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COURT VS. CODE: WHY INDIA NEEDS BLOCKCHAIN ARBITRATION TO SURVIVE THE DECENTRALISED ERA

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"In the DeFi world, trust is algorithmic, until it breaks. Arbitration is the human patch that keeps the system fair."

~Federico Ast, Co-Founder, Kleros

Introduction

Can you imagine a world where contracts execute themselves? Where money moves without banks, and disputes are settled without courts? That is the promise of blockchain. A decentralized system where transactions are undisputable and transparent. But what happens when things go wrong? When a Bangalore startup's smart contract bug freezes an Estonian freelancer's Bitcoin payment, and the startup claims that "Code is Law"? Who will resolve this? Not your local civil court. This is the reality of blockchain disputes. Smart contracts fail, Decentralized Autonomous Organisations ["**DAOs**"] face a deadlock in governance disputes, cryptocurrency exchanges freeze funds, traditional courts struggle with pseudonymous parties, cross-border enforcement, and technical complexities of code-based agreements. With India's crypto adoption surging, arbitration seems to be the only way to survive the decentralised era. But there is a catch. India's Arbitration and Conciliation Act, 1996 ["**Arbitration Act**"][1] was not built for machines arguing with machines. This article unpacks why blockchain arbitration is not just an option but a necessity for India's decentralised future.

Why Traditional Courts Cannot Handle Blockchain Disputes

Using traditional courts for blockchain disputes is like forcing a Tesla to run on diesel. The systems are fundamentally incompatible due to the clash between "Code is Law" and "Law is Code." Blockchain operates on a foundational principle that "Code is Law." Smart contracts execute

[1] The Arbitration and Conciliation Act 1996.

automatically based on a predefined logic, with no human intervention. But when disputes arise, such as bugs, exploits, or unintended outcomes, traditional legal systems hit a wall. This is because smart contracts are written in programming languages, and judges who are trained in contract law, lack the technical expertise to audit code or determine if a bug constitutes a "breach." In the 2020 Singapore case of *Quoine v B2C2,* a crypto exchange smart contract erroneously executed trades at 250 times the market price.[2] The court had to rely on expert witnesses to interpret the code, which is a slow and expensive process.

Blockchain transactions are irreversible. If a smart contract drains a user's wallet due to a coding error, courts cannot undo it. The Indian Contract Act, 1872, allows contracts to be voided for "mistake" or "fraud",[3] but can a judge void a smart contract that performed exactly as coded? In 2016, a hacker exploited a flaw in the DOA, a decentralized fund, and stole over 50 million dollars in Ethereum ["**ETH**"]. The ETH community controversially reversed the hack via a hard-fork.[4] What this tells us is that when code fails, communities, and not courts, decide the outcomes. Traditional litigation is slow for crypto markets.

Blockchain is borderless by design, but courts are territorial. This creates three nightmares. Firstly, pseudonymous parties. Transactions occur between wallet addresses, not named entities. Under the Code of Civil Procedure, 1908, lawsuits require identifiable defendants.[5] How do you serve summons to a wallet address? This cripples traditional litigation, but arbitration could mitigate this through Know Your Customer ["**KYC**"] linked smart contracts or escrow smart contracts that freeze funds until disputes are resolved. However, enforcement remains the ultimate challenge. Even if you win, how do you get paid? Imagine winning a judgement against a pseudonymous crypto scammer, now what? Courts can order asset freezes, but how do you attach funds in a cold wallet controlled by an anonymous party? The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 allows banks to seize assets,[6] but crypto wallets are not "assets" under Indian law yet. Most enforcement relies on centralized exchanges for freezing funds. But scammers can bridge funds to privacy coins or decentralized exchanges and vanish forever. In 2018, in the case of *Gao Zheyu v Shenzhen Yunsilu Development Fund*, a Chinese court refused to enforce a crypto arbitral award, calling Bitcoin "illegal property".[7] In India, after

[2] *Quoine Pte Ltd v B2C2 Ltd* [2020] SGCA(I) 2.
[3] Indian Contract Act 1872, ss 17 and 19-22.
[4] Muhammad Mehar et. al., 'Understanding a Revolutionary and Flawed Grand Experiment in Blockchain: The DAO Attack' (2017) 21(1) Journal of Cases on Information Technology 19 <https://ssrn.com/abstract=3014782> accessed 30 May 2025.
[5] Code of Civil Procedure 1908, O I rr 3 and 10, O V and VII.
[6] Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act 2002, s 13(4).
[7] *Gao Zheyu v Shenzhen Yunsilu Innovation Development Fund (L.P.) and Li Bin* (2018) (2018) Yue 03 Min Te No 719, Shenzhen Intermediate People's Court (China).

the case of *Internet and Mobile Association of India v Reserve Bank of India*, Crypto is not illegal, but its legal status is still ambiguous.[8]

Secondly, decentralized platforms mean no headquarters. Most DeFi protocols are run by DAOs with no physical headquarters. The 2021 Binance's Outage led to a class-action arbitration in Hong Kong. But Binance's terms listed no physical seat, forcing claimants to target shell entities in Malta and the Caymans.[9] Thirdly, conflicting laws. A smart contract could interact with users in India (where crypto is taxable), China (where it is banned), and El Salvador (where it is a legal tender).

