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Smart Contracts as a Solution for Automated Royalty Distribution: Implications for Copyright Management in Digital Media

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Abstract: Although the digital media ecosystem has changed creation and sharing of content, existing copyright management systems suffer from inefficiencies, such as slow payment of royalties, a lack of transparency about how much an artist is owed, high administrative costs and difficulties in tracking cross-border use. One of the most promising methods for addressing these shortcomings is the use of smart contracts, which are self-executing applications that work off a public distributed ledger called a blockchain to automatically pay royalties at the time of use, based on preconfigured conditions that are based on a predetermined number of streams, downloads or views. Current study explores the technological architecture, relevant legal issues and practical implications for automated payment of royalties to content creators through the use of smart contracts in the context of music services, audiovisual works and digital publishing. The smart contracts allow peer-to-peer transactions without a third party, based on elements of the blockchain, like the principles of decentralized consensus and immutability (integrity). The legal issues related to smart contracts using code as a contract include whether smart contracts will be legally enforceable across different jurisdictions, whether a smart contract's code can be considered enforceable with moral rights, and concentration on complying with different data privacy laws, e.g., the General Data Protection Regulation (GDPR) in countries where blockchain is essentially immutable. While smart contracts can address a number of the core pain points associated with these areas (i.e., transparency gaps, fragmented ownership data, transactional friction), they must overcome various challenges to achieve broad acceptance. These challenges include scalability; the reliability of oracles for off-chain data; interoperability across disparate blockchains; regulatory uncertainty related to anti-money laundering/know-your-customer regulations, and taxation; and a lack of statutory recognition of smart contracts, standardized metadata for ownership rights, on/off-chain hybrid models, and international harmonization via treaties.

Keywords: smart contracts; blockchain; royalty distribution; copyright management; music industry; Indian copyright laws

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1. Introduction

Copyright law protects creative works by providing a set (a bundle) of exclusive rights to a creator when they express their original idea into a fixed form. In India, copyright protection is governed by the Copyright Act 1957. Section 13 of the Copyright Act sets out the types of works eligible to be protected by copyright as: original literary, dramatic, musical, and artistic works; cinematograph films; and sound recordings.[1]

The duration of copyright depends on the type of work created. For authors, copyright lasts for their lifetime, plus an additional 60 years after their death. This temporal limitation embodies the utilitarian rationale of copyright rewarding innovation while ultimately enriching the public domain as articulated by the Supreme Court in Eastern Book Company vs D. B. Modak, where originality was thresholder at the investment of skill, judgment, and labor, eschewing sweat-of-the-brow doctrine.[2]

The Berne Convention provides establishes protection for copyrighted works by requiring member countries to provide reciprocal copyright protection for copyright works from member

1. Copyright Act 1957, s 13.
2. Eastern Book Company v D B Modak (2008) 1 SCC 1, [33]–[35].

countries.[3] The US Copyright Act provides for copyright protection for life plus 70 years. The EU's Term Directive [4] harmonizes the duration of copyright in what is called a "term," which allows for easier cross-platform (i.e., digital) exploitation of copyrighted materials.[5] The copyright law of India has also recognized this principle in a number of cases, which established the idea-expression dichotomy in copyright law for the purpose of preventing over-monopolization.

Economic rights allow authors to use their works through reproduction, distribution, public performance, communicating publicly and adapting. The Act's section 14 details these rights so that they can be licensed or assigned, thereby contributing directly to royalty streams.[6] Moral rights protect the personal connection between the creator and his/her work, affording the creator the right to claim authorship, and the right to avoid derogatory treatment as set forth by section 57.[7] Moral rights are inalienable and survive economic transfers, as held by the Delhi High Court in *Amar Nath Sehgal v Union of India*, where the mural was destroyed in a manner that was a breach of personality rights, even after the artist had entered into a commissioning contract.[8] This dual system takes its inspiration from civil law systems and contrasts with the simplicity of the common law system. The U.S. Visual Artists Rights Act provides a limitation on moral rights to works of visual art whereas the French *Code de la Propriété Intellectuelle* [9] provides for perpetual moral rights.[10] In India, Section 57 of the Copyright Act (amended 2012) permits limited waivers of moral rights through private contract while balancing flexibility with protection for the creators of the works in question.[11]

