Journal of Global Social Transformation (JGST) | 2(9)(s), 143-154, 2026

DOI: 10.71317/jgst.2.9(s).2026.585

Journal of Global Social Transformation

Journal homepage: https://rjsaonline.org/index.php/JGST

Algorithmic Inequity and Legal Silence: A Tripartite Analysis of AI, Streaming Royalties and Digital Music Rights in Pakistan's Unregulated Entertainment Economy

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ARTICLE INFO

Submission:
July 12, 2026
Revised:
July 28, 2026
Accepted:
August 30, 2026
Available Online:
September 12, 2026

Keywords:
Algorithmic fairness; streaming royalties; copyright; artificial intelligence; music platforms; Pakistan; collective management; digital rights

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ABSTRACT

The Pakistan music economy has moved onto transnational streaming platforms faster than its legal and institutional architecture has adapted. This article examines this mismatch through a tripartite framework: (i) algorithmic allocation of attention, (ii) contractual and technical allocation of streaming revenue, and (iii) legal allocation and enforcement of digital music rights. It uses doctrinal analysis of Pakistan's Copyright Ordinance 1962, the Intellectual Property Organization of Pakistan Act 2012, and the Competition Act 2010; policy analysis of Pakistan's National Music Policy; and comparative analysis of WIPO materials, the European Parliament's 2024 streaming resolution, platform royalty disclosures, and recent industry evidence. The central finding is that Pakistan has copyright law. Rather, the operative silence lies between general exclusive rights and the platform-specific rules needed to make those rights meaningful: disclosure of recommendation and demonetization logic, auditable usage data, interoperable metadata, transparent deductions, collective licensing capacity, accessible dispute resolution, and remedies for synthetic impersonation and fraudulent streams. In that gap, recommendation systems can convert cultural visibility into privately governed scarcity, while pro-rata royalty pools can translate unequal attention into unequal income. Independent, regional-language, female, and informally contracted creators bear heightened risks because missing metadata, weak bargaining power, and cross-border payment chains compound one another. The article proposes a Pakistan Digital Music Rights Framework built on rights registration without constitutive formalities, accredited collective management, standardized reporting, algorithmic-impact duties, creator due process, competition oversight, AI provenance, and consent rules, and a specialist low-cost tribunal. Such reform would preserve innovation while treating discoverability, data, and remuneration as connected dimensions of cultural justice.

Introduction

Music streaming has transformed distribution from a problem of physical scarcity into a contest over computational visibility. A digital service may host tens of millions of tracks; however, listening remains concentrated because search rankings, automated playlists, recommender systems, interface design, and promotional tools determine which recordings enter a listener's field of attention. Global recorded-music revenue reached US$29.6 billion in 2024 and US$31.7 billion in 2025, an eleventh consecutive year of growth, with paid subscription streaming alone generating US$16.6 billion from 837 million subscribers. Streaming therefore continues to anchor sectoral growth, but aggregate expansion does not establish that revenue is fairly distributed among creators or territories (International Federation of the Phonographic Industry [IFPI], 2025, 2026). Pakistan presents a particularly important case. Its recorded-music culture is multilingual, regionally diverse, and heavily intertwined with film, television, devotional performance, folk traditions, independent production, and social media. Pakistan's first national Music Policy, approved by the federal cabinet in August 2023 and issued by the Ministry of Information and Broadcasting, acknowledges both the cultural value of music and persistent problems involving piracy, weak documentation, royalty collection and distribution, absent cataloguing, and institutional fragmentation. It goes further than is often assumed: it proposes specialized music tribunals, an online copyright registration portal, a revamped and autonomous COMP, negotiation with digital platforms over per-stream revenue, and clarification of authorship in computer-generated works. However, it does not supply a binding regulatory architecture for platform recommendation, auditable cross-border royalty accounting, or synthetic voice imitation, and it contains no implementation timetable, budget line, or enforcement mechanism (Government of Pakistan, 2023).

The phrase "unregulated entertainment economy" therefore requires precision. Pakistan is not a legal vacuum: copyright, performers and phonogram-producers' rights, civil remedies, criminal enforcement, and institutional mandates exist. The silence is functional and platform-specific. The law does not clearly require a streaming platform or intermediary to explain recommendation criteria, reveal the effect of paid promotion on reach, provide creator-accessible audit data, disclose territorial deductions, or offer an independent appeal against automated removal or demonetization (Copyright Ordinance, 1962; Intellectual Property Organization of Pakistan Act, 2012). This article argues that algorithmic inequity, royalty opacity, and weak digital-rights administration are not three separate defects. They form a feedback loop. Recommendation determines attention; attention determines streamshare; streamshare determines the size of a rightsholder's portion of a revenue pool; and contractual and metadata arrangements determine whether that portion reaches the performer, songwriter, or producer. Spotify's own explanation confirms that it does not pay a fixed per-stream rate and that payments flow first to rightsholders, after which artist receipts depend on private agreements (Spotify, 2026a). This study asks three questions. First, how can AI-driven recommendations reproduce structural disadvantage for Pakistani creators? Second, why do contemporary royalty models fail to guarantee transparent or equitable creator income? Third, which reforms could connect Pakistan's existing copyright framework to the realities of digital distribution without importing an unsuitable foreign model wholesale? These questions respond to the European Parliament's finding that streaming requires attention to fair remuneration, transparent algorithms, accurate metadata, and cultural diversity (European Parliament, 2024).

