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Legality of Blockchain and Smart Contracts in India

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ABSTRACT

India is presently experiencing a moment of profound transformation that encompasses revisions to its constitution and legal principles. In this era of remarkable transformation, it would be imprudent to overlook the technological innovations and digital advancements that have permeated the legal domain. One particularly vital aspect in this context is the field of Contract Law. Presently, electronic contracts in India are primarily governed by The Indian Contract Act, in conjunction with the Information Technology Act and the Indian Evidence Act, unless stated otherwise. These legal frameworks provide the foundation for legally enforceable electronic contracts in the country. This research paper emphasizes the urgent requirement for a legal adaptation in the field of Contract Law to align with the ever-evolving technological landscape. It also delves into the legal intricacies associated with blockchain-based Smart Contracts, elucidating how these contracts function within the current judicial landscape. Finally, it concludes by emphasizing the necessity for a pioneering effort to regulate this dynamic domain.

Keywords: Blockchain, Smart Contracts, E-Commerce, E-Contracts, Legality

INTRODUCTION

Modern contract law is akin to a masterpiece, bearing significant influence from Greek, Roman, and Anglo-Saxon legal traditions[1]. The evolution of contract law in India has been a journey marked by various changes until it was ultimately consolidated under the Indian Contracts Act of 1872 during the colonial era. Since its enactment, this legislation has consistently served as a guiding light, illuminating the landscape of contractual jurisprudence for over fifteen decades. However, Indian contract law has faced criticism for its cumbersome processes, third-party interventions, and susceptibility to unauthorized alterations.

Nevertheless, contemporary technological innovations offer a revolutionary shift, capable of reshaping our understanding of contracts. This intellectual invention introduces a shared database of transactions, designed to enhance security, transparency, and efficiency[2], known as blockchain technology. The potential of blockchain extends far beyond mere data storage; it enables decentralized transaction Management and automates processes, regulations, and organizational principles[3]

1. Vijayakumaran, A. (2019) *Legally blocked: The evolution and legality of smart contracts, SSRN*. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3481038 (Accessed: 09 October 2023).
2. *Rofiles in NNOVATION - gspublishing.com*. Available at: https://www.gspublishing.com/content/research/en/reports/2019/09/04/a0d36f41-b16a-4788-9ac5-68ddbc941fa9.pdf (Accessed: 09 October 2023).

To facilitate these transactions, a concept known as "smart contracts" is employed. Smart contracts enhance blockchain functionality by incorporating self-executing instructions[3], with the blockchain serving as the ultimate source of truth. These contracts, which does not mandate manual verification, simplifies approval processes and offer transparent calculations[4].
However, the distinctive features that set smart contracts apart from other contractual innovations raise questions about their legality and existence. This research paper conducts an examination of different facets of smart contracts while tackling issues regarding their legal standing within the framework of Indian law.

RESEARCH OBJECTIVES

1. To evaluate the effectiveness of existing Indian laws, including The Indian Contract Act, the Information Technology Act, and the Indian Evidence Act, in addressing challenges arising from technological advancements in electronic contracts.
2. To explore the legal complexities and implications associated with blockchain-based Smart Contracts within the Indian legal system.
3. To investigate how blockchain-based Smart Contracts affect the enforceability and transparency of contracts, as well as the interests of parties involved within the Indian context.

RESEARCH QUESTIONS

1. To what extent do existing Indian laws, such as The Indian Contract Act, the Information Technology Act, and the Indian Evidence Act, effectively address the challenges presented by technological advancements in the realm of electronic contracts?
2. What are the key legal intricacies associated with blockchain-based Smart Contracts in India, and how do these contracts fit into the broader judicial landscape?
3. How do blockchain-based Smart Contracts impact the enforceability and transparency of contracts within the Indian legal system, and what are the implications for parties involved in such contracts?

CONTRACTS IN INDIA: A LEGAL PERSPECTIVE

Contracts, in essence, represent agreements between parties, yet their validity hinges on specific criteria prescribed by the governing law. A precise definition of a contract varies depending on the legal requisites stipulated by the relevant jurisdiction. In order to grasp the conceptual framework of smart contracts and their legal status in India, it is essential to understand the position of "contract" within India's legislative framework[5].

