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CODE BEFORE CONSENT? BLOCKCHAIN ESCROW AND THE PROCEDURAL SAFEGUARDS OF ARBITRATION IN INDIA

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Abstract

Blockchain escrow allows parties to lock digital tokens in a smart contract and release them automatically when agreed conditions are met. This arrangement can make payment faster and reduce dependence on a traditional escrow agent. However, automatic execution becomes problematic when a party disputes the condition that triggers payment. A transfer may occur before an arbitrator hears the parties, before interim relief is available, or immediately after a decision that does not satisfy arbitration law. The practical result can be enforcement before procedural fairness.

This paper examines whether automatic token transfers can bypass the safeguards of arbitration in India. It distinguishes the technical execution of code from the legal enforcement of an arbitral award. It argues that a completed blockchain transfer does not prove that the payment was legally justified, that an arbitration agreement was valid, or that a dispute was decided fairly. The Arbitration and Conciliation Act 1996 continues to govern applicable arbitrations even when parties use digital assets and automated payment systems.

The paper examines consent, equal treatment, notice, disclosure of evidence, interim protection, reasoned awards, challenges, and foreign-award recognition. It also considers the difficulty of obtaining restitution after tokens move to an unknown or foreign wallet. It proposes a hybrid escrow model with a dispute-triggered pause, a legally identifiable seat, independent arbitrators, a limited release window, and an enforceable recovery obligation. Blockchain should support arbitration rather than replace its safeguards. The central recommendation is simple: disputed funds should not become irreversible merely because payment has been made technically automatic.

Keywords: Blockchain escrow, smart contracts, arbitration, token transfers, procedural fairness, interim relief and restitution

I. Introduction

An escrow arrangement holds money or property until specified conditions are satisfied. In a conventional transaction, an escrow agent may receive the funds and release them after checking instructions. Blockchain escrow replaces some of this role with computer code. Parties deposit tokens into a smart contract, which releases them when a programmed event occurs. A delivery confirmation, deadline, approved inspection, or third-party message may trigger payment.

This system is attractive because it reduces administrative work and makes performance predictable. Yet it also changes the timing of disputes. An ordinary payment can sometimes be withheld while a disagreement is examined. An automated transfer may occur before that disagreement receives any legal attention. Scholarship on smart contracts explains that automatic performance and the cost of reversing it are central features of these arrangements.¹ Consider an Indian software developer who deposits tokens as security for a cross-border project. The client alleges defective performance. The escrow code releases the security after an external verification message marks the project incomplete. The developer disputes that message and invokes arbitration. By then, the tokens have moved to another wallet. The developer may eventually establish a right to recover them, but winning the legal argument is not the same as recovering the asset.

This paper addresses that gap. It does not argue that blockchain escrow is inherently unlawful or that every transfer requires judicial permission. It asks whether an automated system can make arbitration ineffective by moving the disputed asset before essential safeguards operate. Its focus is contractual escrow and arbitration, not the investment value of tokens or a general account of cryptocurrency regulation.

The argument is that code can change possession without conclusively deciding entitlement. A technically successful transfer remains open to legal scrutiny. Nevertheless, law may provide an inadequate practical remedy when the recipient is anonymous or beyond effective jurisdiction. Contract design must therefore protect the dispute process before the transfer occurs.

II. Code, Contract, And Legal Entitlement

A smart contract is not necessarily a complete legal contract. It may simply be a program carrying out part of a wider agreement. The legal agreement may appear in signed terms,

¹ Max Raskin, 'The Law and Legality of Smart Contracts' (2017) 1 Georgetown Law Technology Review 305.

emails, platform conditions, or another electronic record. The program describes what the system will do; the agreement explains what the parties legally owe.

Indian contract law still requires the applicable elements of an enforceable agreement. Consent, lawful consideration, lawful object, and the rules concerning mistake, coercion, fraud, and misrepresentation do not disappear because performance uses blockchain. Electronic contracting is recognised, but recognition of electronic form does not establish the validity of every term.²

This distinction matters where the written agreement and code differ. The agreement may require an independent inspection, while the program accepts a simple message from the buyer. The contract may allow correction of defective work, while the program releases security immediately after the first negative report. A coding error may also produce a transfer that neither party intended.

