

SMART CONTRACTS & LEGAL VALIDITY IN INDIA: A TICKING TIME BOMB FOR TRADITIONAL AGREEMENTS!

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I. Abstract

The arrival of contracts which are smart has brought a pattern shift in the way agreements are carried off in terms of their performance as well as their implementation. Basically, the smart contracts run on a block chain type of codes, which means that they can also be called as a self-executing contracts because they emerge up with promising features of being efficient, transparent, and most importantly they reduce the dependency on intermediaries. However, in India there are certain growing issues in terms of the adoption of such smart contracts leading to legal and regulatory questions arising.

Now, obviously when smart contracts come up with such efficient automated code driven contracts so talking about the traditional agreements which are long governed by well-established legal framework, definitely may face certain challenges in terms of their interpretation, enforceability and also the comparison with the contracts which are smart.

This article focuses and explores the legal validity of smart contracts in India, also diving deep and examining their true potential to break the common practices of traditional agreements and try to fill up the regulatory gaps that exist. Now, by analyzing the current legal scenario and expected future challenges, it aims to provide awareness into whether smart contracts are truly a revolutionary tool or a ticking time bomb for the traditional agreements.

II. Introduction

Smart contracts with their features are transforming the way agreements are made, executed, and implemented. Unlike the case with the traditional contracts or agreements that completely depend upon human intervention and legal administration, as we know that smart contracts are self-running programs that automatically activates actions when certain predefined conditions are met. In India, the adoption of the contracts which are smart is still in the early stages, but we can't deny the fact of their potential impact on business transactions, legal practice, and contractual certainty is notable and important. Definitely, smart contracts do offer the speed,

transparency, and cost efficiency, but also we can't ignore the fact that these contracts also pose certain unique challenges, including questions about their legal recognition, to what extent are they enforceable, and what liabilities they bring with them. So, this introduction sets the stage for examining whether these digital agreements or smart contracts are a promising innovation which is its visionary concept or a disruptive force that could disturb the traditional contractual frameworks.

III. Understanding Smart Contracts

Talking about the core of smart contracts they are self-executing programs having the terms of an agreement which is directly written

into codes that run on a block chain. The most important and best part about them is that they automatically execute actions when certain predefined requirements are met, eliminating the need for intermediaries like lawyers or banks making them fast, transparent and also secure because the code is fixed and inflexible and their execution is managed by a chain of distributed network.

Unlike traditional contracts or agreements, which require manual supervision, legal analysis, and application through courts or intermediaries, where on the other hand smart contracts operate in a self-executing manner. For example, on delivery of the goods the payment could be automatically released, or shares could be transferred instantly once agreed-upon the predefined terms and are fulfilled.²¹³

Having, the idea that smart contracts are originally based on certain predefined conditions which make sure that transactions are safe, transparent and tamper-proof. The code defines the rules and penalties, much likely in the same manner as traditional contracts, but the implementation is automatic and distributed which are the main features of a block chain.

However, by the reduction of intermediary involvement they definitely reduce human error and enhance efficiency but their sole dependency on coding also introduces certain new challenges like errors or faults in the code that can lead to unexpected consequences, and the specific conditions or details may be difficult to capture fully in a coding format.

In India, to understand the smart contracts it involves not only knowing the technology but also recognizing the legal context in which they work. The Information Technology Act and provisions of the Indian Contract Act provide some basis for recognizing electronic contracts, but there is still confusion and gap regarding the fully automated, block chain based agreements.

IV. Legal Framework for Contracts in India

In India, the legal base for contracts is initially governed by the Indian Contract Act, 1872, which states the essential elements required for a valid contract like valid offer and acceptance, consideration being lawful, a consent to be free in capacity of parties, and legality of object, without these conditions which are definitely required for a contract to be valid, if even one goes missing there can be no valid contract.²¹⁴

A contract, in the traditional sense, is an agreement enforceable by law, and its application often depends on the courts, which consider the intention of the parties, the terms of the agreement, and the surrounding circumstances.

Along with the Contract Act, there are also other laws playing a vital role in regulating the agreements in India. The Information Technology Act recognizes electronic records as well as digital signatures which providing a legal basis for electronic contracts and electronic transactions. Certain specialized laws, such as the Companies Act, 2013, SEBI regulations for securities transactions, and the Consumer Protection Act, 2019, further shape contractual obligations in various specific sectors.²¹⁵

While these regulations support the validity of agreements which are executed electronically but also they do not put light on self-execution method or code-based smart contracts. We know that the traditional contracts rely on human judgment and judicial intervention to resolve disputes, whereas smart contracts execute automatically, leaving little or no room for intervention.

