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A Fundamental Perspective



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The International Conference on “Law in the Age of Artificial Intelligence: A Fundamental Perspective” provided an academic platform to examine the transformative impact of Artificial Intelligence on law, legal systems, governance and society.

The conference explored emerging legal and ethical questions relating to Artificial Intelligence, including intellectual property, authorship and ownership, liability, data privacy, cybersecurity, criminal justice, evidence law, human rights, ethics and accountability. It addressed the implications of Artificial Intelligence for legal education, commercial law, regulatory frameworks, policy development, research and scholarly communication.

The conference brought together academicians, research scholars, legal professionals and students to present research, exchange ideas and engage in interdisciplinary discussions. It encouraged meaningful academic dialogue and contributed towards the development of effective, ethical and inclusive legal responses to the rapidly evolving Artificial Intelligence landscape.

Conference	International Conference
Theme	Law in the Age of Artificial Intelligence: A Fundamental Perspective
Date	24 January 2026
Time	10:00 AM onwards
Mode	Online
Organised by	IQAC, Student Research Society and Library Committee
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PRINCIPAL'S MESSAGE

KES' Shri. Jayantilal H. Patel Law College



It gives me immense pleasure to welcome all academicians, research scholars, legal professionals and students to the International Conference on “Law in the Age of Artificial Intelligence: A Fundamental Perspective.”

Artificial Intelligence is transforming the way societies function and is increasingly influencing legal systems, governance, professional practices and education. These developments bring significant opportunities as well as complex legal, ethical and social challenges.

This conference provided a valuable platform for intellectual exchange and interdisciplinary dialogue on emerging issues such as data privacy, intellectual property, liability, criminal justice, human rights, ethics and the governance of Artificial Intelligence. The scholarly contributions and discussions during the conference encouraged deeper understanding and promoted responsible approaches to the use of Artificial Intelligence.

I extend my best wishes to all the speakers, researchers, presenters, participants and members of the organising team for a meaningful and intellectually enriching conference.

DR. VIRAL DAVE

I/c. Principal

KES' Shri. Jayantilal H. Patel Law College

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AI ALCHEMY: FORGING SMART CONTRACTS IN THE FUTURE OF COMMERCIAL LAW

Tvisha Mitesh Rathod¹

I. ABSTRACT

A new commercial transaction formation method is evolving as a result of DLT and AI growth, replacing the traditional bilateral contract formation procedure with smart contracts that automatically execute upon meeting the predetermined conditions. This study explores whether these technologies are legally valid under the Indian Commercial Laws. Section 10A of the Information Technology Act provides for the legal recognition of electronic contracts. However, AI's ability to independently determine the result of agreements can challenge the most important elements of the Indian Contract Act, including the need for mutual consent and the categories of contracts that can be created using AI systems. There are three reasons identified in the research that have led to legal conflict: first, the "Immutability Paradox", which arises from an inability to modify the terms of an automated contract; second, the "Liability Gap" which relates to the uncertainty regarding the accountability for the decisions made by AI systems, as AI itself is not deemed a legal entity; additionally, the absence of legal authority is a problem in a decentralised world. Lex Cryptographia is a hybrid legal mechanism proposed by this paper and consists of legally binding rules embedded directly into the code and infrastructure of decentralized systems independent of traditional centralized oversight. By doing so, the proposed outcome reflects not only greater legal responsibility for the developers and users of the decentralized systems, but also provides a method for ongoing legal compliance in the future since the structure conforms to UNCITRAL's Model Law on Electronic Commerce (MLEC) as a framework for a continuous regulatory scheme as technology advances.

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II. KEYWORDS

Smart Contracts, Blockchain, AI Liability, Lex Cryptographia, Indian Contract Act.

III. INTRODUCTION

The worldwide commercial transactions arena is presently experiencing a monumental transition. This shift from using traditional bilateral agreements toward using autonomous and self-executing systems powered by Distributed Ledger Technology (DLT) and Artificial Intelligence (AI) is termed "Code is Law".²

The "Code is Law" concept envisions code being able to create legally enforceable contracts; this idea was first presented by Nick Szabo in 1994 and refers to "smart contracts". Smart contracts, today, encompass self-executing agreements or conditions written in code and are executed using blockchain technology.³

