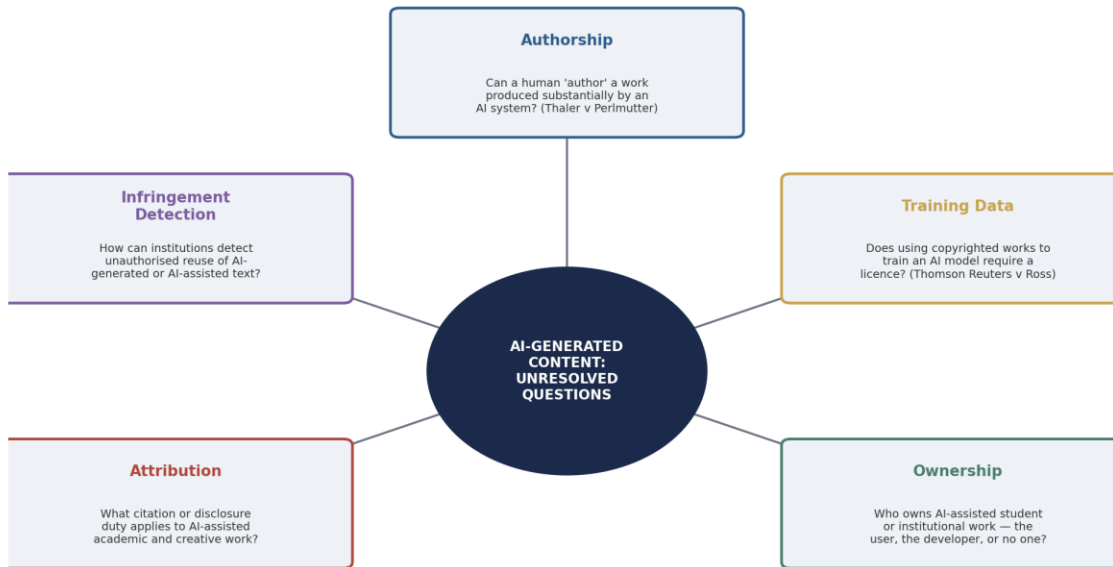


Figure 1: Five unresolved questions artificial intelligence poses for copyright doctrine

The article proceeds in eight further parts. Part 2 sets out the research problem, objectives, and questions guiding the analysis. Part 3 examines the comparative case law that has begun to answer the authorship and training-data questions AI poses, principally through *Thaler v Perlmutter* and *Thomson Reuters v Ross Intelligence*. Part 4 examines Pakistan's statutory copyright architecture and the specific ways its 1962 design strains against digital and AI-driven practice. Part 5 examines Pakistan's institutional compliance infrastructure, focusing on the Higher Education Commission's plagiarism and publications policies and on IPO-Pakistan's enforcement architecture. Part 6 discusses the existing empirical literature on copyright literacy in Pakistan and situates this article's doctrinal findings against it. Part 7 synthesises the deficiencies identified across Parts 4 through 6 into a structured account of the gap between Pakistan's legal framework and its practical needs. Part 8 proposes a sequenced reform agenda. Part 9 addresses the study's significance and limitations before Part 10 concludes.

Research Problem, Objectives, and Questions

Although Pakistan has established copyright laws and regulatory frameworks, the practical application of these laws remains inconsistent because of weak enforcement mechanisms and gaps in institutional implementation. Many organisations and educational institutions lack clear operational procedures to ensure copyright compliance, producing a persistent disparity between the law's formal provisions and the reality of digital content practice. Copyright awareness and literacy levels remain comparatively low among students, academics, and professionals, contributing to the frequent misuse of copyrighted material, improper citation practices, and the normalisation of digital piracy. The accelerating pace of AI adoption has compounded this

problem specifically, because the question of authorship, ownership, and attribution for AI-generated or AI-assisted content remains legally undefined in Pakistan even as digital sharing culture makes unauthorised distribution of such content progressively easier.

This article pursues two objectives: first, to identify the key legal and practical concerns regarding copyright use in Pakistan's digital knowledge economy, with particular attention to AI-generated content; and second, to examine Pakistan's existing copyright compliance practices and institutional mechanisms against the comparative case law and policy developments of the past two years, in order to identify specific, addressable deficiencies rather than a generalised literacy problem alone. These objectives correspond to two research questions: what are the major legal and practical concerns related to copyright use in Pakistan in the digital and AI age; and what specific deficiencies in Pakistan's existing legal and institutional framework contribute to the persistence of low copyright compliance, and what reforms could address them.

Comparative Case Law: How Courts Are Answering the Authorship and Training-Data Questions

Thaler v Perlmutter: The Human-Authorship Requirement

The United States Court of Appeals for the District of Columbia Circuit, in its decision of 18 March 2025 in *Thaler v Perlmutter*, addressed directly a question copyright statute worldwide, including Pakistan's, have never needed to answer explicitly: can a non-human system be the author of a copyrighted work? Dr Stephen Thaler had developed an AI system he called the "Creativity Machine," which autonomously generated a visual artwork titled "A Recent Entrance to Paradise." Thaler applied to register the work with the United States Copyright Office, listing the Creativity Machine itself as the sole author and himself only as the owner. The Copyright Office denied the application on the ground that copyright registration has always required human authorship, a denial the District Court and, on appeal, the D.C. Circuit both affirmed. The Court of Appeals held, as a matter of statutory construction, that the Copyright Act of 1976 requires all eligible work to be authored in the first instance by a human being, tracing this requirement through the statute's history and through a 1974 congressional commission's own conclusion that a machine cannot be an author. The United States Supreme Court denied certiorari on 2 March 2026, leaving the D.C. Circuit's ruling as the settled position in American law.