This gap or lacuna in the legal framework bring us both opportunities and also certain challenges which are like while smart contracts could increase efficiency and transparency without any doubt but their application under already existing laws remains questionable,

²¹⁴https://www.researchgate.net/publication/373280600_Smart_Contracts_Functioning_and_Legal_Enforceability_In_India

²¹⁵<https://www.mondaq.com/india/contracts-and-commercial-law/1673136/smart-contracts-unlocked-automation-legal-status-and-real-world-impac>

²¹³ <https://www.signzy.com/blogs/smart-contracts-an-indian-perspective>

especially in complex transactions or in case of faults or errors in the code.

Here, there is a need of a thorough understanding of India's laws in relation to contracts also combined with awareness of what are the technological limitations and is therefore crucial and important for calculating the legal stand of smart contracts and their potential application into mainstream practices.

V. Smart Contracts and The Indian Legal System: Where we stand

The Indian legal system is gradually coming to terms with the concept of smart contracts, but several lacunas still remain. While electronic contracts are legally recognized under the Information Technology Act, 2000, on the other hand smart contracts, which are based on self-execution and block chain based features, occupy a gray area. The fact that the courts in India have not yet really specified the issues which are arising from fully automated smart contracts and in result they leave questions about their liability and execution largely being unanswered.

From a legal or regulatory perspective, we know that there is no separate or dedicated law for block chain or smart contracts. Existing laws such as the Indian Contract Act, 1872, definitely provided some coverage for electronic agreements, but they were drafted with traditional human-mediated contracts in mind. This mismatch raises challenges for example, if there is a coding fault or error then will it lead to the breach of contract, or how remedies should be applied when a smart contract executes automatically against a party's intention.²¹⁶

Despite these gaps, businesses and new startups in India are increasingly exploring and using smart contracts in finance, supply chain management, insurance, and real estate. Despite the fact of these contracts having potential benefits still they are compelling, yet the legal clarity remains critical and unanswered.

For the smart contracts to gain positive widespread adoption, India will need either or both of the two whether it be judicial precedents or legal guidelines that will solely address the unique nature of these automated agreements. In essence, India stands nowhere but in the middle where smart contracts offer innovation and efficiency, but the legal system is still catching up, leaving the practitioners and businesses to navigate with caution.

VI. Legal Challenges

1. Lack of legal recognition

The primary challenges faced by the smart contracts in India are the lack of proper and defined legal recognition. Talking about the foundation for electronic agreements which are already stated in existing Indian laws like the Indian Contract Act, 1872, and the Information Technology Act, 2000, but on the other hand they do not hold any accountability for the contracts which are code driven and also are self-executing. Now, this results in creation of various uncertainties about whether the courts would apply smart contracts in the event of arising of a dispute, leaving the parties hesitant to trust completely on automated agreements.

2. Ambiguity in consent

Traditional contracts emphasize the importance of free and informed consent. In smart contracts, consent is often implied through the act of initiating the code or clicking "agree" on a digital platform. However, there can be certain questions arising like what if a party is unaware of the terms of full application of the automated terms or what if the code contains technical faults and errors. Like, such ambiguities can lead to disputes over whether honest and willful consent was obtained or not, complicating implementation under existing laws.

3. Unclear jurisdictional boundaries

Smart contracts operate on distributed block chain networks, often crossing national and state boundaries to be specific but somewhere this raises questions about jurisdiction and the law which is applicable. In cases where the dispute arises between parties which are

²¹⁶
<https://www.lawjournals.org/assets/archives/2025/vol11issue7/11154.pdf>

located in different jurisdictions, it becomes very unclear and ambiguous for which court or legal framework would have the authority, thus resulting in the creation of a significant legal challenge in an interconnected digital environment.

4. Irreversible errors

Those errors which cannot be fixed are commonly also referred as the permanent errors. Block chain's irreversibility are the two sides of the same coin because while it ensures that transactions cannot be altered or tampered with, it also means that any fault in the contract code cannot be easily corrected once deployed. A minor coding mistake can result to unintended actions which can also lead to potential financial losses or breaches. As we know that the traditional agreements provides certain remedies for mistakes or misrepresentations but applying these remedies to an irreversible digital contract remains complex and critical.

5. Adjudication & dispute resolution

The disputes which involve the smart contracts challenge the standard adjudication methods. We know that the courts are used to interpret human-readable contracts only, not coded contracts which are the smart ones. So, these results in the determination of liability, interpreting automated execution, and awarding remedies become complicated and difficult when judicial systems lack technical expertise. So, without the clear and unambiguous guidelines for dispute resolution, parties may face problems to enforce their rights and resolve conflicts in an effective manner.

VII. The Ticking Time Bomb: Disruption or Co-existence?

There is a good reason like why the smart contracts are often described as a "ticking time bomb" for the traditional agreements. Also, the smart contracts have certain key potentials with them like the automation feature they carry and the reliance on the block chain technology,

which can significantly throw the traditional contract practices into disorder.