In India, Section 2(h) of the Indian Contract Act, 1872[6] (ICA) defines a contract as "an agreement enfor-

3. (November 2018) *The blockchain - nishith desai*. Available at: https://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research%20Papers/The_Blockchain.pdf (Accessed: 09 October 2023).
4. Khan, S.N. *et al.* (2021) *Blockchain Smart Contracts: Applications, challenges, and future trends - peer-to-peer networking and applications, SpringerLink*. Available at: https://link.springer.com/research paper/10.1007/s12083-021-01127-0 (Accessed: 10 October 2023).
5. *Stationing smart contract as a 'contract': A case for interpretative ...* Available at: http://nujslawreview.org/wp-content/uploads/2021/01/13.4-Pandey-Raghunath.pdf (Accessed: 10 October 2023).
6. *The Indian Contract Act, 1872 arrangement of sections - india code*. Available at: https://www.indiacode.nic.in/bitstream/123456789/2187/2/A187209.pdf (Accessed: 10 October 2023).

eable by law." Section 10[7] of the ICA delineates the essential conditions for an agreement to transform into a contract. These conditions include free consent of competent parties, a lawful consideration, a lawful object, and the absence of an express declaration of voidness. Moreover, Section 11[8] of the ICA stipulates that a person must be a major, of sound mind, and not prohibited by state laws[9] to be competent to contract. An agreement adhering to these conditions is regarded as a valid contract. However, a pertinent question arises: are electronically entered agreements legally valid? To address this inquiry, we must first understand the concept of electronic contracts.

Electronic Contracts:

Electronic contracts, often referred to as e-contracts, are agreements formed within the realm of e-commerce through interactions involving electronic media, such as email[10], or communication with electronic agents, like computer programs. Examples include end-user license agreements where users accept contract terms by using, downloading, or installing software or services[11].

In the digital age, failing to acknowledge the legal nature of electronically crafted contracts would create a significant void in contractual jurisprudence. The validity of e-contracts in India is primarily governed by three key statutes: the Indian Contract Act, 1872, the Information Technology Act, 2000 (IT Act), and the Indian Evidence Act, 1872.

The IT Act aims to provide legal recognition to transactions conducted through electronic media or electronic commerce. Section 10A of the IT Act[12], introduced through an amendment in 2008, confers legal recognition upon electronic contracts. Additionally, Section 35[13] of the IT Act addresses the issuance of digital signatures, emphasizing the necessity of obtaining them from government-designated certifying authorities. These digital signatures serve as crucial proof of identity in the digital realm and are vital for authenticating electronic documents, guarding against online misrepresentation and identity forgery.

The dynamic nature of the digital world raises an important question: Can it coexist with the enduring Indian legal system? The answer to this question lies in Sections 65A and 65B of the Indian Evidence Act, 1872[14].

Section 65A of the Indian Evidence Act, 1872 recognizes electronic documents. Section 65B establishes that information contained in an electronic record generated by a computer shall be deemed as evidence if certain conditions are met[15]. These conditions include the record being produced from a computer in

7. Indian Contract Act, 1872 [hereinafter, ICA, 1872]. 11 *Id*.
8. *d*. at §11.
9. Ann O'Connell, A. (2023) *Legal Guide to Electronic Contracts and electronic signatures*, *www.nolo.com*. Available at: https://www.nolo.com/legal-encyclopedia/electronic-signatures-online-contracts-29495.html (Accessed: 10 October 2023).
10. US Legal, Inc. *Find a legal form in minutes*, *E*. Available at: https://definitions.uslegal.com/e/e-contract (Accessed: 10 October 2023).
11. *Id.*
12. (2000) *Ministry of Law, justice and company - eprocure.gov.in*. Available at: https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdlcswfjdelrquehwuxcfmijmuixngudufgbuubgubfugbububjxcgfvsbdihbgfGhdfgFHytyhRtMjk4NzY= (Accessed: 10 October 2023).
13. *Id.* at §35.
14. (13 March 2020) *The indian evidence act, 1872 last updated:-13-3-2020 R F ... - india code*. Available at: https://www.indiacode.nic.in/bitstream/123456789/15351/1/iea_1872.pdf (Accessed: 10 October 2023).
15. Sharma, M.K. and Gupta, S. (2021) *E-signing of contract and documents in India*, *Lexology*. Available at: https://www.lexology.com/library/detail.aspx?g=c49488a8-7417-4920-a056-b7d1e4cd363b. (Accessed: 10 October 2023).

regular use, under lawful control, during ordinary activities, in proper working condition, and with regular updates[16]. Given the recognition of e-contracts, one may wonder what prevents smart contracts from being legally recognized. To understand this, it is imperative to distinguish smart contracts from other e-contracts, necessitating a deep dive into the workings of blockchain technology.