The judgment's significance for this article lies in what it does, and does not, resolve. As commentary on the decision has specifically noted, the human-authorship requirement's practical effect is comparatively narrow: it does not impede the protection of works made with the assistance of artificial intelligence, provided a human being has contributed the creative expression the work embodies; it resolves only the narrower question of whether an AI system itself, or a human who merely operates one without contributing creative input, can be listed as an author. The United States Copyright Office's own January 2025 report on the copyrightability of AI-generated works, which the Thaler litigation referenced throughout, went further in addressing this narrower but more commercially significant question, concluding that prompts alone do not provide sufficient human control over an AI system's output to make the prompting user the work's author, because prompts function essentially as instructions conveying unprotectable ideas rather than as the expression of those ideas. This leaves a considerable grey zone the Report itself acknowledges remains for courts to work out case by case: how much

human creative modification, selection, or arrangement of AI-generated material is enough to cross the threshold into protectable authorship.

Thomson Reuters v Ross Intelligence: Fair Use and AI Training Data

Figure 2 — A Comparative Timeline of Copyright, AI, and Institutional Policy, 2000–2026

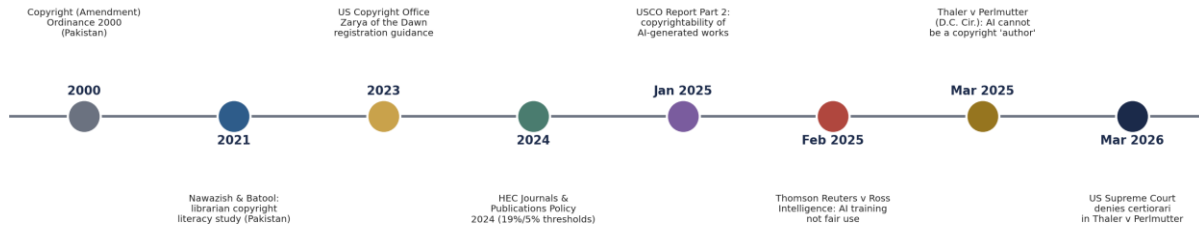


Figure 2: A comparative timeline of copyright, AI, and institutional policy, 2000–2026

A second, doctrinally distinct question concerns not who owns AI-generated output but whether training an AI system on copyrighted material without a licence is itself infringing, or is instead excused by the fair-use doctrine most legal systems recognise in some form. This question received its first substantial judicial answer in *Thomson Reuters Enterprise Centre GmbH v Ross Intelligence Inc*, decided by the United States District Court for the District of Delaware on 11 February 2025. Thomson Reuters, the owner of the Westlaw legal-research platform, sued Ross Intelligence, a start-up developing a competing AI-driven legal research tool, alleging that Ross had used thousands of Westlaw's proprietary editorial headnotes to train its AI system. Ross argued that this training use was transformative and therefore protected by fair use. Judge Bibas, revisiting an earlier, more equivocal 2023 ruling in the same case, granted partial summary judgment to Thomson Reuters, holding that the headnotes were sufficiently original to be copyrightable and that Ross's use of them to train a directly competing commercial product was not transformative, was commercial in character, and risked substituting for Thomson Reuters's own potential market for licensing its content as AI training data. Of the four statutory fair-use factors, three favoured Thomson Reuters; only the third, concerning the amount and substantiality of the material used relative to Ross's final output, favoured Ross, because the headnotes themselves were not reproduced in Ross's public-facing product.

The decision, though confined on its facts to a non-generative AI research tool rather than a generative large language model, has already proven influential well beyond that narrow context, having been cited in subsequent rulings addressing generative AI training, including *Bartz v Anthropic PBC* and a case concerning an AI-based study-materials generator. Its significance for this article is that it demonstrates, concretely, how a mature fair-use jurisprudence with a flexible, multi-factor balancing test can be applied to an entirely new category of use training a machine-learning system that the doctrine's original drafters could not have anticipated, without requiring new legislation to reach the question at all. As Part 4.2 argues, this flexibility is precisely what Pakistan's own fair-dealing provision currently lacks.

Ongoing Litigation and the Limits of Settled Doctrine

Both decisions examined above should be read as early, not final, answers. Litigation between major generative-AI developers and rights-holders, including publishers, authors, and visual artists, remains pending in multiple jurisdictions as of this writing, and courts have reached differing conclusions on closely related facts depending on the specific AI system, training method, and output involved. The honest position, consistent with the United States Copyright Office's own characterisation of its 2025 report as an interim contribution rather than a final resolution, is that AI-copyright doctrine remains actively contested even in the jurisdiction that has litigated it most extensively, a point of direct relevance to Part 7's argument that Pakistan's own reform effort need not, and realistically cannot, await full doctrinal settlement elsewhere before beginning.

A Note on Moral Rights and Attribution

A further dimension of the authorship question, distinct from the economic-rights focus of both *Thaler and Thomson Reuters v Ross Intelligence*, concerns moral rights the author's personal interest in being identified as the creator of a work and in objecting to its distortion, independent of any economic entitlement. Jurisdictions that recognise moral rights as a distinct category, as many civil-law systems and, to a more limited extent, common-law systems influenced by the Berne Convention do, face a version of the authorship question that is arguably harder to resolve for AI-generated content than the economic-rights question American courts have begun to address: if no human author exists in the relevant sense, there is no personal interest in attribution for a moral-rights regime to protect, yet the absence of any attribution requirement for AI-generated content risks obscuring, from the reader or user's perspective, that the content was not the product of sustained human authorial judgment at all. Pakistani copyright law, like much of the law inherited from the same colonial-era drafting tradition, provides only limited moral-rights protection compared with civil-law systems, a gap that predates the AI question but that AI-generated content makes newly salient: a Pakistani student or researcher who submits substantially AI-generated work without disclosure violates no moral-rights provision the Ordinance clearly specifies, even though the underlying transparency concern is closely related to the misattribution problem moral rights doctrine was designed to address in the human-authorship context.