We also know that the traditional agreements completely have their dependence on the human supervision or interpretations also there are continuous involvement of the courts and the intermediaries, whereas on the other hand in case of the smart contracts this situation is completely different because they operate independently and their execution terms are automatic and irreversible. Now, this raises certain concerns for the businesses and the legal practitioners who rely on the established processes for dispute resolution.

However, talking about the keyword disruption that doesn't means for total replacement of traditional agreements with smart contracts, in fact there is growing trend or perspective regarding the smart contracts and traditional agreements could co-exist together complementing each other rather than competing with each other.

For instance, taking both in to consideration the smart contracts can automate routine transactions, while complex or high-value or legally sensitive agreements may continue to rely on traditional contract mechanisms. There are mix of approaches which are already evolving where the smart contracts can handle execution but legal documents govern interpretation and recourse in case of errors.

Ultimately, the "time bomb" phrase reflects the tension between innovation and regulation. Without clear legal regulation or frameworks including the technical safeguards, smart contracts could cause certain risks to businesses and consumers. The future will likely depend on striking a balance to use maximum strengths of automation while retaining the legal protections and flexibility in hands of the traditional agreements.

VIII. Recommendations for Legal Reform

1. Legal regulation by statute

The most crucial step for smart contracts in India is to provide them with explicit statutory recognition because we know that the Indian

Contract Act²¹⁷ and the Information Technology Act²¹⁸ recognize electronic contracts but also on the other hand they do not specifically hold the accountability for code based smart contracts. By the modification of the existing laws or introducing dedicated provisions, smart contracts can be given a clear legal status which will ensure to grant them their enforceability and reducing uncertainty for businesses, consumers, and courts. Legal regulation by statute would also provide a base for regulatory oversight, clarifying that smart contracts are as valid as traditional agreements in the eyes of the law.

2. Hybrid model of code and intent²¹⁹

The fact about the smart contracts is that they work on the codes which helps their execution to be done automatically, but that is not the case with traditional contracts because they are law emphasized based on intent and interpretation. So, definitely a hybrid model which combines features of both can help to reconcile the difference. Here, the result of this hybrid model will be that the execution of contract will be automated, while the legal interpretation and remedies would be based on a written record of the parties' intentions. Such a model would provide more flexibility to address issues or errors without sacrificing the benefits of automation.

3. Technical literacy

If we want the effective adoption of the smart contracts by courts or legal professionals then definitely there is need of minimum level of technical literacy. Also, for the proper enforcement one must understand that how the block chain technology works and what are its implementations in modern world. Training programs, technical guidelines, and expert panels could bridge this knowledge gap, allowing the legal system to handle smart contracts confidently and fairly.

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<https://www.indiacode.nic.in/bitstream/123456789/2187/2/A187209.pdf>

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https://www.indiacode.nic.in/bitstream/123456789/13116/1/it_act_2000_updated.pdf

²¹⁹

<https://www.journalisslp.com/index.php/isslp/article/view/321?articlesBySimilarityPage=18>

4. Dispute resolution mechanism

There is no second thought or any doubt that the traditional dispute resolution may not be fully adequate for smart contracts. So, to deal with this issue there must be the setup of specialized frameworks which must include block chain arbitration panels. These dispute resolution mechanisms would focus on the interpretation of codes with assigning of the liabilities, and to determine the remedies while balancing automation with legal principles. Also, integrating the knowledge of technical experts into dispute resolution processes can help avoid lengthy litigation and maintain trust in automated agreements.

5. Sandbox regulation

A sandbox regulation is a structure where the companies are allowed to test a new business model under controlled conditions. So, to encourage creativity with the risk management, regulators can introduce these regulations where smart contracts are tested under controlled conditions. Sandbox regulation allows to experiment with block chain based agreements, monitor performance, and identify potential legal or technical issues before large-scale deployment. This approach ensures cop up with regulatory standards and reduces the chances of financial or legal disputes arising from unforeseen contract behavior.

IX. Conclusion

Smart contracts, with their speed, transparency, and automation that traditional contracts cannot match smart contracts mark a substantial advancement in the creation and implementation of agreements. But their growth also carries with it unavoidable legal ambiguities and difficulties, ranging from consent and enforceability to jurisdictional and technical problems.

In India, while the legal system provides a foundation for electronic agreements, it has yet to fully embrace the unique nature of self-executing, block chain based contracts.

The future of smart contracts need not be confrontational. With targeted legal reforms, clear guidelines, and hybrid approaches

combining automation with traditional legal protections, smart contracts and conventional agreements can coexist.

By addressing these challenges proactively, India has the opportunity to harness the benefits of innovation while maintaining the safeguards of its legal system, ensuring that smart contracts become a tool for efficiency rather than a “ticking time bomb” for established contractual practices.

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