2. Copyright in Digital Media

Digital technologies have greatly increased how creative works are shared, leading to an evolution away from physical forms of ownership and into streaming sources. This evolution has challenged the ability of copyright laws, to adapt and be applied in digital environments as these were designed for the analogue-based environment. In India, over 900 million people were using digital media by the year 2025, and the Copyright Act 1957 is struggling to effectively define what constitutes infringement through things like digital buffering, cloud storage of works, and algorithmic recommendations about works.

The use of digital streaming to access music, where the copyright in a song will normally be embedded in the work from the composer or lyricist, the performer, and, often, the record company producing the music is a key example. The musical work is protected under section 13(1)(a) of the Copyright Act but sound recordings constitute separate works and will be treated as such under section 14(e).[12] The performer is however entitled to equitable remuneration for their performances following the amendments made post-2012 under section 38A.[13] In its landmark *Saregama India Ltd vs Vodafone Idea Ltd* case, the Calcutta High Court reshaped how royalties are allocated by ordering separate payments for authors via the Indian Performing Right Society (IPRS);[14] irrespective of whether or not the author had already assigned their copyright to a producer. This ruling was a direct result of the 2012 proviso to Section 18 IPRA, and overturned decades of producer control over how copies of authorial works are used,[15] with reference to other similar decisions made in the United States and elsewhere around the world, including the US *Ninth Circuit's Williams vs Gaye*[16] case regarding digital sampling and the UK British *Phonographic Industry Ltd (BPI) sv PRS for Music Ltd*[17] case regarding split-sheet transparency obligations.

Fair Dealing Exceptions created by Section 52(1)(a)-(c),[18] have limited terms which provide some protection from criticizing or previewing news but challenges exist for these exceptions being tested through the courts regarding algorithmic thumbnails and deep fakes as demonstrated by the lawsuits filed in the Delhi High Court against YouTube concerning the streaming of content without permission.[19] There is also a growing demand for tracking granular amounts of money as OTT revenues grow to $5 Billion dollars by 2025, and tracking not just by manually auditing but implementing smart contracts that allow for micropayments per view.[20]

The rights for reproduction and communication under Section 14(a) of the Indian Copyright Act encompass E-books, blogs, audiobooks and artificial intelligence (AI) driven plagiarism tools scraping content for training data. The mandatory royalty clause of Section 19A of the Indian Copyright Act restricts the potential for exploitative perpetual transfers that occur as a result of assignments.[21] Self-publishing via Amazon kindle direct publishing enables authors to access their works globally, thus exposing authors

3. Berne Convention for the Protection of Literary and Artistic Works (1886), art 5(1).
4. Directive 2006/116/EC of the European parliament and of the Council, art 1.
5. Copyright Act of 1976, 17 USC § 302 (USA).
6. Copyright Act 1957, s 14.
7. Copyright Act 1957, s 57.
8. *Amar Nath Sehgal v Union of India* 2005 (30) PTC 253 (Del), [34]–[39].
9. Code de la Propriété Intellectuelle (France), art L121-1.
10. Visual Artists Rights Act 1990, 17 USC §106A.
11. Copyright (Amendment) Act 2012, proviso to s 57.
12. Copyright Act 1957, ss 13(1)(a), 14(e).
13. Copyright Act 1957, s 38A.
14. *Saregama India Ltd v Vodafone Idea Ltd* 2023 SCC OnLine Cal 109.
15. Copyright Act 1957, proviso to s 18 (as amended 2012).
16. *Williams v Gaye*, 895 F.3d 1106 (9th Cir. 2018).
17. *British Phonographic Industry v MCPS and PRS* [2008] EMLR 5.
18. Copyright Act 1957, s 52(1)(a)–(c).
19. Super Cassettes Industries Ltd v YouTube LLC 2017 SCC OnLine Del 7228, [48]–[52].
20. PwC, Global Entertainment and Media Outlook 2024–2028 (2024) 62.
21. Copyright Act 1957, ss 14(a), 19A.

to infringing uses on a worldwide scale. A useful comparison is US *Capitol Records vs ReDigi*,[22] where the court found that resales of lawfully purchased digital files are to be treated as unauthorized reproductions, and therefore infringing. Blockchain-tethered timestamps could furnish evidentiary provenance here.