Smart contracts are inherently proactive. They perform automated actions and don't require any type of intermediary; as a result, they also reduce transactions costs. Traditional contracts, on the other hand, only allow actions after the contract has been broken. This shift is already visible in the Indian financial sector, where major banks have explored blockchain-based trade-finance infrastructure and consortium models. For example, ICICI Bank has reported blockchain-enabled trade-finance transactions and the onboarding of corporate participants onto its trade-finance blockchain platform, while financial press reports have identified ICICI Bank, HDFC Bank, Axis Bank, and other lenders as participants in blockchain-linked funding initiatives for small and medium enterprises. However, unless supported by a primary institutional source, the stronger claim that these banks use AI-powered autonomous agents for instantaneous contractual decision-making should be avoided.⁴

² Filippi, D., & Hassan, P. (2018). *Blockchain Technology as a Regulatory Technology: From Code is Law to Law is Code*. SSRN, 21.

³ Szabo, N. (1996). *Smart contracts: Building blocks for digital markets*. Extropy: The Journal of Transhumanist Thought.

⁴ ICICI Bank. (2018). *ICICI Bank on-boards over 250 corporates on its blockchain platform for trade finance*; Economic Times. (2019, January 28). *ICICI, Kotak, Axis among 11 to launch blockchain-linked funding for SMEs*.

Blockchain technology is fundamental to this entire process. The blockchain, as Zheng puts it, consists of a constantly growing collection of data blocks. According to Zheng, the blockchain is a chain of blocks of data that is constantly growing. Every time a new block is produced, it is verified by all the computers connected to the network to ensure it was produced. Once this is done, the block is then added to the chain, hence the formation of the blockchain. Decentralized validation offers the opportunity for human intervention into the management role, merely to ensure that the algorithms are being executed in a seamless fashion.⁵

This paper examines the legality of AI-based smart contracts under Indian commercial laws and suggests “Lex Cryptographia” to provide solutions for the issues of immutability, liability and jurisdiction faced by AI-based smart contracts. The purpose of this study is to determine the validity of smart contracts using AI and how they are interpreted under the Indian legal framework and the interaction between the IT Act and the Indian Contract Act, the rules of evidence under Bharatiya Sakshya Adhiniyam and, the Arbitration Act. Although electronic contracts are legally binding, the concept of providing consent as an autonomous robot is not within the definition of providing consent as outlined in the law. The paper proposes Lex Cryptographia, which is in accordance with the UNCITRAL and EU AI Act and the technocratic society that is compliant with the Indian Constitution as per the *Puttaswamy v. Union of India* case.⁶

A. Research Objectives

The primary objectives of this research are:

1. Assess the enforceability of AI-generated smart contracts in accordance with India’s Contracts Act and Information technology Act.

⁵ Zheng, Z., Xie, S., Dai, H.-N., Chen, X., & Wang, H. (2022). Blockchain challenges and opportunities: A survey. *International Journal of Web and Grid Services*, 14(4), 362–357. <https://www.henrylab.net/wp-content/uploads/2017/10/blockchain.pdf>.

⁶ Weston, G. (2025, November 14). *Smart Legal Contracts and Computable Law: The Rise of Lex Cryptographia*. <https://101blockchains.com/lex-cryptographia-smart-legal-contracts-and-computable-law/>.

2. Investigate the status of blockchain as an admissible form of evidence under the Indian Evidence Act along with the potential for using online dispute resolution processes within the framework of the Arbitration Act.
3. Evaluate what constitutes a gap in a remedial way including identifying the Immutability Paradox and the matter of AI liability.
4. Provide an outline for comprehensive Lex Cryptographia, that will provide synergy between Indian law and global standards such as UNCITRAL and EU AI Act.

B. Research Questions

1. What are the aspects of the Contract Act in India that pertain to traditional definitions of "consent" and "competency," and how do these definitions relate to autonomous AI agents?
2. Are there any methods by which cryptographic blockchain records and Online Dispute Resolution (ODR) can satisfy statutory requirements for the "seat of arbitration"?
3. How might it be possible to fill the "Liability Gap" regarding algorithmic mistakes, and how could the "Immutability Paradox" relate back to the Specific Relief Act?
4. Will the adoption of UNCITRAL's MLETR & Ricardian Contracts help facilitate India's development into a "Regulated Technocracy"?