Methodology and Analytical Framework

This study adopts a qualitative doctrinal–comparative method. Primary Pakistani materials include the Copyright Ordinance 1962, the Intellectual Property Organization of Pakistan Act 2012, the Competition Act 2010, and the 2024 National Music Policy. Comparative primary and institutional sources include WIPO's digital-music and collective-management guidance, the European Parliament's 2024 resolution, and platform explanations of royalty allocation. Recent industry reports are used to contextualize the economic scale and emerging AI-related fraud (WIPO, 2022; Competition Commission of Pakistan, n.d.). The analysis does not claim to measure discriminatory outcomes on any particular platform in Pakistan because platform-level recommendation, impression, skip-rate, playlist, and royalty datasets are not publicly available at a granularity that would permit such causal testing. Instead, it identifies legally relevant risk mechanisms and tests whether existing rules provide transparency, contestability, and remedy. This distinction avoids treating the absence of disclosure as proof of discrimination while recognizing that non-disclosure can itself prevent accountability (European Parliament, 2023). The tripartite model treats platform power as an allocation system with three linked layers. The visibility layer allocates exposure through automated selection; the value layer converts streams and subscriptions into payments; and the rights layer decides who is recognized, licensed, paid, and able to challenge errors. WIPO's account of the digital supply chain shows why these layers must be examined together: labels, distributors, publishers, collective management organizations, and DSPs perform different functions, while metadata links uses to the relevant composition and sound-recording interests (WIPO, 2022).

Literature Review and Research Contribution

Research on music streaming is divided between cultural-production scholarship, computational recommender-system research, cultural economics, and copyright law. Hesmondhalgh (2021) cautions against reducing the remuneration debate to a universal per-stream figure because streaming income is mediated by contracts, catalogue ownership, changing consumption, and the broader political economy of music. This caution is essential for Pakistan, as the relevant inequity is not demonstrated by a single payout estimate but by the cumulative allocation of attention, bargaining power, data access, and legal capacity across the value chain. Critical platform studies describe playlists and recommendation interfaces as forms of cultural intermediation rather than passive delivery. Prey (2018) argues that streaming services construct audience profiles and make artists legible through data, thereby reorganizing the relationship among listeners, creators, and intermediaries. Morris and Powers (2015) similarly show that platforms translate complex licensing arrangements into an apparently frictionless consumer experience. The commercial and legal work hidden behind that interface is precisely where Pakistani creators may lose visibility, attribution, or payment without observing the source of the loss.

Computational research provides evidence for specific exposure mechanisms. Ferraro, Serra and Bauer (2021) identify gender imbalance in music recommendations and demonstrate why feedback loops matter when historically unequal listening data are used to produce future recommendations. Turnbull, McQuillan, Crabtree, Hunter and Zhang (2022) examine popularity bias across three recommender models and three commercial services, and their findings are more qualified than the debate often assumes: the most accurate model tested (SLIM) also exhibited the most popularity bias, while a simulated-user experiment found no evidence of popularity bias in the commercial recommendations themselves. That asymmetry is itself instructive. It shows that bias is model-dependent, and that outsiders cannot resolve the question without platform-side access. These studies do not prove discrimination in Pakistan, but they justify a regulatory duty to measure disparate exposure and to permit independent testing with multilingual and regional repertoires. Economic scholarship likewise rejects the assumption that a single revenue-sharing formula is self-evidently fair. Bergantiños and Moreno-Ternero (2025) provide direct, axiomatic, and game-theoretical foundations for pro-rata and user-centric allocations, showing that each embodies a different normative conception of relevance. Moreau, Wikström, Haampland and Johannessen (2024), using approximately 890 million streams from more than 150,000 users of a French platform, find that alternative models shift payments in less dramatic and less predictable directions than public debate suggests: on their data independent labels would lose roughly 2.2 per cent under a user-centric system and 3.1 per cent under an artist-centric one. The implication is that Pakistan should require data access and modelling before choosing a mandatory formula, while immediately regulating transparency, deductions, and auditability.

Legal scholarship on generative AI has added two separate questions that are often conflated: whether training involves legally relevant use of protected material and whether an output infringes expression, voice, identity, or attribution. Jacques and Flynn (2024) argue for protecting human creativity through an AI-royalty fund while evaluating levies and other compensation mechanisms, whereas Fenwick and Jurcys (2023) show that generative systems destabilize familiar assumptions about originality and authorship. A Pakistan-specific framework must therefore distinguish human authorship, licensed machine assistance, synthetic impersonation, and mass-generated fraud instead of placing all AI-assisted music in a single category. The present article contributes by integrating these literatures with Pakistan's positive law. Existing studies often evaluate recommendation, royalties, or copyright separately; this approach can miss the causal chain through which a visibility decision alters streamshare, a metadata error blocks payment, or an automated fraud classifier produces a rights deprivation. The tripartite framework treats these events as connected governance decisions and evaluates them against legality, transparency, contestability, and cultural diversity (Hesmondhalgh, Jones, & Rauh, 2023).