Courts and tribunals must examine the whole arrangement. Where the parties expressly make code authoritative, that choice is relevant to interpretation. It does not automatically defeat mandatory law or establish informed acceptance of an undisclosed defect. An operator cannot answer every claim by saying that the program worked exactly as written.

Legal scholarship similarly questions the idea that smart contracts can completely replace legal institutions. Automated enforcement may be powerful, but its legal consequences remain affected by rules concerning rights, remedies, and transactions outside the blockchain.³ The correct question is therefore not whether the transfer occurred. It is whether the recipient was entitled to receive it under the applicable law and agreement.

III. Consent To Arbitration

An escrow clause and an arbitration clause perform different functions. The escrow clause controls payment. The arbitration clause establishes a process for deciding disputes. Agreement to automated payment does not necessarily establish agreement to arbitration, and selecting a digital dispute service does not automatically satisfy every requirement for a valid arbitration agreement.

Section 7 of the Arbitration and Conciliation Act 1996 requires an arbitration agreement in writing. It can be recorded through exchanges of communications, including electronic communications that provide a record of the agreement. Incorporation by reference can also be

² Indian Contract Act 1872, ss 10, 13–19, 20 and 23; Information Technology Act 2000, s 10A.

³ Jens Frankenreiter, 'The Limits of Smart Contracts' (1 February 2019) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3328464> accessed 6 October 2026.

effective where the statutory conditions are satisfied.⁴

A wallet signature may provide evidence that an action was authorised by a private key. However, the legal inquiry may still concern the identity of the user, authority to bind a company, accessibility of the arbitration terms, and the dispute covered by the clause. A user who only sees a deposit button may not understand that a linked protocol appoints decision-makers and releases funds after a vote.

The agreement should identify the legal parties and describe the dispute process in understandable terms. A technical wallet address can be included, but it should not be the only available identifier in a commercial arrangement requiring legal remedies. The parties should preserve the version of the terms accepted when the deposit was made.

A clearly chosen seat is equally important. The seat connects arbitration to a legal framework and supervisory courts. Distributed servers do not eliminate this need. Standard arbitration literature treats the seat as a central organising feature of international arbitration, distinct from the physical location of hearings.⁵ Parties should not assume that a process operating online has no legal location.

IV. The Right To Be Heard

Arbitration permits considerable flexibility. Parties can adopt expedited procedures, remote hearings, and documentary submissions. Flexibility, however, is not a licence to deprive a party of a meaningful opportunity to answer the case against it.

Section 18 requires equal treatment and a full opportunity to present a case. Section 24 addresses hearings and written proceedings, sufficient advance notice, and communication of statements, documents, and other information supplied to the tribunal. Its hearing requirement must be read with the parties' agreement concerning whether oral hearings will take place.⁶

A blockchain dispute mechanism may fail these standards if it allows a decision immediately after an allegation, accepts private evidence from one party, or imposes an unrealistic response deadline. A message posted only to a technical dashboard may also be inadequate if the parties agreed to email notice or the service was inaccessible.

External information creates another difficulty. Many smart contracts rely on an oracle, meaning a service that supplies information about events outside the blockchain. An oracle

⁴ Arbitration and Conciliation Act 1996, s 7.

⁵ Nigel Blackaby, Constantine Partasides and Alan Redfern, *Redfern and Hunter on International Arbitration* (7th edn, Oxford University Press 2022).

⁶ Arbitration and Conciliation Act 1996, ss 18 and 24.

may report delivery, price, an inspection result, or a missed deadline. Such information is not necessarily neutral or correct. It may be incomplete, delayed, manipulated, or based on an unclear standard.

Where an oracle report determines a disputed release, the affected party should be able to inspect and challenge its relevant basis. The tribunal should distinguish between a programmed condition being triggered and the legal obligation being breached. For example, a late delivery may result from the buyer's failure to provide access rather than the seller's default.

Fairness does not require an unlimited hearing. It requires a proportionate opportunity to respond. Low-value disputes may justify short written procedures. Complex allegations of fraud or defective performance may require additional evidence. The design should match the dispute, rather than treating every contested payment as a simple binary event.

V. Interim Protection Before Release

The most important protection may arise before the award. If the escrow transfers all tokens immediately upon an alleged default, arbitration starts after the economically decisive event. The claimant must pursue recovery instead of preserving the disputed fund.