3. Royalty Rights and Distribution Mechanisms

Royalty payments have three separate forms, specifically mechanical (tariffs for creating copies per Schedule II), performance (public performance as per section 14(a)), and neighboring rights (broadcast as per section 37 and percentage of performer distribution as per section 39A).[23] Royalties from blanket licenses are distributed in proportion to total use of the blanket license, and the use of compulsory rates under section 31C for cover tunes exists in addition to creating micro-licenses for user-generated content.

Collectively, publishers, record labels and aggregators collect their royalties through wholesale type agreements where they retain 25%-40% for administrative costs prior to remitting quarterly.[24] This causes a build-up of unallocated funds in excess of ₹1,200 crore in India on an annual basis. The current volatility of foreign exchange rates, and delays due to the SWIFT system cause cross-border issues, while crypto transactions experience instantaneous settlement times.[25]

4. Smart Contracts for Royalty Distribution – Legal Feasibility

Smart contracts are a new way of doing things that can change copyright royalty distribution using blockchain technology, providing more transparency, less inefficiency, and greater certainty when executing smart contracts in the copyright industry. Smart contracts can resolve the current inefficiencies in copyright royalty distribution while still conforming to traditional contractual requirements under the Indian Contract Act of 1872.[26]

Smart contracts record copyright data in the blockchain using standards like ERC721 and ERC1155. They offer irrefutable proof of ownership without negating registration under Section 44 of the Copyright Act of 1957.[27] In India smart contracts have no discrete legal recognition, similar to the UAE's Federal Law No. 1 of 2022 most use a standard of offer and acceptance with lawful consideration between competent contracting parties as found in the Indian Contract Act (1872). The code will execute as a performance of contract and oracles may introduce evidence that requires court approval because of an off-chain contract as described in *Trimex International FZE vs Vedanta Aluminium Ltd*.[28]

Automated smart contracts are enabled by programs executing the conditions of an agreement without a need for further amendments once a contract is entered into by two parties (see Part II, § 30 above). Smart contracts facilitate the transfer of rights and obligations under a sub-license by virtue of Part II, § 19 (Assignment and Division of the Rights) above. The termination of the relevant contract(s) via exercise of the "pause" function in the smart contract may also be consistent with termination of the licenses granted thereunder in accordance with the termination provisions of Part II, § 19(8) above. Finally, as smart contracts are not capable of being amended or altered in any way means that any upgrades to such contracts must be accomplished via the use of upgradeable proxies or similar types of technology.

Smart contracts execute royalty agreements by locking up enough cryptocurrency into an escrow account and then distributing that amount to those entitled based on the actual use (as determined through "oracles" such as the number of times a piece of music is streamed, etc.). Such smart contracts are valid contracts under the Indian Contract Act 1872 because they contain an offer, acceptance, and consideration, and the performance obligation of the parties under the contract is fulfilled automatically by way of the smart contract's execution under section 37 of the Indian Contract Act 1872. Royalties are consideration for the licensing of a work under section 23 of the Indian Contract Act 1872;[29] and are subject to 18% GST according to CBIC rulings regarding the GST on virtual digital assets to provide equivalent tax treatment with payments made via fiat currency.[30]

According to section 65(b) of the Indian Evidence Act 1872,[31] judicially acceptable Electronic Performance Records are also acceptable under *Anvar P.V. vs P.K. Basheer* as they require certification for making computer-generated outputs; however, blockchain hash functions demonstrate non-repudiation.[32] The US Uniform Electronic Transactions Act and the EU Electronic Commerce Directive both provide international support for treating code as writing.[33] There are challenges to stabilize volatile crypto currencies (stable coins) and withholding tax payments on cross-border payments under Section 194J of the Income Tax Act 1961, which require compliance with know your customer (KYC) requirements for wallets. Hybrid models of on-chain settlement combined with off-chain agreements improve the ability to provide enforceable contracts regarding royalty payments, as smart contracts can act as facilitators or turbo-chargers of traditional royalty agreements, but should not replace them.