C. Research methodology

This study adopts a qualitative doctrinal research methodology to examine how AI-enabled smart contracts interact with the Indian commercial law framework. The research follows three tiers of analysis: first, it examines relevant Indian statutes, including the Information Technology Act, 2000, the Indian Contract Act, 1872, the Bharatiya Sakshya Adhiniyam, 2023, the Arbitration and Conciliation Act, 1996, and related data-protection provisions; second, it analyses judicial decisions that clarify privacy, contractual validity, electronic evidence, and the legal treatment of emerging technologies; and third, it compares selected international frameworks, particularly

UNCITRAL instruments and the EU AI Act, because they directly address electronic commerce, digital records, and risk-based AI governance. The sources were selected on the basis of their direct relevance to the paper's research questions concerning consent, competence, admissibility, arbitration, liability, immutability, and cross-border enforceability. This method allows the paper to connect statutory interpretation with case-law analysis and comparative regulatory developments, thereby assessing both the present enforceability of AI-based smart contracts in India and the need for a Lex Cryptographia framework.

IV. LEGAL VALIDITY OF SMART CONTRACTS UNDER INDIAN LAW

India's Information Technology Act of 2000 amended in 2008 has established a digital commerce structure per UNCITRAL Model Law on Electronic Commerce. IT Act creates electronic contracts, including smart contracts, under section 10A, while free consent, competence, consideration, and lawful objects are required under section 10 of Indian Contract Act, 1872.⁷

The law in India surrounding the consent given using algorithms has a significant legal issue which is created with the Indian Contract Act, 1872. Section 13 of the ICA states that "consent is said to occur when two or more persons have agreed to the same thing in the same sense", defining the principle of the parties meeting through a meeting of minds (*consensus ad idem*). This definition requires all parties to have human-based cognitive capacity, subjective intentions, and rational will. In this way, algorithms and AI systems do not possess the cognitive capabilities to either "consent" or the capacity to agree to terms in the "same sense", resulting in a serious definitional void, where the machine-based acceptance is not true of consent.⁸

Under the Information Technology Act, 2000, section 10A validates contracts created by electronic methods, thus making such contracts enforceable although they are in an

⁷ *Information Technology Act*, 2000, Act No. 21 of 2000, § 10A (India); *Indian Contract Act*, 1872, Act No. 9 of 1872, § 10 (India).

⁸ S. Rao (Ed.), *Emerging issues in Indian contract law* (pp. 101-130). National Law University Press.
<https://www.civillawjournal.com/archives/2025.v5.i1.B.131>.

electronic format, if the electronic contract meets the substantive requirements of a binding contract under the Indian Contract Act. While a valid medium for the purposes of section 10A is electronic communication, the absence of contemporaneous mutual agreement i.e., human intent would mean that a contract is not binding, and therefore the contract is void under section 13.⁹

The void in doctrine at section 13 of the ICA arises from a lack of legal personality for AIs. Indian law confers legal personhood upon corporations and deities but does not grant legal personhood to algorithms. Therefore, AIs cannot satisfy the "two or more persons" pre-requisite requirement of having reached a consensus ad idem under section 13.¹⁰

Although section 11 of the IT Act creates a procedural fiction to attribute actions to agents, it does not remedy the substantive gap in intent. In "black box" systems where the principal cannot foresee autonomous outputs, the principal cannot have reached an agreement to agree "in the same sense" resulting in no "free consent" as required under section 14 of the ICA.¹¹

The doctrinal concern is better grounded in Section 13 of the Indian Contract Act, 1872, which defines consent as the agreement of two or more persons upon the same thing in the same sense, reflecting the principle of *consensus ad idem*. Since an autonomous algorithm is not presently recognised as a legal person capable of forming independent contractual intention, a fully autonomous smart contract may face enforceability concerns where the algorithmic act cannot be attributed to prior human assent, authorisation, or ratification. Therefore, unless the parties' intention is demonstrable through human approval, agency, or a legally recognised attribution mechanism, such arrangements may be vulnerable to challenge for want of mutual assent under Section 13.¹²

⁹ *Information Technology Act*, 2000, Act No. 21 of 2000, § 11 (India); Sharma, R. (2025). Algorithmic contracts and Indian private law. Oxford University Press.

<https://www.civillawjournal.com/archives/2025.v5.i1.B.131>

¹⁰ Pollock, F., & Mulla, D. (2013). *The Indian Contract and Specific Relief Acts* (14th ed.). LexisNexis.