How Arbitration Fits the Crypto Puzzle

Blockchain disputes demand a system that aligns with their decentralized, borderless, and automated nature. Traditional litigation struggles here, but arbitration, because of its flexibility, neutrality, and enforceability, offers a tailored solution through Smart Legal Contracts ["**SLCs**"], that act as a bridge between code and law. Pure smart contracts lack dispute resolution mechanisms. They execute rigidly, even if outcomes are unfair due to bugs or unintended interpretations.

Question arises whether arbitrators should override code. This question usually has two arguments. The equity argument, that says "Yes." That arbitrators should apply principles of fairness, such as UNIDROIT Principles, to modify outcomes. As seen in the 2016 DAO hack, communities sometimes prioritise fairness over immutability, a precedent that complicates arbitration's role. However, the predictability argument says "No," because if arbitrators frequently override code, the certainty in smart contracts would erode, and businesses may avoid blockchain if rulings are unpredictable. Therefore, a middle ground hybrid approach is best suited, where technical correctness is determined first, as to whether the code executed as designed, and equity review is done only for clear injustice. SLCs merge the code with natural language arbitration clauses and create a hybrid that is enforceable under existing laws. For example, adding a clause "*Any dispute arising from this contract shall be resolved by binding arbitration under UNCITRAL Rules, seated in Singapore, with English law governing. The arbitral award may be enforced via smart contract execution*."

This works for India for three reasons. Firstly, it becomes enforceable because it satisfies the "written agreement" requirement of the Convention on the Recognition and Enforcement of

[8] *Internet and Mobile Association of India v Reserve Bank of India* (2020) 10 SCC 1.
[9] Cayetana Santaolalla, 'Resolving Crypto Disputes through Arbitration: the Binance Case Before the Hong Kong International Arbitration Center (HKIAC)' (2024) 18 The Law. Mediación y arbitraje 9 <https://ssrn.com/abstract=4826015> accessed 30 May 2025.

Foreign Arbitral Awards, also known as the New York Convention, which is recognized by India.[10] And it complies with Arbitration Act under Section 7 which accepts electronic agreements.[11] Secondly, it facilitates technical expertise as parties can select arbitrators who are fluent in blockchain, unlike overburdened judges who are unfamiliar with the technical aspects of blockchain, such as "oracle manipulation" and "re-entrancy attacks." Thirdly, the enforcement can be automated. Awards can be programmed into escrow smart contracts that release funds only after arbitration concludes. The 2013 Amendment to the Arbitration Act[12] embraced electronic communications, which paved the way for SLCs. The Internet and Mobiles Association verdict implicitly validated blockchain based agreements as legally recognizable.[13]

Hybrid arbitration can help in blending human judgment with blockchain efficiency. In the 2020 Kleros case, a Mexican civil court upheld and enforced an arbitration award that was substantively governed by the Kleros blockchain arbitration protocol. In this case a rental dispute was resolved via a hybrid process, where a human arbitrator drafted the legal framework and evidence standards, Kleros' Blockchain Jury (token holding jurors) voted on the outcome, and the award was formalized under Mexican law.[14] This model can be adapted to India. The Mumbai Centre for International Arbitration ["**MCIA**"] or Delhi International Arbitration Centre ["**DIAC**"] could pilot a hybrid division, combining a technical panel with blockchain savvy arbitrators, and tokenized voting where use of decentralized juries is limited to factual determinations. Indian courts could treat hybrid awards like foreign awards under Part II of the Arbitration Act. However, Indian courts may hesitate at delegating decision-making to pseudonymous jurors. A phased approach could ease the adoption.