THE ASCENDANCE OF BLOCKCHAIN TECHNOLOGY

The wave of interest in understanding the revolutionary blockchain technology-based smart contracts in India began around 2017 when SBI launched the "bank chain" platform, a consortium of 27 banks designed to share e-KYC information[17]. This announcement was followed by a deluge of articles in leading newspapers, dissecting the pros and cons of blockchain-based technologies[18].

However, the term "blockchain" first gained global prominence in 2008 when an enigmatic figure or group known as Satoshi Nakamoto used it as a public transaction ledger for the cryptocurrency Bitcoin[19]. To truly comprehend the significance of smart contracts, it is imperative to delve into the workings of blockchain technology.

Blockchain represents a novel database technology in which information is shared across a network of users, with each user maintaining a comprehensive and up-to-date copy of records. The core strength of blockchain lies in how information is stored, duplicated, and updated within a distributed ledger, rendering it reliable and transparent. An inherent feature of blockchain is its decentralized nature; it is not controlled by a single central authority. Instead, it operates through "nodes," which constitute a network of participating computers.

These nodes function as the custodians of publicly transacted data, ensuring its storage, updates, and security. Every node has a duplicate of the blockchain. database, and these copies remain in synchronization with one another through a set of cryptographically-enforced rules, known as a consensus algorithm. The blockchain's integrity is upheld by a cryptographic process called a hash function, which swiftly identifies and rejects any attempt to alter the database.

Subsequent to this peer-to-peer broadcasting, the next step involves aggregating transactions into a block. Each block has a reference to another block, collectively forming the "chain" in the blockchain. This linkage ensures that third parties cannot tamper with the transactions. These transactions are based on mathematical logic and lack a reliance on trust. Any modification to any aspect of a transaction or a block result in a distinct "hash."

This emerging technology boasts a myriad of features warranting exploration. Its technological attributes encompass transparency, timestamps, immutability, irrevocability, and programmability. Its capacity to facilitate the exchange of entirely Digital assets can be exchanged without the involvement of a third-party intermediary that needs to be trusted. The statement, "has the potential to reshape the global financial" can be rewritten as "has the potential to transform the global financial landscape.

16. Sharma, M.K. and Gupta, S. (2021) *E-signing of contract and documents in India*, *Lexology*. Available at: https://www.lexology.com/library/detail.aspx?g=c49488a8-7417-4920-a056-b7d1e4cd363b. (Accessed: 10 October 2023).
17. *Ibid*
18. *Indian Institute of Banking & Finance (IIBF)*. Available at: https://iibf.org.in/documents/BankQuest/BankQuestJuly-September20211004.pdf (Accessed: 10 October 2023).
19. Frankenfield, J. (no date) *What is bitcoin? how to mine, buy, and use it*, *Investopedia*. Available at: https://www.investopedia.com/terms/b/bitcoin.asp (Accessed: 11 October 2023).

WHAT ARE SMART CONTRACTS?

Smart contracts represent a pivotal aspect of blockchain technology. The term "smart contract" is rather self-explanatory, though the term "smartness" might seem misleading. The true brilliance of a smart contract lies in its decentralized, third-party-free execution, where parties engage in agreements governed by programmed code, rendering it "smart."

In an ever-evolving technological and legal landscape, the conceptual definitions of terms and analogies are continually in flux. The notion of the smart contract is no exception to this dynamic state of change. The earliest definition of a smart contract can be traced back to Nick Szabo's 1995 paper, "Smart Contracts: Building Blocks for Digital Markets." Szabo defined a traditional contract as "a set of promises agreed to in a meeting of the minds, to formalize a relationship." He then described a smart contract as "a set of promises, specified in digital form, including protocols within which the parties perform on the other promises."

Based on Szabo's definition, the key components include:

1. **"A set of promises"** – These promises can be contractual or non-contractual, depending on the smart contract model. The terms of the contract and equivalent functional outcomes are determined by the business logic embedded in the software code[20].
2. **"Specified in digital form"** – Refers to the lines of code and software that define the contract.
3. **"Protocols"** – Computer protocols are algorithms that establish rules for processing data in technologically enabled, rule-based operations.
4. **"Within which the parties perform"** – Denotes the blockchain technology that underlies the automation and irrevocability of smart contracts.