4.1 Copyright Licensing through Smart Contracts

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22. Capitol Records, LLC v. ReDigi Inc. No. 16-2321 (2nd Cir. Dec. 12, 2018).
23. Copyright Act 1957, ss 31C, 37, 39A.
24. IFPI, Global Music Report 2024 (2024) 21–24.
25. Deloitte, Blockchain for Royalty Management (2022) 9–11.
26. Indian Contract Act 1872, ss 10, 37.
27. Copyright Act 1957, s 44.
28. Trimex International FZE v Vedanta Aluminium Ltd (2010) 3 SCC 1, [24]–[27].
29. Indian Contract Act 1872, ss 23, 37.
30. CBIC Circular No 11/2023 (GST on Virtual Digital Assets), para 3.
31. Indian Evidence Act 1872, s 65B.
32. Anvar P V v P K Basheer (2014) 10 SCC 473, [14]–[18].
33. Uniform Electronic Transactions Act 1999 (US), s 7.

In accordance with Section 19 of the Copyright Act of 1957,[34] an exclusive license is granted to a party to exploit a specified work. For this, gated access based on predetermined timing via on-chain encryption and access control will be established to automatically revoke access at the expiration of the exclusive license. An alternative would be to issue a non-exclusive license to several different licensees of the same work, which would allow micropayments to be used by multiple licensees for user-created remixes, at which point royalty distributions owed to each licensee would be adjusted based on usage with royalty proration managed via a smart contract.

Licensing music in more granular amounts would be a way to provide fair compensation to independent creators that CMOs, like IPRS, have historically bypassed. The original licensing model allows streaming platforms to pay for licenses per second (Rs 0.001 in most cases). By utilizing ERC-1155 multi tokens or fractional NFTs representing 0.1% of an independent creator's entire body of work, both the creators and the platforms will be able to enjoy this model and help meet the goals of Section 19A.[35] In addition to being funded with gaming revenues, these independent creators will be able to sell their fractionalized residual rights on platforms like Royal.io and receive fair compensation after an initial licensing agreement has been executed. The ability to retain their residual rights by independent creators will support the concept of creator autonomy as in *Amar Nath Sehgal vs Union of India*.[36]

According to Section 19(8),[37] a contract can be terminated due to default (breach), or when it has reached the end of its term. These two events will be evidenced as a 'time lock' on the smart contract. After termination, any access keys will automatically self-destruct, and log files will be made containing records of the triggering events to give the courts access to sufficient evidence. However, this method of terminating a contract will not circumvent the immutability of the blockchain by proxy upgrades. The process for resolving disputes regarding revocation will be governed by arbitration under Section 89 of the Code of Civil Procedure, 1908.[38] The evidentiary proof required to substantiate a claim for revocation will be expedited by as there will always be a data trail on the blockchain.

5. Legal Framework and Enforceability of Smart Contracts

Smart contracts are becoming enforceable as digital instruments in the digital economy of India, which has over 900 million users of the internet and a projected economy of $1 trillion by 2026.These can be produced in accordance with statutory requirements, judicial decisions and applicable international standards. Using smart contracts to automate copyright royalty distributions via blockchain will offer transparency, efficiency, and immutability in India's legal environment.

Smart contracts act as a coded legal agreement in accordance with Section 10 of Indian Contract Act 1872.[39] The deployment of the code will be done by sending it out by the Deployer subject offer to the counter party. The counterparty's offer is sent back as acceptance via ether transactions via a decentralized blockchain and if accepted, becomes binding once the transaction is mined. Automatic performance occurs when the smart contract accesses the precondition therefore all rights and obligations of either party have been fulfilled, with limited exceptions in the case of frustration of purpose or impossibility to perform. Unlike a traditional natural language contract, smart contracts provide a non-repudiable trail of audit and evidence supporting the performance of both parties. However, the limitations to the code in terms of rigidity will restrict flexibility and will require circuit-breakers such as pause functions or proxy upgrades as supported by the judgment in Pollock & Mulla on Contracts for substantial compliance.