Scope of the Claim: Regulation, Not a Legal Vacuum

Describing Pakistan's entertainment economy as "unregulated" is analytically useful only if it refers to sector-specific silence rather than the absence of all laws. Copyright law defines protected subject matter and exclusive rights; competition law constrains certain market practices; contract law governs private bargains; and criminal law can reach fraudulent conduct. What is missing is an integrated rule set for platform explanations, royalty statements, metadata correction, automated sanctions, and synthetic identities. The distinction matters because reform should extend and coordinate existing institutions rather than falsely assume that law begins with a new digital statute (Copyright Ordinance, 1962). This article also separates inequity from illegality. A recommendation outcome may be unequal yet commercially justified; a platform may possess market power without abusing dominance; and a low royalty may reflect a lawful contract. Regulation becomes warranted where creators cannot observe material rules, similarly situated parties receive unjustifiably different treatment, rights cannot be matched to uses, or consequential decisions lack review. This procedural conception draws on contemporary algorithmic-accountability practice, which emphasizes risk assessment, documentation, auditing, and redress rather than an impossible promise of perfectly equal results (Digital Regulation Cooperation Forum, 2022).

Layer One: AI, Discoverability and Algorithmic Inequity

Recommendation systems are not neutral mirrors of preference. They learn from historical behavior, optimize platform-selected objectives, and continuously alter the conditions under which new behavior is produced. Popularity signals can become self-reinforcing: a track that gains early playlist exposure receives more streams, which strengthens the signals used to justify further exposure. For markets with limited editorial representation or incomplete metadata, optimization for engagement may systematically favor already legible artists, dominant languages, and catalogues supported by sophisticated distributors (Ferraro et al., 2021). For Pakistani music, legibility is a technical and cultural problem. The same performer, lyricist, or work may appear under variant Roman, Urdu, Punjabi, Sindhi, Pashto, or transliterated spellings. Credits may be embedded in video descriptions rather than standard fields, traditional works may have contested provenance, and informal collaborations may never produce written split sheets. WIPO identifies identifiers such as ISRC, ISWC, IPI, and ISNI, alongside DDEX messaging standards, as core infrastructure for connecting recordings, compositions, and rightsholders across the digital supply chain (WIPO, 2022).

Algorithmic inequity can consequently arise without an explicitly discriminatory variable. A system trained to predict completion, repetition, or short-term engagement may discount genres whose listening practices differ from platform averages. Long-form classical performances, qawwali, regional folk recordings, and archival material can be disadvantaged by metrics optimized around track-level immediacy. The European Parliament has therefore called not only for algorithmic transparency but also for diversity indicators covering genres, languages, and independent authors (European Parliament, 2024). Promotional recommendations intensify the concern because they can blur the boundary between organic relevance and paid influence. Where rightsholders accept reduced royalties or other commercial conditions for enhanced algorithmic exposure, independent artists may face a coercive choice between visibility and income. The controversy surrounding Spotify's Discovery Mode illustrates the governance question: promotional influence can affect both audience allocation and remuneration, even where the arrangement is contractually disclosed to participating rightsholders (Spotify, 2023).

A related risk lies in fraud-control automation. AI-generated tracks, bot networks, identity hijacking, and artificial streaming can divert pooled revenue; however, automated enforcement can also misclassify legitimate viral growth or third-party playlist activity. Deezer's successive disclosures show how quickly the problem escalated. Fully AI-generated deliveries rose from roughly 10,000 tracks a day in January 2025 to approximately 20,000 by April 2025, 60,000 (39 per cent of daily uploads) by January 2026, 75,000 (44 per cent) by April 2026, and a monthly average of 90,000 in June 2026, when AI uploads passed half of all new music delivered for the first time. Deezer built detection tooling to exclude fraudulent streams from the royalty pool and, from June 2025, began tagging AI-generated tracks. This illustrates both the scale of the problem and the growing power of private classifiers over royalty eligibility (Deezer, 2025, 2026a, 2026b, 2026c). Fairness therefore requires more than disclosure of source code. Creators need meaningful information about inputs and consequences: whether a stream was editorial, algorithmic, or paid-promotional; why reach materially changed; whether a track was excluded from recommendation; what evidence supports a manipulation finding; and how to appeal. The appropriate legal standard is reasoned transparency calibrated to trade-secret protection, combined with independent audit and researcher access, rather than publication of code that few creators could interpret (Digital Regulation Cooperation Forum, 2022).