Pakistan's Copyright Framework: Statutory Architecture and Its Digital-Era Strain

The Copyright Ordinance 1962: A Pre-Digital Statute

Pakistan's copyright governance rests on the Copyright Ordinance 1962, as amended by the Copyright (Amendment) Ordinance 2000, which provides the core rights, exceptions, and remedies applicable to literary, dramatic, musical, and artistic works, including computer programmes and compilations. The Ordinance's basic architecture vesting rights in an identifiable author, defining a term of protection, and setting out enumerated exceptions and remedies reflects the drafting conventions of mid-twentieth-century copyright statutes generally, conventions built around physical publication, broadcast, and performance rather than the networked digital reproduction and AI-assisted content generation Part 1 described. The 2000 amendment updated specific provisions, including the extension of protection to computer

programmes, but did not restructure the Ordinance's underlying exceptions architecture, discussed in Part 4.2, in a way that anticipated the flexibility digital and AI-driven uses would eventually require.

Fair Dealing's Rigid, Quantitative Boundaries

Figure 3 — Pakistan's Closed Fair-Dealing Test Against the US Open-Ended Fair-Use Standard

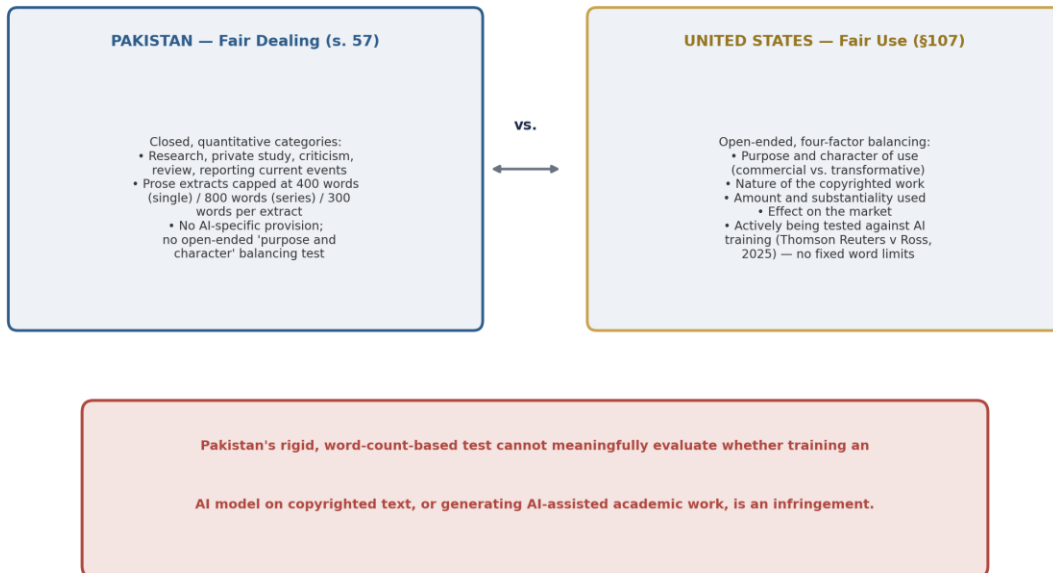


Figure 3: Pakistan's closed fair-dealing test against the US open-ended fair-use standard

Section 57 of the Copyright Ordinance sets out Pakistan's fair-dealing exceptions, permitting specified uses research, private study, criticism, review, and reporting of current events without infringement liability. Unlike the United States' fair-use doctrine, which Part 3.2 showed courts applying flexibly to an entirely new category of use through open-ended, multi-factor balancing, Pakistan's fair-dealing provision specifies fixed, quantitative limits for prose extracts: a single extract from a literary or dramatic work in prose may not exceed four hundred words, or a series of extracts may together reach eight hundred words, provided no single extract exceeds three hundred words. This drafting approach, common to fair-dealing provisions inherited from British colonial-era copyright law, was designed for a world of physical publication in which a fixed word count offered a workable, easily administered proxy for whether a use was likely to substitute for the original work in the marketplace.

This design strains badly against the uses Part 3 examined. A word-count limit calibrated to a printed excerpt has no natural application to the question whether training an AI system on a large corpus of copyrighted text an act that involves neither publishing nor distributing any fixed extract at all, but processing the entire corpus to adjust a model's internal parameters falls within or outside fair dealing. Nor does it offer any guidance on whether a student's use of an AI system to generate text substantially derived from copyrighted training material, without the student's own creative contribution, constitutes an infringing reproduction, a permissible research use, or something the Ordinance's categories simply do not contemplate. Pakistan's fair-dealing

provision, in short, was not built to answer, and cannot straightforwardly be stretched to answer, the two questions *Thaler and Thomson Reuters v Ross Intelligence* show a flexible fair-use doctrine capable of at least beginning to address.