¹¹ *Indian Contract Act*, 1872, Act No. 9 of 1872, §14 (India); Singh, A., & Rafiq, J. (2025). *Implications of black box dilemma in the Indian legal system*. JLRJS, 4(3). <https://jlrjs.com/wp-content/uploads/2025/06/111.-Amandeep-Singh.pdf>.

¹² *Giriraj Garg v. Coal India Limited & Ors*, (2019) 5 SCC 192 (Supreme Court of India).

V. ADMISSIBILITY AND EVIDENCE

According to section 2(1)(d) of the BSA, blockchain transactions are classified as electronic records but how they should be treated for purposes of proving them in court goes through much interpretation before it can be settled law.¹³

Further, since they are recorded on a distributed ledger and represent identical copies through a consensus mechanism, the entry created by hashing is viewed to be the primary evidence under section 57 of the BSA by many who want it to be this way. Blockchain's cryptographic integrity (hash function) makes this record the original "source", thus satisfying the legal standard for proof in a decentralised network.¹⁴

Majority of courts say that since a distributed ledger cannot all be produced in its totality, any extracted data would be regarded as secondary evidence under section 63 of the BSA and that in a decentralised manner would suggest that the concept of an individual "original" is strictly elusive in both a technical and legal sense.¹⁵

To be admissible in evidence, blockchain records must comply strictly with the requirements of section 63(4) of the BSA which requires a certificate to confirm the integrity of an electronic system. While audit trails and digital fingerprints can be relied on for trustworthiness according to section 63(2), they are still not considered to be self-authenticating. Consequently, the party must produce evidence of the authenticity of the particular computer node utilized to obtain the record when producing such evidence.¹⁶

¹² *Bharatiya Sakshya Adhiniyam*, No. 47 of 2023, § 2(1)(d) (India); Nathani, S., Bhalla, M., & Ram, R. (2024). *Bhartiya Sakshya Adhiniyam, 2023 – A dynamic shift to the digital era*. Economic Laws Practice.

<https://elplaw.in/leadership/bhartiya-sakshya-adhiniyam-2023-a-dynamic-shift-to-the-digital-era/>.

¹⁴ *Bharatiya Sakshya Adhiniyam*, No. 47 of 2023, § 57 (India); Iyer, C. (2024). *Electronic records now governed by Section 63 of the Bharatiya Sakshya Adhiniyam, 2023*. R K Dewan & Co. <https://www.rkdewan.com/articles/electronic-records-now-governed-by-section-63-of-the-bhartiya-sakshya-adhiniyam-2023/>.

¹⁵ *Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal*, (2020) 7 SCC 1 (Supreme Court of India); *Anvar P.V. v. P.K. Basheer*, (2014) 10 SCC 473 (Supreme Court of India).

¹⁶ *Bharatiya Sakshya Adhiniyam*, No. 47 of 2023, §§ 63(2) & 63(4) (India); Paul, A., & Palani, A. (2024). *A comparative analysis of the admissibility of electronic records: Evaluating Section 63 of the Bharatiya Sakshya Adhiniyam, 2023 and Section 65B of the Indian Evidence Act, 1872*. *International Journal of Innovative Research in Technology*, 11(6), 278–281; Paliwal, S. (2024). *Section 63 of the Bharatiya Sakshya Adhiniyam, 2023*. K&S Partners. <https://ksandk.com/litigation/section-63-bharatiya-sakshya-adhiniyam-2023/>

Until legislative amendments are made or decisions of the Supreme Court provide clarity on the nature of the distributed consensus mechanism, they will likely continue to be treated as secondary evidence and require a sufficient degree of procedural compliance to enable the records to be admitted into evidence.

VI. ARBITRATION IN THE SMART CONTRACT ERA

The Arbitration & Conciliation Act of 1996 as amended in 2015 provides support for smart contracts in India, with section 7(4)(b) specifically stating that electronic communications, including on-chain consensus via blockchain technology, can be used for a valid arbitration clause.¹⁷

The incorporation of 'oracles' provides blockchain access to off-chain data, which aids in creating automated ODR processes. The BSA, 2023 addresses evidentiary concerns regarding oracle outputs by allowing them to be produced as electronic records under Section 63, subject to appropriate certification and proof of system integrity. However, India's institutional readiness for blockchain-based arbitration remains incomplete, as the Arbitration Council of India, envisaged under the Arbitration and Conciliation (Amendment) Act, 2019 for grading arbitral institutions and accrediting arbitrators, has not yet been constituted. This reinforces the need for regulatory and institutional infrastructure, in addition to substantive statutory recognition, before automated or smart-contract-based dispute resolution can operate effectively in India.¹⁸

Smart contracts can also facilitate the utilization of merchant and consumer escrow accounts, which can facilitate the payment and delivery to the arbitrators based on certain conditions in a manner that incorporates the benefits of the immutable characteristics of the ledger with the principles of fairness in adjudication for expedited resolution.¹⁹

¹⁷ Arbitration and Conciliation Act, No. 26 of 1996, § 7(4)(b) (India).