Layer Two: Streaming Royalties and the Architecture of Unequal Value

Streaming royalties are commonly misunderstood as a fixed payment multiplied by plays. In a stream-share or pro-rata system, eligible net revenue is pooled within defined markets or tiers and allocated according to a rightsholder's share of eligible streams. The amount attributable to a recording thus varies with territory, subscription type, advertising revenue, platform deductions, fraud adjustments, and contractual allocation. Spotify expressly states that it calculates streamshare after specified deductions and pays rightsholders rather than artists directly (Spotify, 2026a). The model produces a distributive consequence: the subscription of a user who listens only to local independent artists does not necessarily flow exclusively to those artists. Under a market-centric pool, that user's payment contributes to the wider pool from which highly streamed catalogues receive a large share. User-centric alternatives allocate a subscriber's distributable revenue among the artists that subscriber actually played, but the effects vary by audience behavior and implementation. Comparative economic work therefore treats pro-rata and subscriber-proportional allocation as competing fairness rules rather than purely technical calculations (Gonçalves-Dosantos et al., 2025).

Even after a platform allocates revenue, creator income is shaped by the chain between the DSP and human contributor. A master payment may pass through a label or distributor, while composition income may move through publishers, performing-right organizations, mechanical-right entities, or foreign societies. Contractual recoupment, commissions, tax, currency conversion, and unmatched usage can reduce or delay receipts. WIPO's digital-music map underscores that a single stream can implicate separate sound-recording and composition rights administered through different organizations (WIPO, 2022). Metadata failure is therefore a monetary event, not a clerical inconvenience. If ownership shares, identifiers, or names cannot be matched to a usage report, royalties may be delayed, placed in suspense, or distributed under unmatched-funds rules. Pakistani creators working without professional publishers or distributors face a higher practical risk because informal documentation and inconsistent transliteration weaken matching across territories. The United States Copyright Office's study of unclaimed royalties similarly stresses authoritative ownership data, outreach, and transparent distribution rules (U.S. Copyright Office, 2021).

Scale can mask concentration. Spotify reported more than US$11 billion in music-industry payouts for 2025, bringing lifetime payouts to nearly US$70 billion, and stated that independent artists and labels generated roughly half of those royalties. Yet its own framing is careful: the figures describe royalties generated on the service and paid to rightsholders, not the net income individual performers receive after intermediaries and contractual deductions. Large total payouts and creator precarity can coexist because the relevant questions concern distribution, bargaining power, and accounting visibility rather than only the size of the pool (Spotify, 2026b). AI-generated supply causes dilution and attribution problems. Cheap mass production can occupy recommendation inventory, manipulate low-intent listening contexts, and, when paired with bots, siphon money from a finite royalty pool. Deezer reported detecting and tagging more than 13.4 million AI tracks during 2025 and estimated that up to 85% of the streams generated by fully AI-made recordings that year were fraudulent and therefore excluded from royalty payments, even though such tracks accounted for only 1–3% of total streams. The asymmetry between a small consumption share and a very high fraud rate is precisely what makes dilution a governance problem rather than a listening-taste problem, and rights organizations have emphasized that detection must be accompanied by licensing and training-data transparency (Deezer, 2026a, 2026c).

A fair Pakistani framework should not legislate a single universal “per-stream price,” which would ignore business-model and territorial differences. It should instead regulate the accounting process by defining reportable gross and net revenue, standardizing permissible deduction categories, separating recording and publishing flows, identifying promotional-rate streams, disclosing exchange rates and withholding, preserving audit trails, and requiring statements in machine-readable and human-readable formats. The United Kingdom’s industry transparency work offers a useful process-oriented comparator because it focuses on information across the value chain. Its two instruments — the Voluntary Code of Good Practice on Transparency in Music Streaming, signed by twelve industry bodies in January 2024, and the Industry Agreement on Music Streaming Metadata of May 2024 — also illustrate the limit of the voluntary approach, since the Code expressly states that failure to abide by it is not a breach of legislation or contract (UK Intellectual Property Office, 2024a, 2024b).

Layer Three: Digital Music Rights and Pakistan’s Legal Silence

Pakistan’s Copyright Ordinance protects musical works and sound recordings and recognizes related rights. Section 24A grants performers control over the fixation of unfixed performances, reproduction of fixations, wireless broadcasting, and communication to the public of live performances; it also grants phonogram producers rights against direct or indirect reproduction and rental, with a fifty-year term. These provisions establish substantive interests but were drafted before on-demand streaming, recommender systems, and generative AI became central market institutions (Copyright Ordinance, 1962). The age of the statute does not automatically make it irrelevant; technology-neutral concepts such as reproduction and communication to the public can extend to new modes of exploitation. The difficulty is transactional and remedial specificity. The ordinance does not clearly allocate platform duties concerning monthly usage data, playlist classification, automated fraud findings, AI voice replicas, model-training disclosure, cross-border accounting, or creator-facing explanations. General rights can therefore exist on paper while remaining costly to identify, license, and enforce in practice (WIPO Lex, n.d.).