The Absence of Any AI-Specific Statutory Response

No amendment to the Copyright Ordinance 1962 has addressed artificial intelligence specifically, whether with respect to authorship of AI-generated works, the legal status of AI training on copyrighted material, or disclosure obligations for AI-assisted content. This places Pakistan in a position distinct from, and in one specific respect more precarious than, the position Part 3.3 described for the United States: where American courts and the Copyright Office have at least begun the work of applying, and where necessary adapting, existing doctrine to AI-specific fact patterns, Pakistani courts have not yet been presented with, and Pakistani statute offers no textual foothold for resolving, an equivalent case. A Pakistani court confronted with a Thaler-style registration dispute, or a Thomson-Reuters-style AI-training infringement claim, would have to reason by analogy from a fair-dealing provision built for an entirely different technological context, with no comparative domestic precedent and no legislative guidance to draw upon.

An Illustrative Scenario

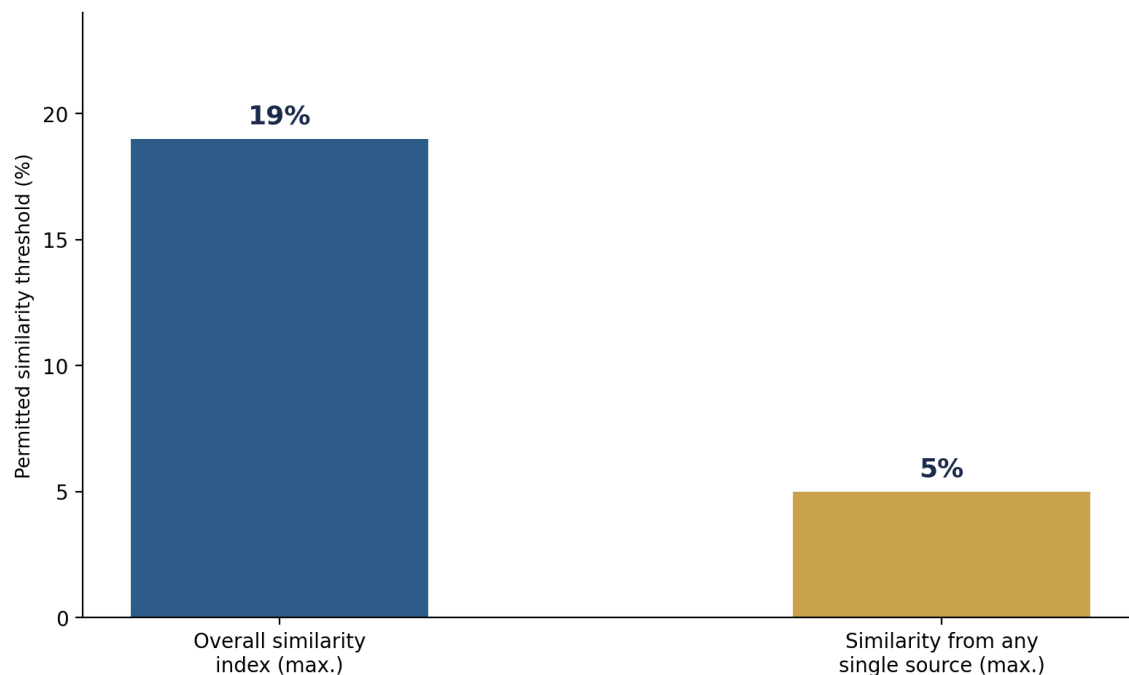
Consider a stylised scenario, offered purely as an illustrative hypothetical, built on Pakistan's own rapidly growing higher-education publishing sector. Suppose a Pakistani graduate student uses a generative AI system to draft substantial portions of a thesis chapter, subsequently editing the output for coherence and integrating it with the student's own analysis, without disclosing the AI's role to the supervising faculty member or the university's research office. Under the Higher Education Commission's Anti-Plagiarism Policy, discussed in Part 5.1, this conduct would very likely register a low similarity-index score, since the AI-generated text would not closely match any single existing source the detection software has indexed, and would therefore pass the Journals and Publications Policy's numerical thresholds even though the underlying work substantially misrepresents the student's own authorial contribution. Under the Copyright Ordinance 1962, the question whether the student, the university, or no one at all holds copyright in the AI-assisted chapter remains genuinely unanswered, because Section 57's fair-dealing categories were not drafted with this scenario in view and no other provision of the Ordinance addresses it. And if the AI system's output happened to draw substantially on a specific copyrighted source in the training data underlying the model a possibility the *Thomson Reuters v Ross Intelligence* litigation shows is not merely theoretical no Pakistani court has yet had occasion to decide whether the resulting reproduction, mediated through the AI system rather than copied directly by the student, would itself infringe the original source's copyright, or under what theory such infringement would be assessed. This scenario illustrates concretely the compounding effect Part 6 describes: even a Pakistani university with a fully literate, well-intentioned academic-integrity office would have no clear rule to apply to this fact pattern, because neither the Copyright Ordinance nor the Higher Education Commission's policies were drafted to reach it.

Pakistan's Institutional Compliance Infrastructure

The Higher Education Commission's Anti-Plagiarism and Publications Policies

The Higher Education Commission's Anti-Plagiarism Policy establishes the framework within which Pakistani universities are expected to detect and sanction plagiarism, defining plagiarism broadly as the use of another person's ideas, research, words, or graphics without proper acknowledgement, and assigning collective responsibility to supervisors and principal investigators, alongside the individual author, for plagiarism occurring after 1 January 2008 the point from which the Policy treats similarity-detection software as having become reasonably available to Pakistani institutions. The Commission's more recent Journals and Publications Policy 2024 operationalises this framework through specific, quantitative similarity-index thresholds for academic publishing: an overall similarity index not exceeding nineteen percent, with similarity from any single source not exceeding five percent, checked at three distinct stages of the publication process initial submission, post-review resubmission, and pre-publication verification.