¹⁸ Blockchain and Online Dispute Resolution: Reshaping Access to Justice in India (2025, May 14). LiveLaw. <https://www.livelaw.in/lawschool/articles/blockchain-odr-india-next-generation-justice-adr-292222>;

¹⁹ Blockchain & Cryptocurrency Laws and Regulations 2026 – India (2025, October 20). Global Legal Insights. <https://www.globallegalinsights.com/practice-areas/blockchain-cryptocurrency-laws-and-regulations/india>.

Even though smart contracts can provide faster mechanisms for dispute resolution, their legal enforceability remains uncertain where jurisdiction, governing law, and the seat of arbitration are not clearly identified in a decentralised and borderless environment. To reduce this uncertainty, smart contracts should incorporate express choice-of-law, dispute-resolution, and jurisdictional clauses, and where appropriate, identify a registered legal representative or entity capable of participating in legal or arbitral proceedings.²⁰

VII. INTERNATIONAL FRAMEWORKS FOR LEX CRYPTOGRAPHIA

India needs to move from adopting digital technologies generally to applying specific international standards for Lex Cryptographia that provide foundations for electronic commerce.

The UNCITRAL Model Law of Electronic Commerce (1996) establishes the functional equality of electronic records so that they cannot legally be held to have no value. This is also supported by the Information Technology Act 2000, which supplies a legal "rule of law" as a basis for determining the legal validity of a smart contract.²¹

The UNCITRAL Model Law on Electronic Signature (2001) validates the electronic record under the 1996 Model Law, but explores issues related to authentication of parties signing the document. It establishes technical and legal requirements for digital signatures, the use of cryptography, and the integrity of the party's performing transaction by way of decentralization of the copies of the same signature.²²

Model Law on Electronic Transferable Records by UNCITRAL (2017) is the foundation of India's legal structure; however, it does accommodate for "blockchain execution"

²⁰ Chevalier, M. (2021). From Smart Contract Litigation to Blockchain Arbitration, a New Decentralized Approach Leading Towards the Blockchain Arbitral Order. *Journal of International Dispute Settlement*, 12(4), 558–584; Wolters Kluwer Arbitration Blog. (2018, August 30). *Arbitration of Smart Contracts – Part 3: Issues to Consider When Choosing Arbitration to Resolve Smart Contract Disputes*.

²¹ United Nations Commission on International Trade Law (UNCITRAL), *UNCITRAL Model Law on Electronic Commerce* (1996); *Jural Relationship Between UNCITRAL Model Law and IT Act 2000* (2025). IJRTS. <https://ijrtspublications.org/files/serve.php?FID=738>.

²² United Nations Commission on International Trade Law. (2001). *UNCITRAL Model Law on Electronic Signatures with Guide to Enactment*, 2001 (UNCITRAL Doc. A/56/17, annex II).

because it substitutes the physical need of “possession” with the digital concept of “control.” Without this bridging link, there is: no legal recognition for tokenized commercial instruments or decentralized finance (DeFi).²³

Additionally, the implementation of the EU AI Act’s risk-based accountability framework, specifically its four-tier classification system, will allow the governance of high-risk autonomous contracts through mandatory transparency and human intervention.²⁴

The combination of these three UNCITRAL pillars MLEC, MLES and MLETR along with the EU risk-based accountability framework will provide a means to address the “liability gap” that exists in traditional commercial law and will create one global standard of commercial jurisprudence based on the transformation of static electronic records into dynamic, autonomous digital assets.