Adopting this model with decentralized juries offers India many advantages. It could increase the speed in the dispute resolution process. Disputes can be resolved in days instead of years in Indian courts, where the average case pendency is more than three years.[15] It will promote transparency as all votes and evidences are on-chain, which reduces corruption risks. It will also facilitate global neutrality as it eliminates home-court advantage in cross border disputes. But every coin has two sides, therefore there are some drawbacks as well, such as wealth bias. Users with more tokens

[10] The Arbitration and Conciliation Act 1996, s 44.
[11] Ibid s 7.
[12] The Arbitration and Conciliation (Amendment) Act 2013
[13] Ibid.
[14] Mauricio Virues Carrera, 'How to Enforce Blockchain Dispute Resolution in Court: The Kleros Case in Mexico' (*Kleros Blog*, 22 July 2020) <https://blog.kleros.io/how-to-enforce-blockchain-dispute-resolution-in-court-the-kleros-case-in-mexico/> accessed 30 May 2025.
[15] National Judicial Data Grid, 'Dashboard' (*National Judicial Data Grid*) <https://njdg.ecourts.gov.in/njdg_v3/> accessed 30 May 2025.

wield greater influence. This will lead to the rich getting richer justice. Another drawback is the legal uncertainty. Indian law lacks clarity on whether token-holder decisions qualify as arbitration.

India's Path Forward

India's Arbitration Act was designed for traditional commercial disputes, not for smart contracts, DAOs, or cross border crypto transactions. Before adopting blockchain arbitration and to make it more viable, India must stabilise and modernise its regulatory framework. Legal uncertainty and regulatory whiplash are the biggest roadblocks in the effective adoption of blockchain in India. In 2018, Reserve Bank of India ["**RBI**"] banned banks from serving crypto firms, resulting in exclusion of crypto businesses from traditional arbitration.[16] In 2020, the Supreme Court overturned the RBI ban and arbitration clauses regained relevance.[17] In 2022, a 30 percent crypto tax and 1 percent TDS was imposed, which resulted in increased compliance burden, and arbitration was needed for tax disputes.[18] Back in 2021, Indian government drafted the Cryptocurrency and Regulation of Official Digital Currency Bill ["**the Bill**"] to bring more clarity to digital asset regulations.[19] But the bill stalled in Parliament, leaving crypto's legal status uncertain. Later in 2023, the finance minister brought Virtual Digital Assets under the Prevention of Money Laundering Act.[20] This forced crypto businesses to follow stricter anti-money laundering ruled and enforce KYC checks. In 2024, Securities Exchange Board of India ["**SEBI**"] suggested a multi-regulator system to oversee crypto activities, signalling a push for more organised oversight, while RBI maintains its wary stance, warning of potential economic risks associated with digital currencies.[21] If India suddenly bans DeFi, arbitration awards will be invalidated and it will become uncertain whether courts will enforce awards involving illegal activities. This uncertainty can be strategically mitigated by explicit legal recognition.

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[16] Reserve Bank of India, 'Prohibition on dealing in Virtual Currencies (VCs)' (*Reserve Bank of India*, 6 April 2018) <https://www.rbi.org.in/Commonman/English/Scripts/Notification.aspx?Id=2632> accessed 31 May 2025.

[17] ibid.

[18] Sneha Kulkarni, 'Cryptocurrency Tax News: Budget 2022 levies 30% tax and TDS on crypto assets' (*The Economic Times*, 3 February 2022) <https://economictimes.indiatimes.com/wealth/tax/budget-2022-levies-30-tax-and-tds-on-crypto-assets/articleshow/89267756.cms?from=mdr> accessed 31 May 2025.

[19] Resmi C S, 'Analysis of The Crypto-Currency Bill 2021: A Regulatory Framework for Digital Currencies in India' (2022) 9(3) Journal of Emerging Technologies and Innovative Research e141 <https://www.jetir.org/papers/JETIR2203419.pdf> accessed 1 June 2025.

[20] Government of India, Ministry of Finance, Department of Economic Affairs, Virtual Digital Assets (VDA) Regulation (*Lok Sabha Unstarred Question No. 3418*, 16 December 2024) <https://sansad.in/getFile/loksabhaquestions/annex/183/AU3418_RjYPEN.pdf?source=pqals#:~:text=Notwithstanding%20that%2C%20government%20vide%20notification,within%20the%20ambit%20of%20PMLA.> accessed 1 June 2025.

[21] Dipannita Saha, 'The New Age of Crypto: India's 2024 Regulatory Framework Unveiled' (*IMPRI*, 9 September 2024) <https://www.impriindia.com/insights/crypto-india-regulatory-framework/> accessed 2 June 2025.