**Figure 4 — HEC Journals and Publications Policy 2024:
Similarity-Index Thresholds for Pakistani Academic Publishing**



Source: HEC Journals and Publications Policy 2024. These thresholds govern textual similarity only; the Policy contains no separate threshold or detection standard for AI-generated or AI-assisted content.

Figure 4: HEC Journals and Publications Policy 2024: similarity-index thresholds for Pakistani academic publishing

This framework, while more concrete and more consistently enforced than many comparable academic-integrity regimes, shares the same structural limitation Part 4.2 identified in the Copyright Ordinance's fair-dealing provision: it measures textual similarity to existing sources, a metric well suited to detecting conventional plagiarism, but offers no corresponding standard for

AI-generated or AI-assisted text that may be substantially original in its specific wording and therefore may register a low similarity-index score while still raising exactly the authorship, attribution, and training-data questions Part 3 examined. A student or researcher who uses a generative AI system to draft substantial portions of academic work, without disclosure, would very likely satisfy the Journals and Publications Policy's numerical similarity thresholds even though the underlying academic-integrity concern the thresholds exist to police misattribution of intellectual contribution applies with full force. The Commission's policy architecture, in other words, was built to catch the specific technological problem of one document copying another, and has not yet been extended, in any published guidance this article has identified, to the structurally different problem generative AI now presents.

IPO-Pakistan's Enforcement Architecture

Figure 5 — IPO-Pakistan's Enforcement Architecture Has No AI-Specific Node

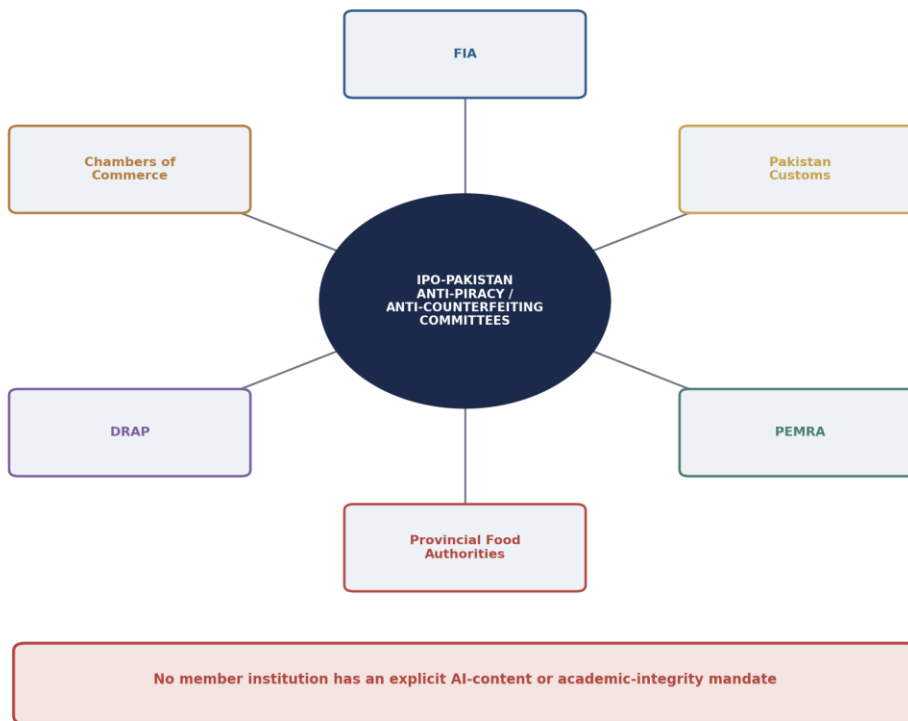


Figure 5: IPO-Pakistan's enforcement architecture has no AI-specific node

The Intellectual Property Organization of Pakistan coordinates enforcement against piracy and counterfeiting through inter-agency committees whose membership, according to IPO-Pakistan's own recent reporting, includes the Federal Investigation Agency, Pakistan Customs, the Pakistan Electronic Media Regulatory Authority, provincial food authorities, the Drug Regulatory Authority of Pakistan, and relevant chambers of commerce and industry, coordinating action against counterfeiting and piracy across pharmaceuticals, printed works, digital content, and software. IPO-Pakistan has also reported progress toward an online complaint system intended to allow applicants to track enforcement actions and improve transparency. This architecture reflects a reasonably developed institutional response to conventional piracy and counterfeiting, spanning sectors from pharmaceuticals to broadcast media.

No institution within this enforcement architecture, however, carries an explicit mandate over AI-generated or AI-assisted content specifically, whether in the form of detecting unlicensed use of copyrighted material as AI training data, addressing disputes over AI-generated work's copyright status, or coordinating with academic institutions on AI-related academic-integrity concerns. The enforcement architecture Part 5.2 has described was built, like the Copyright Ordinance itself, for a conventional model of piracy and counterfeiting involving the unauthorised reproduction of an identifiable existing work — a model AI-generated content does not straightforwardly fit, since the resulting output may be technically novel in its specific expression even where it was produced through the unlicensed use of copyrighted training material.

The National AI Policy 2025's Silence on Copyright

Pakistan's National Artificial Intelligence Policy, approved by the Federal Cabinet in July 2025 and examined in detail in a companion analysis elsewhere in this research programme, sets ambitious targets for AI adoption and development but, on the specific question this article examines, is conspicuously silent: the policy does not address copyright ownership of AI-generated content, does not address the legal status of using copyrighted Pakistani works as AI training data, and does not direct IPO-Pakistan or the Higher Education Commission to develop the AI-specific guidance Parts 4.4 and 5.1 have shown is currently missing. This silence is consistent with the policy's generally coordinative rather than regulatory character, discussed in the companion analysis, but it means that Pakistan's most recent and most comprehensive AI policy statement, issued after both *Thaler v Perlmutter* and *Thomson Reuters v Ross Intelligence* had already been decided, did not take the opportunity to address either decision's Pakistani analogue at all.