Indian courts, per *Mohori Bibee vs Dharmodas Ghose* (1903),[40] prioritize intent over form, accommodating code as electronic intent manifestation under the Information Technology Act 2000 (IT Act). Internationally, Nick Szabo's seminal 1996 formalization conceptualizes them as vending machines predictable automata aligning with UCC §2-204 sales formations in the US. Explicit parameters are needed to achieve certainty and completeness in contracts, preventing vagueness. In most instances, consideration can be found in escrowed royalty payments that are valid according to section 23 of the Indian Contract Act provided that they are not illegal. When the parties use KYC wallets to conduct their transactions, they can mitigate challenges based on infancy or insanity. Electronic records are considered as having legal effect under the Information Technology Act, section 4[41] and are admissible, as per Indian Evidence Act, Section 65B, upon the presentation of a hash certification, as established in *Anvar P.V. vs P.K. Basheer*; blockchain explorers act as third-party data providers and provide a hash of each block for this purpose.

Misrepresentation or undue influence may arise through vitiating factors such as coding bugs, and the remedy available to an injured party is rescission of the contract. Oracle failures can be compared to the misconduct of an agent and if no authority was granting, the misconduct of an agent may still be imputed to a party. Many contracts will be valid if the terms of the contract and the transaction do not contravene public policy, and the application of GST requirements as outlined in CBIC Circular No 11/2023 indicate that payments made through contracts are treated equally as payment of cash.

5.1 Compatibility with Copyright Law

Smart contracts demonstrate strong alignment with copyright statutes, particularly under the Indian Copyright Act 1957, by automating licensing and royalty mechanisms while preserving core protections. Smart contracts that provide licensees with permissions related to reproduction, distribution, and making works available to the public (section 30 of the Act) operate on the basis

34. Copyright Act 1957, s 19.
35. Copyright Act 1957, s 19A.
36. Amar Nath Sehgal v Union of India (n 8), [39].
37. Copyright Act 1957, s 19(8).
38. Code of Civil Procedure 1908, s 89.
39. Indian Contract Act 1872, s 10.
40. Mohori Bibee v Dharmodas Ghose (1903) 30 IA 114 (PC), 120.
41. Information Technology Act 2000, ss 4, 10A.

of triggering events. Royalties will be placed in escrow and paid to the licensor and third-party once the predetermined conditions are met. The mechanics surrounding compulsory licenses for streaming (section 31) connect with data provided by APIs and are streamlined through processes validated in *Tips Industries Ltd vs Wynk Music Ltd*. In this case, the courts upheld statutory rates without prejudice to an automated process of fulfilling orders. The use of on-chain metadata to supplement optional registration under section 44 provides evidence that will have primary evidentiary status in copyright infringement proceedings due to the fact that proofs of originality from Eastern Book Company vs DC Navin Jaya Kumar will be reflected in the blockchain timestamps.

The attribute and integrity rights of section 57 are inalienable rights of creators independent of economic transfer and capable of being embedded in a smart contract through non-waivable restrictions embedded in the code that will halt execution if any unauthorized change is made. Limited waivers are permitted with the requirement of multi-signature consent for any waivers to be enforceable, thus ensuring that creators maintain autonomy, as in Amar Nath Sehgal vs Union of India, where the distortion of the mural warranted a remedy despite the mural having been assigned. Although the immutability of the encoding of the attribution is to protect attribution metadata; however, both pausing mechanisms or oracle-type mechanisms can be utilized to revoke attribution for integrity breaches.

Licensing under fractional NFT models can fragment rights and respect Canadian Section 52 fair dealing exceptions for criticism, review, and education while meeting the requirement for an approved metered preview of a project through time-limited access. Geo-fenced regions under the Berne Convention will ensure that national treatments are provided and the TRIPs Agreement will be enforced in these geographic areas. The U.S. version of fair use can be demonstrated using logging information for platforms that adhered to Section 52(1)(c) as an intermediary safe harbor to be applied to the Oracle dispute per the IT Rules 2020, where there are issues between creator and platform about profit-sharing relationship maintained between the two parties.

