

Legal Status and Enforceability of Smart Contracts and Decentralized Autonomous Organizations (Daos) under Indian Law: A Comprehensive Analysis

Author- **Kunal Sharma**

amity university lucknow campus

Co-author- **Kunvar Dushyant singh**


faculty of law , amity Lucknow campus



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Abstract

This paper is written to evaluate and describe the legality of ‘smart contracts and DAOs. While traditional contracts provide general foundational elements which only fulfills the legal relation criteria. Application of these principles to blockchain based smart contract is very equivocal although, the concept itself provides numerous pros like technological efficiency and self-execution etc. This paper highlights the need to bridge the gap between legal doctrine and code-based execution through the development of legal framework.

Furthermore, it explores the critical position of DAOs, which operate without centralized governance. By analyzing emerging global approaches and regulatory opinions, this paper highlights the essential need of innovation and compliance in this concept.

Introduction

In Indian legal mechanism, the legality of smart contract and DAO is still in evolutionary phase and lacks clear Statute. While Indian contract law lays down major principles

Such as -

. Offer

. Acceptance

. Consideration

. Intention to create legal relations

. Capacity that governs traditional contracts

But all these above-mentioned factors don't lead to formation of smart contract. However, if a smart contract fulfills these requirements, then, it can be forged into a solid legal semantics.

‘Recent research showcases the importance of formalizing smart contracts using legally compliant smart contract languages that can encapsulate the contract's legality in contemporary world. Therefore, it is necessary to bridge the gap between code and law to enhance its enforceability.’¹

This concept is in very Nascent Stage in Indian jurisprudence because it lacks explicit statutory framework which can specifically define the legal personality akin to that of corporation or registered entities. This absence leads to systemic challenges in enforcements and governance under Indian law.

Following issues such as-

1. Institution of liability.
2. Accountability.
3. Legal standing in courts are complex process.

These issues mirror the shortcomings faced by corporate associations or partnerships .

Ongoing discussions and legislations in India showcase a growing trend of ‘blockchain technology’ awareness and significance. These developments seriously need to be materialized into binding statues, so that it can be put into legal integration.

International scholars advocate for a new approach to accommodate DAOs, by recognizing their traits like-

1. Decentralization
2. Automation
3. Collective governance

‘It needs significant adaptations to reconcile blockchain’s technical characteristics with principle of enforceability and legal compliance ‘²

Part I: Legal Framework for Smart Contracts Under Indian Law

Nascent stage of smart contract made them face multiple regulatory and enforcement. Due to lack of legal statutory framework, it makes its implementation frail.

Key Legal Issues which weaken the legal recognition of smart contract-

- 1- No explicit accommodation of prerequisite of smart contract.
- 2- Lack of proper automated execution.
- 3- Immutability and decentralization.

These uncertainty makes this concept ineffectual.

Regulatory concerns like data privacy, jurisdiction and security needs solid look into the decentralized and immutable nature of black chain challenges data privacy norms under laws like the Information and technology act 2000, and evolving privacy framework inspired by global regulations such as GDPR.

Every country has theory own jurisdiction within their territory they can adjudge the mechanism better, but it makes it improbable to look for cross border dispute regarding it.

Traditional contracts have arbitral remedies which may not seamlessly fit the automated and code-based execution.

¹ “Dwivedi, Norta, et al., 2021; Dwivedi, Pattanaik, et al., 2021”

² “Chambefort & Chaudey, 2024; Santana & Albareda, 2022”

To address these gaps-

'Policy makers need to form a technological – legal framework that harmonize blockchain innovation with Indian's legal principles like –

- 1- Incorporating legally compliant automated clauses.
- 2- Establishing hybrid on/off chain mechanism allowing human intervention for dispute resolution or contract modification.
- 3- Integrating AI tools to monitor and detect fraud.
- 4- Cross sector collaboration among legal experts.
- 5- Technologist.
- 6- Data privacy.

Emerging solution highlights the need for interdisciplinary methods, legal tec synchronization and adaptive regulatory statute to make this concept feasible in real life.’³

Part II: Decentralized Autonomous Organizations (DAOs) Under Indian Law

Currently, this concept is in purview of grey area- marked by multiple challenges related to their novel decentralized structure, governance mechanism and legal recognition.

A fundamental legal challenge is the absence of explicit recognition of DAOs within Indian Corporate, contract, or regulatory statutes. Indian laws governing company require a registered entity to be. Held responsible for the compliance and liability.

It generally lacks centralized governing body, but at the same stance, decentralized nature also impedes the straightforward application of duties, rules, insider trading.

Governance within DAOs is typically complex, simply due to contractual commitments remains unclear.

From regulatory Stance:

DAO engaged in decentralized finance (DeFi) or Tokenized fundraising may implicate Indian security regulations, which require clear issuer identification and adherence to disclosure norms. Indeed, it challenges the data privacy under IT act And Data personal and data protection act provisions.

Enforcement of DAO-related disputes under Indian jurisdiction faces practical difficulties. The distributed nature and the use of global blockchain networks create challenges in establishing jurisdiction and executing judgments, particularly when parties or nodes are located outside India. Notwithstanding these challenges, some frameworks and models proposed internationally could guide India's approach toward DAOs. For example, theoretical frameworks for assessing “sufficient decentralization” based on dimensions like token-weighted voting, governance structure, and escalation protocols may help determine regulatory applicability. Regulatory compliance tools integrating on-chain audit generation and dynamic governance optimization, as proposed in U.S.-based DAO research, could serve as a model for ensuring transparency and legal conformity while preserving decentralization. Likewise, innovative governance improvements addressing vote concentration (“whale problem”) and collusion using voting mechanisms like quadratic voting combined with vote escrow tokens suggest approaches to mitigate centralization risks within DAOs.

3 “Ladleif & Weske, 2019; Levy, 2017; Rahman, 2025; Szabo et al., 2024).”

Conclusion:

The growth and emergence of smart contract and Decentralized Autonomous Organizations draws out a fundamental shift in how legal relation are formed, governed and enforced. This paper demonstrates, the existing statutory framework such as Indian contract act 1872 and the companies act 2013 are made for world of paperwork and centralized authority.

Applying these to Decentralized Autonomous Organizations will only leads to friction in mechanism. Smart contract despite their ‘technological elegance’ and capacity for self- executing creates ambiguity in India. A contract which can’t be efficiently disputed or mediated is only depended on the mere trust of the parties which defeats its purpose.

DAO presents an intricate challenge. They do not have registered entity or centralized body. If something goes wrong in smart contract, then there is no legal backing and that leads to legal inconvenience.

Yet, India needs to adapt the technicalities, and we can see certain growth in past future legislative trajectory like IT Act 2000 to Data Personal and Protection Act 2023.

Now, India needs formally recognize smart contract. So, here question is not whether smart contract and DAO will become part of India’s commercial and legal reality. The reality or just wait for the damage and then actions will be taken afterwards.