Discussion: Situating the Doctrinal Findings Against Pakistan's Empirical Literature

The doctrinal and institutional gaps identified in Parts 4 and 5 do not exist in isolation from Pakistan's documented copyright-literacy deficit; the two problems compound one another. Empirical research on library and information professionals in Pakistan has found fragmented understanding of copyright exceptions and digital-compliance processes even among the professional group most directly responsible for managing institutional repositories and licensing academic content, with librarians reporting general awareness that plagiarism is wrong but considerably weaker understanding of the procedural boundaries governing digital reproduction and institutional liability. Student-focused research has reported a similarly limited understanding of copyright compliance that extends little beyond a general awareness of citation norms, without a clearer grasp of the boundaries separating permissible academic use from infringement. More recent scholarship examining the relationship between institutional policy and actual practice has found that awareness alone, without accompanying institutional training and internal compliance procedures, does not reliably translate into compliant behaviour, a finding consistent with this article's own account of a Higher Education Commission framework that specifies numerical thresholds without corresponding procedural guidance for the specific case of AI-assisted work.

Comparing this literature against the doctrinal findings of Parts 3 through 5 clarifies what kind of problem Pakistan's copyright-literacy deficit actually is. If Pakistan's difficulty were purely one

of individual awareness students and researchers simply not knowing the rules then targeted educational interventions might reasonably be expected to resolve it. The doctrinal analysis in this article suggests a more structurally rooted problem: even a well-informed Pakistani academic or institutional administrator, fully aware of the Copyright Ordinance's fair-dealing provision and the Higher Education Commission's similarity thresholds, would have no clear rule to apply to an AI-assisted work, because neither instrument was drafted with that scenario in view. This reframes the relationship between literacy and compliance the existing literature has identified: low compliance in Pakistan's AI-related copyright practice is not simply a symptom of insufficient awareness campaigns, but is, at least in part, a rational response to a genuine absence of applicable rules a distinction the existing literature's focus on awareness and training, valuable as far as it goes, has not fully drawn out, and one this article's doctrinal contribution is specifically intended to supply.

This reframing also clarifies why earlier literature's finding that ethical awareness does not reliably predict compliant behaviour should not be read as evidence that ethics-based interventions are simply ineffective. Where the applicable rule is itself unclear or absent, as Parts 4 and 5 showed is the case for AI-assisted academic work in Pakistan, an individual's ethical commitment to respecting authorship has no clear behavioural target to guide it a structural explanation for the ethics-practice gap the existing literature has documented, distinct from, though not incompatible with, that literature's own emphasis on affordability pressures, convenience, and institutional culture as competing incentives toward non-compliant sharing.

The Ethical Literature and Islamic Jurisprudential Perspectives

A distinct strand of Pakistani scholarship has approached copyright compliance through Islamic ethical and jurisprudential reasoning, framing intellectual property protection in terms of justice, avoidance of harm, and respect for another's labour, while also recognising public-interest grounds for access to knowledge and education that some readings of Islamic jurisprudence treat as placing outer limits on exclusive proprietary claims over information. This literature, including analysis of the Federal Shariat Court's own engagement with intellectual property questions, offers a normatively rich account of why copyright compliance should matter to a Pakistani academic or student as an ethical rather than merely legal proposition, but it shares the same limitation Part 6's broader discussion identified: a normative account of why authorship deserves respect does not, by itself, supply an answer to the structurally prior question this article's doctrinal analysis has raised, namely what counts as authorship at all when a generative AI system has substantially produced the work in question. The ethical and doctrinal literatures are, in this sense, complementary rather than competing: the ethical literature explains why the human-authorship question *Thaler v Perlmutter* resolved in American law matters normatively, while the doctrinal analysis this article contributes explains why Pakistani law currently has no mechanism for giving that normative concern legal effect.

Synthesis: Deficiencies in Pakistan's Existing Legal and Institutional Framework

Figure 6 — Comparative Standing of US and Pakistani Copyright Law on AI-Specific Questions

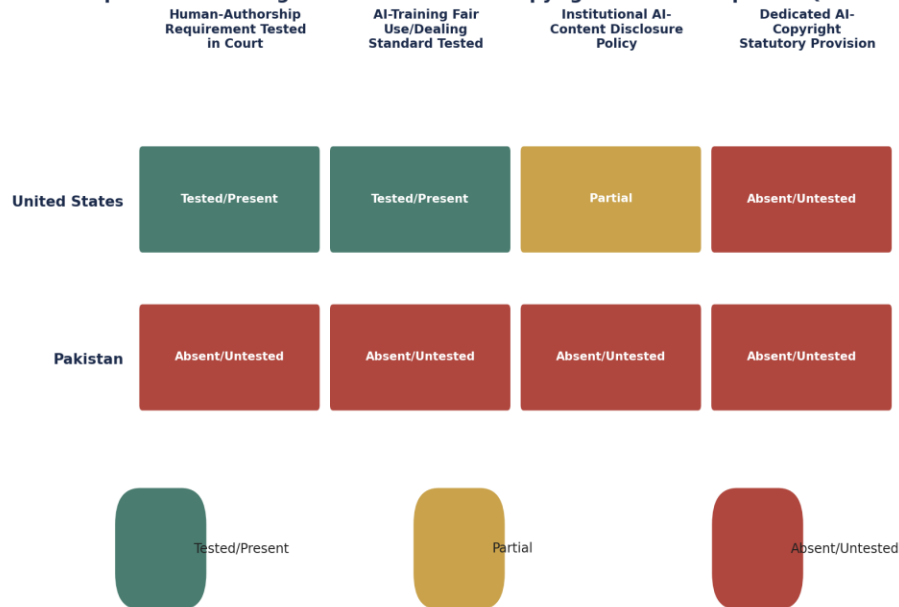


Figure 6: Comparative standing of US and Pakistani copyright law on AI-specific questions