6. Regulatory and Compliance Challenges

Integrating smart contracts in distributing royalties to rights holders can help manage copyright in digital media. However, there is regulatory uncertainty that could stall their widespread adoption. In India, regulatory uncertainty includes issues related to data privacy, economic/professional regulation (financing/financial oversight), taxation, establishing jurisdictional clarity, and providing for adequate means of resolving disputes.

6.1 Data Protection and Privacy Concerns

The immutable nature of blockchains fundamentally collides with privacy regimes designed for mutable data ecosystems, posing acute challenges for royalty smart contracts that process usage metadata, artist identities, and payment flows. The EU's General Data Protection Regulation sets strict limitations on how much data is able to be collected[42] and requires collection only for specific intents (purposes). The data processing requirements under India's DPDP Act 2023, specifically sections 4-5,[43] mirror those requirements. Common public blockchains such as Ethereum expose the pseudonymous "wallet address" and transaction graph to infinite monitoring, and there is a risk of re-identifying individual transactions using tools such as chain analysis. For example, if a composer's royalties were processed through an Aadhaar-derived wallet, the use of the composer's Aadhaar data can inadvertently form an earnings profile on the composer, which will be contrary to the data fiduciary duty set out in the DPDP.

The 'right to be forgotten' under Article 17 of the GDPR[44] is reflected in Section 12 of the DPDP[45] as the requirement for data to be deleted after a data subject withdraws consent to process that data. This right is incompatible with an append-only architecture of the blockchain. In deciding the importance of the right to privacy as enshrined in *K.S. Puttaswamy vs Union of India*,[46] the Supreme Court of India required courts to ensure that platforms erase contents that they hold on behalf of their users. There are several strategies to mitigate the issues with the inability to delete data from a blockchain. Off-chain storage of personally identifiable information (PII) is one such solution. Examples include using an IPFS implementation with content-addressed hashes that reference the data stored on chain as well as using zero-knowledge proofs to selectively disclose PII so that it can be verified without revealing the PII.

When splitting royalties according to the kind of performer KYC or listener demographics, exposure will be increased. According to section 8(2) of DPDP, verifiable parental permission is required to allow an app housing music user under the age of 18 to share data. Microsoft's confidential smart contracts encrypt calculations and only report aggregate amounts. Homomorphic encryption allows for analytics on-chain without having to decrypt. The Ministry of Electronics and Information Technology's 2024 guidance on AI using data highlights that hybrid models are the gold standard of DPDP and fiduciary audits are a crucial component of verifying compliance with DPDP requirements for both on-chain and off-chain distributed ledger systems.

6.2 Financial Regulations

Blockchain royalties' interface with payment systems, securities, and AML frameworks, demanding rigorous compliance to avert enforcement actions. Under the Prevention of Money Laundering (PMLA) Act 2002,[47] entities possessing Virtual Asset Service Provider (VASP) revenue-generating royalty rights above ₹50,000 are classified as reporting firms and must comply with: e-KYC requirements using Aadhaar, transaction monitoring obligations, and the travel rule. Smart contracts have KYC gates that use oracles to call APIs from Digi Locker and flag micropayments that have very high transactional velocity. Chain analysis and Elliptic provide integrations for automatic sanction list screening so that there will be lower instances of unlawful activity occurring in

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42. GDPR 2016/679, art 5.
43. Digital Personal Data Protection Act 2023, ss 4, 5.
44. GDPR 2016/679, art 17.
45. Digital Personal Data Protection Act 2023, s 12.
46. K S Puttaswamy v Union of India (2017) 10 SCC 1, [297]–[298].
47. Prevention of Money Laundering Act 2002, s 12.

relation to the amount of cryptocurrency transacted (0.34%).[48] If NFT fractionalized royalty payments promise passive income, they may be considered as "securities" under SEBI's 2024 crypto-derivative regulation. Utility tokens that grant access to streamed content or materials will not have to follow the same path. However, DAOs that have governed pools of money will need to create prospectuses. Stablecoins, such as USDC or PYUSD, are examples of stable cryptocurrencies.