Sections 9 and 17 provide routes for interim protection through courts and arbitral tribunals, subject to their respective requirements. Available measures include preservation of property, securing the amount in dispute, injunctions, and other appropriate protection. Section 17 also provides for enforcement of tribunal-ordered interim measures in the manner stated by the Act.⁷ However, an order directed at a party is not identical to technical control over a smart contract. A court may restrain a person from authorising a transfer, but an immutable program might execute independently unless it contains an effective pause mechanism. The legal duty remains relevant, yet it may be difficult to prevent performance at network level.

A sound escrow arrangement should therefore include a dispute-triggered hold. Before release, a party should receive notice of the proposed payment and a limited period to raise a documented objection. A timely objection would preserve the fund while an agreed decision-maker considers whether the objection warrants continued protection.

This is a proposal for contract design, not a claim that Indian law already requires every blockchain escrow to contain a pause. The hold should also resist abuse. A party should not be able to freeze funds indefinitely through repeated unsupported complaints. Security, costs, expedited interim decisions, and deadlines can discourage tactical obstruction.

⁷ Arbitration and Conciliation Act 1996, ss 9 and 17.

VI. Automatic Payment And Arbitral Awards

An automatic payment is not itself an arbitral award. A contractual trigger may release tokens without any adjudication. A platform's internal vote may also produce an outcome without meeting the legal requirements of arbitration. The label chosen by the platform is not decisive. Where a process is intended to constitute arbitration governed by Part I of the 1996 Act, section 31 sets requirements concerning the form and contents of the award. These include writing, signatures, the date and place of arbitration, and reasons unless the recognised exceptions apply.⁸ A transaction hash records a network event; it does not necessarily state the tribunal's legal decision or explain its reasoning.

An arrangement may allow voluntary payment following an award. Indeed, timely compliance is desirable. The issue is whether automatic release makes lawful challenge practically meaningless. Section 34 provides limited grounds for setting aside an award, including specified procedural defects. Section 36 governs enforcement and makes clear that filing a section 34 application does not by itself render an award unenforceable; a separate stay is required.⁹

Accordingly, this paper does not propose an automatic freeze throughout every challenge period. Such a position would misstate Indian law and could undermine prompt payment. A better model is a short contractual release window permitting a party to seek urgent relief where a serious defect exists. Any continued hold should follow an applicable order or agreed safeguard, rather than arise merely because a losing party objects.

The design should preserve both objectives: successful parties should receive payment, and serious procedural defects should not become impossible to remedy. Standard arbitration scholarship emphasises that enforceability depends on a legally recognisable process, not only on the parties' ability to arrange practical execution.¹⁰

VII. Foreign Awards and Restitution

Cross-border escrow increases the difficulty. The contracting parties, arbitrators, platform operator, and wallets may all be associated with different jurisdictions. If recovery requires access to a respondent's conventional assets, formal recognition of an award may become necessary.

Article V(1)(b) of the New York Convention permits refusal of recognition where a party

⁸ Arbitration and Conciliation Act 1996, s 31.

⁹ Arbitration and Conciliation Act 1996, ss 34 and 36.

¹⁰ Gary B Born, *International Commercial Arbitration* (3rd edn, Kluwer Law International 2021).

lacked proper notice or was otherwise unable to present its case. Other grounds address matters such as the arbitration agreement, the tribunal's mandate, procedure, and public policy. Article IV sets documentary requirements for recognition.¹¹

India gives effect to the relevant foreign-award framework through Part II of the 1996 Act. Sections 44 to 49 address New York Convention awards, evidence, grounds for refusal, and enforcement. Not every foreign digital decision automatically falls within that framework.¹² A poorly documented, legally unanchored outcome may be difficult to enforce against assets outside the escrow.

There is a significant asymmetry here. A claimant receiving tokens may need no recognition proceedings because the program has already paid. The losing party must initiate proceedings to recover them. Technical self-execution can therefore change who bears the practical burden of legal action, even though it cannot rewrite the applicable law.

Recovery may also raise contractual and restitutionary questions. Indian contract law includes rules addressing benefits received under agreements discovered to be void, money paid by mistake or coercion, and compensation for breach, subject to their respective conditions.¹³ Whether a particular token transfer fits a remedy depends on the facts, governing law, and relief sought. It cannot be assumed that every defective transfer is automatically reversible.

Even a valid recovery order may encounter unknown recipients, intermediary wallets, foreign exchanges, or an insolvent counterparty. A distributed ledger can help trace transactions, but traceability is different from identifying a legally responsible person and securing assets. This is why preventive safeguards matter more than assurances that litigation remains available afterwards.