Before amending the Arbitration Act, the RBI and SEBI could pilot blockchain arbitration models in sandboxes. For example, an on-chain enforcement, where when a dispute arises, parties can trigger arbitration via a smart contract function. Then an arbitrator or tokenized jury decides the case, and award is automatically enforced through oracle-triggered release.[22] This process holds significant potential as it eliminated enforcement delays and there would be no need for court intervention. In case of DAO dispute resolution, problem arises because DAOs operate through token holder votes, and what if a minority faction claims unfair governance? For this, a sandbox test can be created where a hybrid arbitration model is allowed, wherein a human arbitrator reviews procedural fairness and token holders vote on remedies and outcomes are enforced via DAO treasury smart contracts.

A very important step would be to recognize virtual arbitration seats. Under the current law, Section 2(2) of the Arbitration Act requires a physical seat of arbitration to determine jurisdiction and enforcement.[23] Blockchain disputes often lack a clear geographic centre. The parties could be in India, Singapore, and Estonia, interacting via a smart contract deployed on ETH. The Arbitration Act can be amended to recognize "virtual seats" when patties designate arbitration as "blockchain based" or "decentralized." This could provide legal certainty for blockchain businesses and prevent jurisdictional conflicts.

The next step would be to accept cryptographic signatures and smart contract records. Section 31 of the Arbitration Act requires arbitral awards to be "signed" by the arbitrator, and Section 34 allows challenges to awards based on procedural irregularities.[24] Blockchain arbitrations rely on wallet signatures rather than handwritten or electronic signatures under Information Technology Act, 2000.[25] The definition of "signature" can be expanded to include cryptographic wallet signatures.

Another troubling hurdle is the lack of technical expertise in legal systems. Judges and lawyers do not speak blockchain. Most Indian judges struggle with basic tech, let alone blockchain related knowledge. This results in poorly reasoned awards that misapply crypto concepts. Creating a roster of blockchain savvy arbitrators under MCIA or DIAC is critical, with a criterion for panellists such as legal and technical expertise, and certification programs. Similar global precedents already exist, such as Singapore International Arbitration Centre which has a tech list of arbitrators for digital

[22] Alexander Grishchenkov, 'Arbitrating Disputes Arising out of Smart Contracts' (2022) Russian Arbitration Association Journal 181 <https://journal.arbitration.ru/analytics/arbitrating-disputes-arising-out-of-smart-contracts/> accessed 31 May 2025.
[23] Arbitration and Conciliation Act 1996, s 2(2).
[24] ibid, ss 31 and 34.
[25] Information Technology Act 2000, ss 3A and 5.

disputes, and United Kingdom's ["**UK**"] Digital Dispute Resolution Rules, 2021 ["**DDDR**"] which allows tribunals to appoint tech experts.[26]

India could also benefit from learning from global precedents, such as Dubai's Virtual Assets Regulatory Authority ["**VARA**"]. VARA 2022 Regulations recognize arbitration for crypto disputes. It requires licensed Virtual Asset Service Providers to integrate dispute resolution clauses.[27] SEBI could mandate arbitration clauses for Indian crypto exchanges. UK's DDDR allows tribunals to freeze NFTs or crypto assets during disputes and permits AI-assisted decision-making.[28] India's Civil Procedure Code can be amended to allow interim crypto freezes, similar to asset injunctions. Wyoming's DAO Law, 2021 marked a breakthrough as it recognizes DAO as a legal entity that can sue and be sued. It mandates internal dispute resolution mechanisms.

In conclusion, blockchain arbitration is inevitable for India's crypto future, but only if regulators, courts, and businesses collaborate to address these roadblocks. India stands at a crossroads. Will it cling to outdated resolution mechanisms, or pioneer a blockchain arbitration framework that sets a global standard? The time to act is now. Policymakers should create a Blockchain Dispute Resolution Task Force, lawyers should start upskilling in crypto law and smart contract auditing, and businesses should embed arbitration clauses in all blockchain agreements. The decentralised future is not going to wait, and neither should we.

[26] Dr Sumeet Kumar, Swaroop George and Tanya Puri, 'India: The Arbitration And Conciliation (Amendment) Act, 2019: A Critical Analysis' (*Lexology*, 27 May 2021) <https://www.lexology.com/library/detail.aspx?g=8b298474-fd42-408d-bf84-0907b5632001> accessed 31 May 2025.

[27] Soham Jethani et. al., 'Scanning VASPs: Guidelines for Regulation of Virtual Assets and Virtual Asset Service Providers' (*Mondaq*, 27 January 2025) <https://www.mondaq.com/fin-tech/1574498/scanning-vasps-guidelines-for-regulation-of-virtual-assets-and-virtual-asset-service-providers> accessed 1 June 2025.

[28] UK Jurisdiction Taskforce, Digital Dispute Resolution Rules (April 2021) cl 2.