The IPO-Pakistan Act gives the Intellectual Property Organization a coordinating and administrative mandate across intellectual property. That institutional base could support digital music reform, but a copyright office alone cannot resolve every platform problem. Algorithmic self-preferencing and discriminatory commercial conditions may implicate competition policy; personalization implicates data governance; synthetic likeness implicates personality and consumer-deception concerns; and cross-border payments implicate tax, foreign-exchange, and contract rules (Intellectual Property Organization of Pakistan Act, 2012). Competition law offers an underused route. Section 3 of the Competition Act prohibits abuse of a dominant position through practices that prevent, restrict, reduce, or distort competition, while the Act also addresses prohibited agreements and deceptive marketing. In an appropriate evidence-based case, exclusionary platform conduct, discriminatory access terms, tying, or opaque pay-for-prominence could merit scrutiny. However, dominance and abuse must be established; copyright dissatisfaction alone is not a competition violation (Competition Commission of Pakistan, n.d.).

Collective management is the missing institutional bridge between individual rights and mass uses. It is unrealistic for each songwriter or performer to negotiate and monitor every platform, broadcaster, venue, and short-video service. WIPO describes CMOs as bodies that monitor uses, negotiate tariffs, license repertoires, collect fees, and distribute revenue. Pakistan needs accreditation, governance, repertoire transparency, conflict rules, and distribution standards so that collective licensing gains legitimacy without replacing creator choice (WIPO, n.d.-a). The 2023 National Music Policy creates an opportunity to connect heritage, industry development, and rights administration. Its value lies in recognizing that music policy is not reducible to anti-piracy enforcement. Sustainable reform must also improve training, documentation, creator welfare, archives, market access, and institutional coordination. Yet policy commitments require implementing rules, budgets, measurable indicators, and an accountable lead agency; otherwise, the gap between recognition and remuneration will remain. The policy already names the Pakistan Society of Authors, the Performers' Rights Society of Pakistan, and the Copyright Society of Pakistan as existing collective bodies and proposes revamping COMP as an autonomous, adequately funded institution with a public centralized copyright-data center. This is a concrete starting point on which the framework proposed below can build (Government of Pakistan, 2023).

Comparative Case-Law Lessons

Reported music cases show why contract doctrine remains relevant to platform-era exploitation. In Macaulay v. Schroeder Music Publishing Co. Ltd. [1974] 1 WLR 1308, the House of Lords refused to enforce an oppressive standard-form publishing arrangement that placed extensive control in the publisher while imposing no meaningful exploitation obligation. The case does not create a general power to rewrite every unfavorable royalty bargain, but it demonstrates that formal consent can coexist with structurally unequal bargaining and that courts may scrutinize restraints whose commercial justification is inadequate. Intermediary-liability cases reveal a different boundary. In CBS Songs Ltd. v. Amstrad Consumer Electronics plc [1988] AC 1013, the House of Lords declined to impose liability merely because equipment could facilitate private copying; the manufacturer had not authorized the particular infringements. By contrast, MGM Studios Inc. v. Grokster Ltd., 545 U.S. 913 (2005), recognized inducement liability where a distributor promoted infringing uses. Taken together, the cases caution Pakistan against automatic platform liability while supporting targeted responsibility where design, promotion, or commercial practice intentionally fosters infringement.

The distinction between compositions and recordings has repeatedly complicated royalty law. In Indian Performing Right Society Ltd v Eastern India Motion Pictures Association (1977) 2 SCC 820, the Indian Supreme Court addressed the relationship between underlying musical and literary works and cinematograph-film exploitation under the statute then in force. Later legislative changes in India strengthened author remuneration. Pakistan should learn the institutional lesson rather than mechanically import the holding: digital rules must state which layer of rights is licensed, who receives statements, and whether assignments can extinguish non-waivable remuneration interests. European case law also shows how digital music disputes can implicate fundamental rights and technological transformation. In Pelham GmbH v Hütter, Case C-476/17, EU:C:2019:624, the Court of Justice considered sampling and the phonogram producer's reproduction right, balancing exclusive rights with artistic freedom within the EU statutory framework. Pakistan's law contains no identical architecture, but the dispute illustrates the need for clear treatment of micro-sampling, transformative production, and exceptions so that enforcement does not collapse every technical copy into the same policy category.

Generative-AI litigation is still developing and must not be presented as settled precedent, and its trajectory since 2024 is instructive. The major labels' coordinated complaints against Udio (Southern District of New York) and Suno (District of Massachusetts) alleged unauthorised copying in model training and outputs. Those actions have since fragmented rather than produced a ruling: Universal settled with Udio in October 2025 and Warner in November 2025, Warner also settled with Suno in November 2025, and each settlement was paired with a forward-looking licence rather than an adjudication of liability. Sony has continued to litigate, and in July 2026 the first substantive generative-music judgment came not from a United States court but from the Munich Regional Court I in GEMA v Suno. Filed complaints establish allegations, not adjudicated facts, and negotiated settlements establish commercial terms, not legal rules. The disputes nevertheless expose evidentiary issues Pakistan will face: access to training records, proof of substantial similarity, provenance of outputs, remedies for market substitution and the relationship between copyright and vocal identity (UMG Recordings, Inc. v Uncharted Labs, Inc., No. 1:24-cv-04777 (S.D.N.Y. filed June 24, 2024); UMG Recordings, Inc. v Suno, Inc., No. 1:24-cv-11611 (D. Mass. filed June 24, 2024)). A broader AI decision, Thomson Reuters Enterprise Centre GmbH v Ross Intelligence Inc., 765 F Supp 3d 382 (D Del 2025), treated copying undertaken to develop a competing legal-research system as outside fair use on the record before the court. Its facts and United States doctrine are not transferable to Pakistani music disputes and appellate developments may alter its authority. Its comparative value lies in showing that courts will examine purpose, market effect and the nature of copied material rather than accept "AI training" as a legally self-defining activity. Procedural justice is equally important. A right that can be enforced only through expensive, protracted litigation provides little bargaining leverage to an independent musician disputing a modest royalty statement or automated takedown. WIPO's collective-management and alternative-dispute-resolution materials emphasise specialist administration, transparent distribution and accessible resolution. Pakistan should combine court remedies with an expert forum capable of ordering data correction, accounting, reinstatement and limited monetary relief on an expedited record (WIPO, 2021).