VIII. CHALLENGES TO CURRENT COMMERCIAL JURISPRUDENCE

While smart contracts can facilitate transactions at an accelerated pace, present-day commercial jurisprudence has a few key issues that are a source of concern. Below are three current gaps in Indian commercial law -

There is a basic conflict between the permanent nature of blockchain and the nature of equitable remedies under Indian law. Smart contracts enable the speedy execution of transactions, but once executed, they cannot be revoked by the courts, even if the transaction was based on fraud or a mistake. Section 27 of Specific Relief Act, 1963, grants the courts the authority to rescind voidable contracts or cancel certain instruments, but because the transaction is decentralized the courts cannot "unwind" the transaction or bring the matter back to the status quo ante thereby creating a "remedy gap". In this regard, those contracts which are currently being executed as smart contracts creates a

²³ United Nations Commission on International Trade Law. (2017). *Model law on electronic transferable records (MLETR)* (UNCITRAL Doc. A/72/17).

²⁴ European Union, *Artificial Intelligence Act (Regulation (EU) 2024/1689)* (2024).; *EU AI Act introduces comprehensive risk management requirements for ‘High-Risk’ AI systems.* (2024, December 16). FERMA. <https://ferma.eu/publications/eu-policy-note-ai-act-2024/>.

challenge to the authority of the court to create a status quo ante after the transaction has been executed.²⁵

The liability gap associated with AI also requires closer doctrinal attention. Under Indian law, AI is not presently recognised as a legal person and is generally treated as a technological tool rather than an independent bearer of rights or obligations. If an autonomous AI system produces an unexpected decision causing loss, liability would therefore have to be traced to legally recognised actors such as the developer, deployer, owner, or user. In a related but distinct patent-law context, courts in both the United Kingdom and the United States have declined to recognise AI as an inventor: *Thaler v. Comptroller-General of Patents, Designs and Trade Marks* [2023] UKSC 49 (UK); *Thaler v. Vidal*, 43 F.4th 1207 (Fed. Cir. 2022) (US). These decisions do not directly decide AI liability, but they support the broader proposition that current legal systems remain reluctant to confer independent legal status on AI systems. The EU's risk-based AI regulatory framework similarly addresses this concern by imposing heightened obligations on human and institutional actors responsible for high-risk AI systems.²⁶

Cross-border contracts pose serious jurisdictional challenges for Decentralized Autonomous Organizations (DAOs) in relation to the Civil Procedure Code of 1908 (CPC). It is almost impossible to apply the "place of contract" rule when there is no physical location for the DAO. Jurisdictions such as Wyoming and Vermont have created "legal wrappers" to allow DAOs to be considered as LLCs; however, there are currently no legal frameworks in India for DAOs to operate legally within India.²⁷ Without these frameworks, DAOs will likely be classified as unlimited liability partnerships under the Indian Partnership Act of 1932. As unlimited liability partnerships, DAOs expose all

²⁵ Kumar Singh, R. (2024). *Are smart contracts really smart? Decrypting the issues of their legality, enforcement and interpretation*. National Law School Business Law Review, 10(2), 1.
<https://repository.nls.ac.in/NLSBLR/vol10/ISS2/1>.

²⁶ Majumder, S. (2025). AI liability for crimes: *Comparing India's IT Act and the EU's AI Directive on Defamation*. Indian Journal of Law and Legal Research (IJLLR). <https://www.ijllr.com/post/ai-liability-for-crimes-comparing-india-s-it-act-and-the-eu-s-ai-directive-on-defamation>.

²⁷ *Wyoming Decentralized Autonomous Organization Supplement*, Wyo. Stat. §§ 17-31-101 et seq. (2021); *State of Vermont, An Act Relating to Blockchain Business Development* (Senate Bill 269 / Act No. 205), 11 V.S.A. §§ 4172-4175 (2018) (U.S.).

members to extreme amounts of risk, as they could potentially be liable for all debts incurred by the DAO.²⁸

IX. CONSTITUTIONAL SAFEGUARDS AND TRANSFORMATIVE IMPACTS

AI-enabled commerce requires an extensive analysis of constitutional safeguards as they relate to the right to privacy recognised in *K.S. Puttaswamy v. Union of India*. *Puttaswamy* affirms informational privacy as part of the fundamental right to privacy under Article 21 and applies proportionality-based scrutiny to privacy-intrusive legal and technological frameworks. This creates a potential conflict with blockchain's immutability, since permanent on-chain records may obstruct a Data Principal's statutory right to request erasure of personal data under Section 12(3) of the Digital Personal Data Protection Act, 2023. This concern must now be read together with the Digital Personal Data Protection Rules, 2025, which operationalise Data Principal rights and require Data Fiduciaries to respond to requests for access, correction, updating, or erasure within a maximum period of ninety days. Accordingly, any Lex Cryptographia framework using blockchain should incorporate privacy-by-design mechanisms such as off-chain storage of personal data, on-chain hashes, editable access layers, and clear Data Fiduciary workflows for receiving, evaluating, and implementing erasure requests.²⁹