VIII. A Hybrid Escrow Model

The preferable approach combines legal arbitration with technically controlled payment. The written agreement should identify the parties, governing law, seat, appointment method, dispute scope, notice channels, and applicable procedural rules. The escrow specification should be consistent with that agreement and accessible before deposit.

A release should follow an agreed condition, not merely an unexplained external signal. If a condition is disputed, a temporary hold should permit an expedited human determination. For

¹¹ Convention on the Recognition and Enforcement of Foreign Arbitral Awards (adopted 10 June 1958, entered into force 7 June 1959) 330 UNTS 3, arts IV–V.

¹² Arbitration and Conciliation Act 1996, ss 44–49.

¹³ Indian Contract Act 1872, ss 65, 72 and 73.

substantive disputes, the parties should receive equal access to relevant material and an opportunity to present their cases. The tribunal should issue a legally compliant award before the escrow treats a contested entitlement as finally decided.

The pause function itself requires safeguards. A shared-signature arrangement or independently controlled emergency function may reduce dependence on one party. However, no design eliminates trust completely. Whoever controls a pause key may abuse it or lose access. The agreement should therefore allocate authority, require records of intervention, and provide replacement procedures.

The system should preserve evidence, including accepted contract terms, source-code versions, transaction records, oracle outputs, notices, submissions, and awards. The Bharatiya Sakshya Adhiniyam 2023 contains rules governing electronic and digital records, including their admissibility requirements.¹⁴ Recording a transaction on blockchain does not excuse the parties from proving relevant facts through legally acceptable material.

The contract should also impose a recovery obligation if a transfer is later found unjustified. Security, identifiable counterparties, and suitable indemnities may improve the value of that obligation. Recovery clauses should be proportionate and should not try to exclude mandatory review or protect fraud.

The international framework supports this hybrid direction. The UNCITRAL Model Law recognises party autonomy while retaining equal treatment, hearing safeguards, award requirements, and limited judicial review.¹⁵ Blockchain can assist performance within such a framework. It should not turn the right to be heard into a promise that operates only after the fund has disappeared.

A workable design should also explain what happens when only part of the payment is disputed. If the buyer accepts most of the work but disputes one component, freezing the entire deposit may be unfair. The tribunal should be able to direct release of an undisputed amount while retaining sufficient security for the contested claim. This prevents a protection mechanism from becoming commercial leverage.

Fees require similar attention. A small claim may become impossible to pursue if the required security, filing charge, or technical access cost exceeds the disputed sum. An expedited process should offer affordable submissions and permit evidence in an ordinary readable format. A claimant should not need specialist programming knowledge merely to explain why delivery

¹⁴ Bharatiya Sakshya Adhiniyam 2023, ss 61-63.

¹⁵ UNCITRAL Model Law on International Commercial Arbitration 1985 (with amendments as adopted in 2006), arts 18, 24, 31 and 34-36.

or performance is disputed.

The agreement should address changes to the program after deposit. Neither party should be able to alter the release condition unilaterally. Where an upgrade is necessary to correct a fault, the parties should receive notice, preserve the earlier code, and record who authorised the change. A transparent change procedure protects both the financial asset and the integrity of later evidence.

These safeguards have a cost. They reduce the simplicity of completely automatic payment and require some human administration. That cost should be acknowledged rather than hidden. In contested commercial transactions, modest procedural friction may be preferable to an immediate transfer followed by expensive and uncertain recovery proceedings. The object is useful automation, not automation at any price.

IX. Conclusion

Blockchain escrow can make commercial transactions faster and more reliable. Its strength is predictable execution. Its weakness appears when that execution precedes the lawful resolution of a disputed entitlement. An automatic transfer can bypass practical safeguards even though it cannot remove the legal rules that govern the dispute.

Indian arbitration law provides important protections concerning consent, equal treatment, notice, evidence, interim relief, awards, and judicial review. Those protections remain relevant where parties use tokens. However, their practical value may be reduced if the disputed asset moves before a tribunal or court can act.

The solution is neither to prohibit automated escrow nor to treat code as superior to law. It is to design escrow so that credible disputes can pause release, urgent protection remains possible, decisions are properly recorded, and unjustified transfers can be recovered. Automation should improve payment without making procedural fairness optional.