Intersecting Inequalities in Pakistan's Music Economy

Algorithmic and contractual risks are unevenly distributed. Major catalogues can employ dedicated teams for metadata, playlist pitching, rights conflict resolution, and analytics. Independent creators frequently depend on a single distributor dashboard and may not know whether missing revenue results from low demand, unmatched metadata, territorial exclusions, recoupment, or a platform sanction. Information asymmetry converts nominal contractual freedom into a weak bargaining position (WIPO, 2022). Language and geography deepen the asymmetry. Urdu-language mainstream music is more likely to have standardized commercial metadata than locally circulated Saraiki, Balochi, Sindhi, Pashto, Punjabi, or endangered-language repertoires. If recommendation systems treat historical interaction as a sufficient proxy for relevance, lower initial digitization and smaller online audiences can become a permanent visibility penalty. UNESCO's Convention on the Diversity of Cultural Expressions supports policy measures that protect and promote diverse cultural expression in changing technological environments (UNESCO, 2005).

Gender inequality may also be reproduced through historical data and industry structure. Where women have faced fewer recording opportunities, mobility restrictions, harassment, or weaker access to labels and live circuits, engagement-trained systems inherit an already unequal catalogue. A neutral ranking rule can then preserve past exclusion because it rewards accumulated visibility. Gender-sensitive auditing should consequently examine exposure, saves, completion, playlist entry, takedowns, and revenue while protecting personal data and avoiding simplistic quotas (UNESCO, 2022). Folk and traditional expressions pose a distinct ownership challenge. A platform may monetize a newly recorded arrangement even when the underlying expression belongs to a community tradition, while communities may lack conventional documentation or an entity capable of licensing. Reform should distinguish individual copyright in new contributions from broader cultural stewardship and develop consent, attribution, and benefit-sharing protocols for recordings derived from traditional cultural expressions (WIPO, 2017).

A Pakistan Digital Music Rights Framework

The first pillar should be statutory transparency. Large music and user-generated-content platforms serving Pakistan should publish plain-language descriptions of recommendation and royalty systems, identify material paid-promotional influence, provide periodic creator statements and notify rightsholders of significant automated restrictions. Regulators should receive more granular confidential data for audit, while public disclosure should protect trade secrets and user privacy (European Parliament, 2024). The second pillar should be data and metadata infrastructure. IPO-Pakistan, accredited CMOs and industry stakeholders should establish a national music-rights data hub interoperable with ISRC, ISWC, IPI, ISNI and DDEX standards. Registration should facilitate proof and payment without making copyright existence depend upon registration. A multilingual authority file should preserve alternate spellings and scripts so Pakistani names and titles remain matchable across global services (WIPO, 2022). The third pillar should be transparent collective management. Accreditation should require member control, published tariffs, low and disclosed administrative deductions, annual independent audits, distribution timetables, conflict-of-interest rules, online repertoire search and a documented policy for unmatched royalties. Reciprocal agreements with foreign societies should specify exchange data, deductions and dispute routes. WIPO's Good Practice Toolkit provides a flexible benchmark for governance rather than a one-size-fits-all institutional form (WIPO, 2021).

The fourth pillar should be creator due process. Before demonetization, removal, or fraud penalties, except in urgent and well-defined cases, a platform should give notice of the asserted violation, the evidence category, financial consequences, and an accessible appeal. Human review should be available for consequential decisions; successful appeals should restore content, data, and withheld sums with reasons. A specialist digital copyright and royalty tribunal could handle low-value claims through remote filing and time-bound procedures (Digital Regulation Cooperation Forum, 2022). The fifth pillar should regulate AI provenance and identity. Platforms should label fully synthetic recordings, maintain provenance records, respond rapidly to unauthorized voice or likeness imitation, and prevent fraudulent attribution to established artists. Commercial model developers should document lawful access to training material and provide rights-reservation and licensing mechanisms consistent with enacted law. The rule should target unauthorized exploitation and deception, not prohibit legitimate assistive or creative uses of AI (European Parliament, 2025).