6.3 Tax Treatment of Blockchain-Based Royalties

Smart contract royalty systems are being taxed using cryptocurrency as payment. India has a very progressive taxation system under the Income Tax Act 1961, GST laws and emerging virtual digital assets (VDA) process. As royalty payments move from being paid by a fiat CMO to being paid as an on-chain micropayment, the lack of clarity in how to classify, withhold, and report these payments will have an impact those types of payments to exist economically, especially to the cross-border creators of the digital media.

According to Section 115BBH of Finance Act 2022,[49] blockchain royalties in crypto assets are virtual digital assets subject to a flat 30% tax on transfers. Any transaction exceeding ₹50,000 on an annual basis also incurs 1% TDS pursuant to Section 194S as of Finance Act 2022[50] and confirmed for 2025. Staking rewards and oracle-gated airdrops constitute income from other sources at their fair market value as per CBDT Circular No. 10/2024.[51] For example, if a musician receives 1 ETH in royalties, he will be taxed ₹90,000 upon converting the 1 ETH to INR at that time regardless of when he holds the asset, as indexation will not apply in this case. Escrow smart contracts provide that the taxation of these royalties will be deferred until conversion to fiat, allowing creators with substantial gains from holding virtual digital assets to optimize their tax liability through long-term capital gains. In Binance India vs. DIT, the court established that the treatment of virtual digital assets is similar to lottery winnings. Consequently, there will be no opportunity for independent creators to set off losses against their income, thus worsening their working capital position.

Under section 195, 10-20% withholding tax is applied to royalties paid to non-residents depending on the applicable Double Taxation Avoidance Agreement (DTAA) rate. Smart contracts can automatically enforce this withholding tax through geofencing oracles by verifying residency through CIN numbers, deducting at the source from payments to non-residents and remitting to the Indian government. Under the India-US DTAA, Article 12[52] limits withholding tax on music royalties to 10%. A tax payer should submit Form 15CB and Form 15CA[53] to the appropriate authority in order to claim this withholding tax.

If the taxpayer has created an abusive offshore entity without any economic substance, then the General Anti-Avoidance Rule (GAAR),[54] will apply to the taxpayer and the tax authority can pierce the 'corporate veil' or entity's structure, e.g., in Vodafone International Holdings BV vs Union of India.[55] Smart contracts allow for the DTAA and lower and/or no TDS certificates to be issued. Due to the restrictions under the Reserve Bank of India's (RBI) Liberalized Remittance Scheme (LRS), a resident in India can only make a maximum of $250,000 in a year to a non-resident.[56] Therefore, an Indian resident's ability to split payments globally will be limited.

7. Conclusions

Contrary to common skepticism, smart contracts can operate within existing legal frameworks especially under the Indian Contract Act, Copyright Act, and allied regulatory regimes when deployed through hybrid on-chain/off-chain models. However, their transformative potential is contingent upon resolving challenges relating to data protection, taxation, AML compliance, oracle reliability, and the preservation of moral rights. Absent statutory recognition, standardized metadata, and international harmonization, smart contracts can be viewed as substitutes for copyright law, and its functional accelerators. If calibrated carefully, these offer a path toward a more equitable, creator-centric, and technologically resilient copyright ecosystem in the digital economy.

48. FATF, Guidance for a Risk-Based Approach to Virtual Assets (2023) 6–8.
49. Finance Act 2022, s 115BBH.
50. Finance Act 2022, s 194S.
51. CBDT Circular No 10/2024, para 4.
52. Convention between the Government of the Republic of India and the Government of the United States of America for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income (India–US DTAA), art 12(2).
53. Income Tax Rules 1962, r 37BB; Form 15CA; Form 15CB.
54. Income Tax Act 1961, ch X-A (ss 95–102) (General Anti-Avoidance Rule).
55. Vodafone International Holdings BV v Union of India (2012) 6 SCC 613, [66]–[69].
56. Reserve Bank of India, Master Direction on Liberalised Remittance Scheme (updated 2024), para 2.