Drawing together Parts 3 through 6, this article identifies four specific, addressable deficiencies in Pakistan's current legal and institutional framework, illustrated comparatively in Figure 6. First, Pakistan's fair-dealing provision under Section 57 of the Copyright Ordinance retains a closed, word-count-based structure that cannot accommodate an open-ended, factor-based inquiry of the kind *Thomson Reuters v Ross Intelligence* shows is necessary to evaluate whether AI training on copyrighted material should be excused, leaving Pakistani courts without a workable doctrinal tool should such a dispute arise domestically. Second, no Pakistani statute, regulation, or published administrative guidance addresses the human-authorship question *Thaler v Perlmutter* resolved in American law, leaving the copyright status of AI-generated or substantially AI-assisted work in Pakistan genuinely undefined rather than merely under-enforced. Third, the Higher Education Commission's academic-integrity framework, while procedurally more developed than many comparable regimes through its three-stage similarity-check process and defined numerical thresholds, has not been extended to address AI-generated or AI-assisted text specifically, leaving a policy instrument well suited to conventional plagiarism structurally unable to reach the distinct problem generative AI now presents. Fourth, IPO-Pakistan's inter-agency enforcement architecture, though reasonably developed for conventional piracy and counterfeiting across multiple sectors, contains no institutional node with an explicit mandate over AI-related copyright concerns, leaving enforcement coordination for this emerging category of dispute without a clear institutional home.

These four deficiencies interact with, and substantially explain the persistence of, the literacy and compliance gap Part 6 discussed. A comprehensive reform agenda addressing them together, rather than treating literacy training as a sufficient response on its own, is the subject of Part 8.

Toward a Coherent Reform Agenda for Pakistan

Figure 7 — A Proposed Tiered Reform Roadmap for Copyright Literacy and Compliance in Pakistan

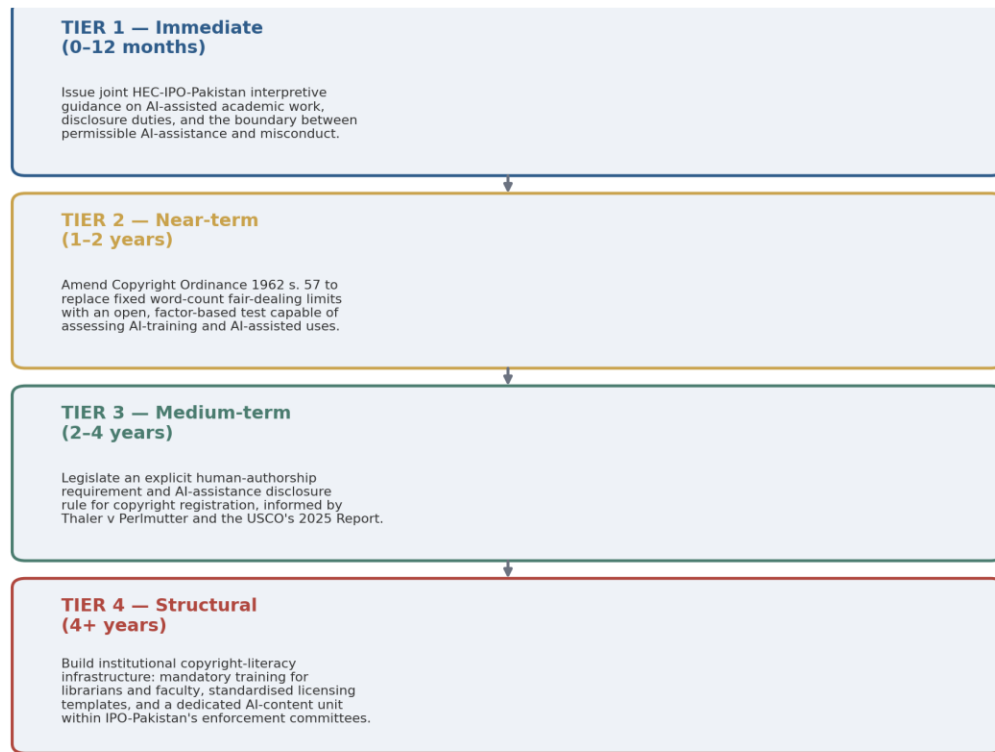


Figure 7: A proposed tiered reform roadmap for copyright literacy and compliance in Pakistan

A coherent reform agenda should proceed in four sequenced stages. In the immediate term, the Higher Education Commission and IPO-Pakistan should jointly issue interpretive guidance on AI-assisted academic and creative work, clarifying the disclosure obligations institutions expect, the boundary between permissible AI assistance and academic misconduct, and the interim treatment of AI-related copyright disputes pending statutory reform a step requiring no legislative amendment and directly comparable to the interpretive-guidance-first approach this research programme has proposed for Pakistan's competition, data-protection, and AI-liability frameworks in companion analyses. In the near term, Parliament should amend Section 57 of the Copyright Ordinance 1962 to replace, or supplement, its fixed word-count fair-dealing limits with an open, multi-factor test capable of evaluating AI training and AI-assisted uses on their substance rather than on a prose-extract metric designed for an entirely different technological context.