The ruling in *Rhutikumari v. Zanmai Labs Pvt. Ltd.* signifies an important change as the court has defined cryptocurrency as "intangible movable property" which can now be held in trust. However, this ruling was given during an application for interim measures pursuant to Section 9 of the Arbitration and Conciliation Act 1996 and therefore, although this ruling provides strong persuasive jurisprudence for the classification of virtual

²⁸ Parmaar, S. S. (2026). *Legal Challenges of Cross-Border Smart Contracts in India*. Thada & Associates. <https://thadaassociates.in/what-are-the-legal-challenges-of-cross-border-smart-contracts-in-india/>.

²⁹ *K.S. Puttaswamy v. Union of India*, (2017) 10 SCC 1 (Supreme Court of India); *Digital Personal Data Protection Act*, No. 22 of 2023, § 12(2) (India).

digital assets, it will only provide interim relief and will not constitute the final binding determination of ownership rights.³⁰

This illustrates the need for legal protections due to the history of technology failures when using a purely "code-is-law" governance structure without any human intervention. The DAO Hack (June 2016), which was a result of a re-entrancy vulnerability, and the Parity Wallet (November 2017), which resulted in the freezing of millions of dollars due to a programming error in the library it used, show that there are risks involved when using "code-is-law" governance.³¹ As a result, NITI Aayog's blockchain strategy for MSME's and smart pensions will move to a "regulated technocracy", allowing for the presence of constitutional protection in the digital ecosystem.³²

X. RECOMMENDATIONS: ESTABLISHING LEX CRYPTOGRAPHIA

The primary challenge for the Lex Cryptographia framework arises from ensuring that automated code remains subordinate to legally recognised rights, remedies, and adjudicatory oversight. This proposition should be framed as a doctrinal argument rather than being attributed to an unrelated precedent. Self-executing blockchain transactions may operate automatically at the technical level, but their legal consequences must still remain subject to the Indian Contract Act, 1872, applicable statutory remedies, and the jurisdiction of competent courts or arbitral tribunals. Accordingly, Lex Cryptographia should be designed as a legally compliant governance layer that supports automated execution without allowing code-based performance to displace judicial supervision, contractual validity requirements, or the constitutional rule of law.³³

The seven - step Lex Cryptographia initiative contains a comprehensive plan to solve the conflict between smart contracts and Indian law.

³⁰ *Rhutikumari v. Zanmai Labs Pvt. Ltd. & Ors.*, 2025 MHC 2437 (Madras High Court); *Arbitration and Conciliation Act*, No. 26 of 1996, § 9 (India).

³¹ Atzei, N., Bartoletti, M., & Cimoli, T. (2017). A survey of attacks on Ethereum smart contracts (SoK). *Principles of Knowledge-Discovery in Databases (PKDD)*; Zubin P. (2022). Reentrancy attacks and the DAO Hack. Chainlink Blog. <https://blog.chain.link/reentrancy-attacks-and-the-dao-hack/>.

³² *Blockchain: The India Strategy - Part I*. (2020, January). NITI Aayog.

³³ *State of Punjab v. Davinder Pal Singh Bhullar & Ors.*, (2011) 14 SCC 770 (Supreme Court of India).

1. **Ricardian Contracts:** Ricardian Contracts are hybrid as they address the paradox of immutability through a dual structure consisting of two formats – code that machines can read as well as human-readable prose designed for interpretation of law and intent. The agreement will function to ensure that if there is an error in the code or it misbehaves, then the prose will act as the ultimate same source of truth to represent the parties' intent.³⁴
2. **Algorithmic Audits:** Mandatory algorithmic audits are necessary for large-scale commercial applications of artificial intelligence to address the risk of "black box" liability and algorithmic collusion. One way to create fair commercial outcomes is by establishing an auditable standardized technical audit procedure that can show compliance with the Consumer Protection Act (2019).
3. **Regulatory Sandboxes:** RBI and SEBI Sandboxes frameworks operate under different frameworks than the IndiaAI Mission (MeitY) functions. Although sandboxes enable financial experimentation on a limited basis, the IndiaAI Mission supports the growth of the overall ecosystem and is helping to create a framework for the regulation of commercial technology in India. Both the sandboxes and the IndiaAI Mission operate independently and together form the frameworks of how to regulate commercially available technology in India.
4. **Ethical Guidelines:** Ethical guidelines help to create a level of transparency and an understanding of how AI impacts trades for both entities and consumers, using an OECD - compatible set of guidelines.
5. **On-Chain Dispute Resolution:** On-Chain dispute resolution amends the arbitrarily resolved and establishes the expert multi-signature tactic for fixing jurisdictional voids under the Arbitration Act Section 7 to provide a mechanism for the parties by establishing a process for determining enforceable liability through expert opinions.