The sixth pillar should activate competition oversight. The Competition Commission should conduct a market study of music streaming and short-video music in Pakistan, covering platform concentration, parity clauses, data access, distributor dependence, pay-for-prominence, bundling, and differential treatment. Market studies can identify structural problems without presuming illegality and can guide remedies proportionate to demonstrated power and harm (Competition Act, 2010). The seventh pillar should create measurable cultural-diversity obligations. Platforms above a defined threshold should report aggregate exposure by language, genre, gender, where voluntarily and lawfully identified, independent status, and region, with privacy safeguards. Regulators should evaluate opportunity and discoverability rather than dictate taste. Public grants can support digitization, metadata repair, and high-quality archival releases so that underrepresented repertoires become technically eligible for discovery (UNESCO, 2022).

Legislative Design and Institutional Allocation

A Digital Music Rights chapter could be inserted into a modernised copyright statute or enacted as a coordinated special law. It should define a covered digital music service by reference to substantial provision of on-demand music, automated recommendation or monetised user-uploaded music in Pakistan. Threshold duties should depend on local users or revenue so that small community archives and emerging services are not burdened like global platforms. Core rights concerning attribution, statements and appeal should nevertheless follow the work wherever commercially exploited (WIPO, 2022). IPO-Pakistan should lead rights administration, CMO accreditation and metadata standards, while the Competition Commission should retain independent authority over market power and deceptive commercial practices. The Ministry of Information Technology and Telecommunication should address data and platform-system standards and the National Heritage and Culture Division should lead diversity, heritage and creator-development measures. A statutory coordination council should publish an annual joint report to prevent overlapping mandates from becoming institutional inaction (Intellectual Property Organization of Pakistan Act, 2012).

Royalty statements should contain the reporting period, territory, service tier, eligible streams, excluded or adjusted streams, gross attributable revenue, each deduction category, currency and exchange rate, ownership share, applicable contractual rate and net amount. Aggregated statements are insufficient where they prevent verification. The rules should also impose proportionate record-retention and permit an independent auditor bound by confidentiality to inspect sampling methods, fraud adjustments and allocation calculations (UK Intellectual Property Office, 2024a). Algorithmic-impact assessments should be required before material deployment of recommendation, promotional-ranking or fraud-detection systems. An assessment should identify the objective, principal data categories, foreseeable effects on languages and creator groups, safeguards, testing results and appeal process. Public summaries may omit trade secrets, but regulators should receive enough information to reproduce core tests. Regular reassessment is necessary because feedback loops change the population and catalogue after deployment (Hesmondhalgh et al., 2023). AI provenance rules should operate alongside, not instead of, copyright analysis. A provider offering commercial synthetic music should keep records of model and dataset governance, provide a mechanism for rightsholders to reserve or license uses where required by law and attach durable provenance information to fully generated outputs. Streaming services should identify synthetic content, prevent false attribution and remove demonstrably fraudulent voice replicas through a rapid, reviewable process. Human-authored works made with assistive tools should not be stripped of protection merely because software participated in production (Jacques & Flynn, 2024).

Phased Implementation and Evaluation

Implementation should begin with a twelve-month evidence phase. IPO-Pakistan and the Competition Commission should issue compulsory information requests or conduct a market study covering subscription structures, advertising, territorial licensing, distributor access, metadata rejection, unmatched royalties, recommendation exposure and complaints. Creator organisations should run multilingual consultations outside Lahore, Karachi and Islamabad so that the framework captures regional and informal production rather than only established labels (Competition Act, 2010). During the second phase, Pakistan should publish standard data dictionaries and pilot a rights-data hub with a limited repertoire. The pilot should test alternate scripts, duplicate identities, split ownership, public-domain claims, traditional expressions and disputed matches. Independent security and privacy review is essential because a central registry can itself create surveillance, exclusion or erroneous ownership risks. Success should be measured by match rates, correction time and payment recovery, not by the number of registrations alone (WIPO, 2021).

The third phase should introduce binding platform and CMO duties, beginning with statements, notice and appeal, then extending to algorithmic audit and diversity reporting. Regulators should publish anonymised enforcement outcomes and permit supervised researcher access to high-value datasets. A two-year statutory review should examine compliance cost, creator income, unmatched sums, complaint resolution, market entry and diversity indicators. Sunset or revision clauses can correct ineffective requirements without abandoning the principle of accountability (European Parliament, 2024). Evaluation should avoid vanity metrics. A rise in total streams does not prove fair remuneration and a larger registered catalogue does not prove discoverability. The relevant indicators include the proportion of streams matched to complete ownership data, median payment delay, concentration of recommendation exposure, appeal success rates, value of corrected royalties, regional-language representation, administrative deductions and creator confidence in statements. Disaggregated reporting should be privacy-preserving and interpreted with qualitative evidence (UNESCO, 2022).