In the medium term, Pakistan should legislate an explicit human-authorship requirement for copyright registration, informed by but not mechanically identical to the American position *Thaler v Perlmutter* established, together with a disclosure obligation for AI-assisted submissions to copyright registries and, where appropriate, academic publications addressing directly the authorship and attribution questions Part 3 showed remain entirely unaddressed in Pakistani statute. In the structural, longer-term stage, Pakistan should build the institutional copyright-

literacy infrastructure the empirical literature discussed in Part 6 has consistently found lacking: mandatory, procedurally specific training for librarians, faculty, and administrators, standardised institutional licensing and clearance templates of the kind existing scholarship has identified as necessary to translate ethical awareness into consistent compliance behaviour, and a dedicated AI-content unit within IPO-Pakistan's existing enforcement committees, extending the architecture Part 5.2 described to the category of dispute it currently cannot reach.

Sequencing and the Case for Acting Ahead of Full Doctrinal Settlement

A natural objection to this reform agenda is that Pakistan should wait for AI-copyright doctrine to settle in more heavily litigated jurisdictions before legislating domestically, given Part 3.3's own acknowledgment that the American position remains actively contested. This article's response, consistent with the sequencing argument this research programme has developed in its companion analyses of Pakistani competition, data-protection, and AI-liability law, is that waiting carries its own costs that a modest, interim reform can avoid. The interpretive guidance proposed as Tier One requires no legislative commitment to any particular substantive rule and can be revised as comparative doctrine develops; it simply closes the immediate gap in which Pakistani institutions currently have no guidance at all, of the kind Part 4.4's illustrative scenario showed leaves even a well-intentioned university without a clear rule to apply. The more substantive statutory reforms proposed as Tiers Two and Three can, and on this article's argument should, be drafted with enough flexibility an open, factor-based fair-dealing test rather than a rigid rule, for instance to accommodate further doctrinal development elsewhere without requiring repeated amendment. Pakistan's position as a comparatively late mover on AI-copyright legislation is, in this specific and limited sense, an advantage rather than merely a disadvantage, provided the reforms it adopts are designed with that continuing uncertainty in mind rather than pretending a false certainty the comparative case law itself does not yet support.

Significance and Limitations

This study's significance lies in connecting Pakistan's existing empirical literature on copyright literacy, discussed in Part 6, to the comparative case law and institutional developments of 2024 through 2026, an integration the existing literature necessarily written before *Thaler v Perlmutter* and *Thomson Reuters v Ross Intelligence* were decided has not yet been able to undertake. The resulting analysis is intended to be of practical use to policymakers, the Higher Education Commission, IPO-Pakistan, and Pakistani academic institutions seeking evidence-based grounds for updating copyright guidance, compliance procedures, and statutory provisions to address AI-generated and AI-assisted content specifically, and to contribute to the broader scholarly discussion of copyright governance, digital ethics, and emerging technology within Pakistan's legal and educational systems.

The study's limitations should be read alongside this significance. The analysis proceeds from published legal instruments, case law, and secondary academic literature rather than from original empirical research such as interviews or surveys of Pakistani students, faculty, librarians, or policymakers; it therefore cannot report new primary data on how these groups currently perceive or navigate AI-related copyright questions, and its account of Pakistan's literacy deficit relies on the existing studies discussed in Part 6 rather than on independently gathered evidence. The doctrinal analysis is also necessarily time-bound: as Part 3.3 noted, AI-copyright litigation remains active in multiple jurisdictions, and the specific rules *Thaler v*

Perlmutter and Thomson Reuters v Ross Intelligence establish may be qualified, extended, or superseded by subsequent litigation this article could not account for. Finally, the analysis is geographically and institutionally delimited to Pakistan's national legal framework and to its academic and institutional digital environment specifically, rather than to commercial digital industries or general consumer behaviour, a delimitation that keeps the analysis focused but means its conclusions should not be extended without further inquiry to, for example, Pakistan's commercial software or entertainment sectors, which face a partially different mix of enforcement and compliance challenges.

Conclusion

This article has argued that copyright compliance challenges in Pakistan's digital academic and institutional environment arise from the interaction of several distinct problems rather than from any single cause. Pakistan's existing empirical literature has documented significant gaps in copyright literacy among students, academic staff, and information professionals, and has shown that institutional policies, however clearly stated, are not always translated into working compliance procedures. This article's own doctrinal contribution has been to show that this literacy and implementation gap is compounded by a genuine legal vacuum specific to artificial intelligence: Pakistan's fair-dealing provision cannot meaningfully evaluate AI training or AI-assisted authorship in the way the comparative case law examined in Part 3 shows a flexible fair-use doctrine beginning to do; no Pakistani statute or guidance addresses the human-authorship question Thaler v Perlmutter resolved in American law; the Higher Education Commission's otherwise reasonably developed academic-integrity framework has not been extended to AI-generated text; and IPO-Pakistan's enforcement architecture has no institutional node responsible for AI-related copyright concerns.

The reform agenda this article has proposed treats these deficiencies as addressable through a sequenced combination of interpretive guidance, statutory amendment, and institutional capacity-building, rather than through copyright-literacy training alone. Enhancing copyright literacy remains, as the existing literature has consistently found, an important element of effective digital governance in Pakistan's academic and institutional environment. But literacy training directed at a legal framework that does not yet contain applicable rules for AI-generated and AI-assisted content can only accomplish so much; the more fundamental task, and the one this article's reform agenda has prioritised, is building the legal and institutional infrastructure capable of giving that literacy something concrete to be literate about.

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