³⁴ Dutt, A. (2021, July 7). *Ricardian Contract – The Smart Contract Killer*. Flexsin Blog. <https://www.flexsin.com/blog/ricardian-contract-the-smart-contract-killer/>.

6. **AI-Specific Provisions:** The provisions for AI-Specific create legal accountability for both developers and users of AI through amendments in the IT Act and the Contract Act by filling gaps in consent.
7. **Global Harmonization:** Global harmonization removes any barriers to enforcing business agreements between countries and establishes India as a global leader in hybrid legal technology through alignment with UNICITRAL.

Such a plan converts friction into collaboration, making India a global leader in trustworthy AI laws.³⁵

XI. CONCLUSION

Lex Cryptographia does not seek to supplant legislation such as the Indian IT Act of 2000, Contract Act of 1872, and BSA 2023, but will instead serve as an adjunct set of laws with a focus on code is law principles and will incorporate provisions from the Puttaswamy and UNCITRAL Model Laws. Commercial jurisprudence has evolved in a way that necessitates a shift from traditional bilateral contracting to a multi-dimensional code as law paradigm, compatible with India's constitution and statutory law.

The findings of this research affirm that although Section 10A of IT Act 2000 makes provision for electronic contracts, it lacks any concrete solutions to either the immutability paradox or the liability gap that are inherent within decentralized systems. By synthesizing the code is law doctrine with Lex Cryptographia principles, this research shows that there is a necessity for technological autonomy to have a tethering effect to judicial supremacy as illustrated by the case of *State of Punjab v. Davinder Pal Singh Bhullar*.

The findings affirm that incorporating multi-signature oracles and Ricardian Contracts will create a technological-legal solution for solving the rigidity of blockchain and guaranteeing that equitable remedies available under the Specific Relief Act, 1963 can still

³⁵ Yadav, A.K. (2022, December 25). *Enforceability of Smart Contracts Under Indian Law*. The Law Way With Lawyers Journal. <https://thelawwaywithlawyers.com/enforceability-of-smart-contracts-under-indian-law/>.

be provided in automated environments. In addition, by creating an alignment between the existing domestic structures with the UNCITRAL Model Laws (MLEC, MLES, MLETR) and the risk-based responsibilities of the EU AI Act, India can now resolve the conflict between the static requirements imposed by the Indian Contract Act, 1872 and those dynamic features of Decentralized Autonomous Organisations (DAOs). Ultimately, Lex Cryptographia will serve as the required connective tissue that connects the algorithmic enforcement of contracts with the constitutional protections contained in India's Constitution, thereby guaranteeing that India's digital economy can develop under a "Regulated Technocracy", both respecting innovation and guaranteeing the right to privacy in all circumstances.

In order to address the international nature of DLT, this paper proposes that an "Effects-Based Jurisdictional Doctrine" be developed to cover Sections 75 (IT Act, 2000), by using a "Digital Nexus" test to determine jurisdiction through three channels: first, using a resident's wallet; second, based on the amount of domestic economic activity created; and thirdly, if a DAO was targeting the Indian market. This would allow for an Indian citizen to seek recourse through law and the courts, globally, when engaging in decentralized commerce.

Ultimately, by amending Section 13 of the Contract Act to include algorithmic consent and broadening the definition of 'body corporate' to include DAOs, India will create a safe legal environment for digital assets. Ongoing research must find a way to reconcile the permanent nature of blockchain with the 'right to erasure' identified in *Puttaswamy v. Union of India*, and ensure that Lex Cryptographia gives businesses the commercial benefits associated with this technology, while also respecting privacy and fundamental rights.

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