Proposed Regulatory Matrix

Risk	Legal gap	Proposed mechanism	Lead institution
Opaque discovery	No platform-specific explanation or audit duty	Recommendation transparency, paid-promotion labels, regulator audit	MoITT / CCP / IPO-Pakistan
Royalty opacity	No standard digital royalty statement	Uniform reporting fields, deduction disclosure, audit right	IPO-Pakistan
Unmatched rights	Fragmented identifiers and transliteration	Interoperable national rights-data hub	IPO / accredited CMOs
Automated sanctions	Weak notice and appeal guarantees	Notice, evidence category, human review, restitution	Digital rights tribunal
AI impersonation	Unclear synthetic voice/provenance rules	Consent, labelling, provenance and rapid takedown	Parliament / IPO / platforms
Market power	Limited sector-specific evidence	CCP market study and proportionate remedies	Competition Commission

Note. *The matrix synthesises the article's doctrinal and comparative findings; institutional assignments are proposed and would require consultation and enabling rules (WIPO, 2021; European Parliament, 2024).*

Discussion

The central normative insight is that discoverability has become economically consequential infrastructure. Copyright law traditionally concentrates on unauthorised acts, ownership and remedies, but platform markets can disadvantage creators without copying their works unlawfully. A lawful recommendation system can still be opaque, culturally narrowing or commercially coercive. Digital music governance must therefore combine copyright with competition, data, consumer and cultural policy (European Parliament, 2024). At the same time, regulation must avoid treating every unequal outcome as unlawful discrimination. Music preference is heterogeneous and any recommender will rank. The appropriate test is procedural and evidential: are relevant commercial influences disclosed; can regulators test for unjustified disparities; do creators receive usable data and appeal rights; and are interventions proportionate? This approach makes accountability compatible with innovation and editorial freedom (Digital Regulation Cooperation Forum, 2022). Pakistan should also resist a narrow enforcement-first strategy. Stronger penalties cannot distribute royalties that were never matched, correct a wrong songwriter split, explain a sudden algorithmic demotion or give a rural performer affordable access to a foreign platform's complaint system. Enforcement is necessary against piracy and fraud, but infrastructure, collective bargaining, accounting standards and low-cost resolution determine whether rights generate livelihood (WIPO, n.d.-a). The proposal is feasible through staged implementation. A first phase could establish a multi-stakeholder music-streaming observatory and standard voluntary reporting template; a second could accredit CMOs and launch the metadata hub; a third could impose mandatory duties on platforms above user or revenue thresholds; and a fourth could evaluate distributional outcomes. Phasing permits learning while preventing indefinite reliance on voluntary commitments (UK Intellectual Property Office, 2024a).

Limitations and Future Research

This article is limited by the absence of public, Pakistan-specific microdata on recommendations, subscription revenue, advertising yield, royalty statements, unmatched works and creator demographics. Its claims identify institutional and distributive risks rather than proving that a named platform intentionally discriminates. Future research should combine creator interviews, contract analysis, mystery-user audits, multilingual recommendation experiments and anonymised royalty data (Ferraro et al., 2021). Further doctrinal work is also required on conflict of laws, taxation of cross-border royalties, foreign-exchange conversion, platform jurisdiction, intermediary liability and the relationship between synthetic voice and personality rights. Empirical pilots should compare pro-rata and user-centric allocation using Pakistani listening data before any mandatory distribution model is selected (Gonçalves-Dosantos et al., 2025). A further limitation concerns institutional capacity. The recommendations assume that regulators can obtain confidential platform data, maintain secure rights registries, commission technical audits and adjudicate specialised claims. Those functions require trained personnel, protected budgets and safeguards against capture by dominant labels, platforms or politically favoured cultural interests. Future research should therefore examine the administrative feasibility of each duty, including procurement of independent auditors, judicial review of confidential decisions and meaningful participation by creator organisations. Comparative work should also test whether regional cooperation among South Asian rights societies could lower the cost of cross-border licensing without erasing national repertoires or entrenching a single dominant intermediary. The WIPO Good Practice Toolkit suggests that accountability depends on member representation, transparent distributions, conflict rules and accessible complaints, but those principles must be translated into Pakistan's institutional setting through pilot programmes and public evaluation (WIPO, 2021). Streaming should not be treated as the whole music economy. Pakistani creators combine platform income with concerts, commissions, television, film, advertising, teaching, patronage, brand partnerships and informal circulation. A reform that improves streaming statements may still leave musicians economically insecure, while an overly burdensome regime could reduce lawful market entry. Longitudinal research should measure income portfolios, unpaid creative labour, gendered access to performance opportunities and the relationship between online discovery and offline earnings. This broader perspective is consistent with cultural-economy scholarship showing that the welfare of musicians cannot be inferred from platform revenue alone (Hesmondhalgh, 2021).

Conclusion

Pakistan's music creators do not confront a complete absence of law; they confront a discontinuity between legacy rights and platform power. The Copyright Ordinance recognises musical, performer and phonogram interests, the IPO statute supplies an institutional foundation, competition law can address proven abuses and the National Music Policy recognises sectoral development. What is missing is the connective tissue that converts those resources into transparent digital governance. A credible response must treat visibility, value and rights as one system. Transparent recommendation, auditable royalty accounting, interoperable metadata, legitimate collective management, AI consent and provenance, creator due process and competition scrutiny reinforce one another. If Pakistan builds that framework, digital distribution can expand cultural reach without allowing private algorithms and opaque contracts to become the unreviewable constitution of its music economy.

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