Another well-regarded definition of smart contracts comes from Christopher D. Clack in his manuscript titled "Smart Contract Templates: Foundations, Design Landscape and Research Directions." He defines a smart contract as "an agreement whose execution is both automatable and enforceable.

Automatable by a computer, although some parts may require human input and control. Enforceable through legal enforcement of rights and obligations or tamper-proof execution." This definition recognizes that defining a contract and inputting code necessitates human cognition, while the smart contract automates execution based on predetermined parameters, maintaining control over the elements required for execution.

The vending machine serves as the simplest real-life example of a smart contract, as illustrated by Szabo. When payment is made, a set of irreversible actions is triggered, and the machine enforces the terms of the deal by calculating and dispensing the customer's selected product and change. This model closely resembles that of a smart contract.

However, more complex transactions require intricate programming. For instance, obligations like payment and delivery can be programmed to self-execute once algorithm-based calculations are in place. Such contracts reduce the resources needed for contract management significantly.

Additionally, a decentralized and mathematically verified process eliminates the requirement for trust-based execution of contractual obligations. This capability can be harnessed effectively In fields like supply chain management and trade finance, significant advancements have been made in recent years. documentation, automating processes.

20. Ibid

Financial institutions like Barclays, headquartered in London, have embraced smart contract templates, supported by R3, to automate legal documentation in financial transactions. Startups like Chain, that utilize blockchain technology for managing and negotiating smart contracts, catering to the evolving landscape of technology-driven contracts.

However, a fundamental question remains: Are smart contracts legally considered "contracts" in the general legal sense?

EXPLORING CONTRACTUAL DIMENSIONS OF SMART CONTRACTS

Our previous discussion has revolved around the evolution and integration of blockchain-based smart contracts within the global financial landscape. However, a more challenging question emerges: Do smart contracts truly qualify as contracts in the conventional legal sense? In the second part of this paper, we delve into the analysis of smart contracts in comparison to generally enforceable traditional contracts, exploring their compatibility as well as discrepancies within the smart contract ecosystem.

Proposal, Acceptance, and Consideration:

Under Indian law, the creation of a legally enforceable contract typically requires demonstrating the proposal, acceptance, and the meeting of minds between the parties. Section 2(a) states that an offer is made when a party expresses their willingness to perform or abstain from performing a specific action. In a distributed ledger environment, this would likely constitute an offer if other participants can interact with and execute the code. For example, in algorithmic trading, parties use computerized algorithms as negotiators before a contract is formed, allowing them to select order terms for the market.

Section 2(b) of the Indian Contract Act, defines acceptance as the act of signifying assent by the person to whom the proposal is made. In the context of a smart contract, the proposer or any participant on the ledger may indicate acceptance by signing the transaction using a private key. Section 2(d) explains consideration as an act or abstinence performed at the promisor's request by the promisee. This value can be given at the time prescribed.

The Challenge of Immutability

Max Raskin, in his paper titled "The Law and Legality of Smart Contracts[21]," distinguishes contracts into two categories: strong and weak contracts. A contract that can be easily altered by a court is considered weak, while a contract is strong if modifying it involves substantial costs that render such alterations nonsensical.

Smart contracts fall into the category of stronger contracts. For instance, consider a hypothetical contract where a party is obliged to deliver a certain quantity of milk upon the dispersal of funds. If the mechanism for enforcing the funds' dispersal involves a counting machine, the contract may not necessarily be executed if one party's conduct can be altered by a court's decision to excuse performance.

However, if this contract were entered into a blockchain, the parties establish an agreement, encode it to meet their specifications, and then execute it. In this scenario, the performance of the second party is automatically linked to the first party's dispersal of funds. Should a party wish to terminate the contract or fail to fulfil their obligations with valid reasons, the immutability of smart contracts presents a unique challenge, as the parties cannot roll back the transaction. This is an unprecedented situation that warrants further consideration.

21. *The law and legality of smart contracts*. Available at: https://georgetownlawtechreview.org/wp-content/uploads/2017/05/Raskin-1-GEO.-L.-TECH.-REV.-305-.pdf (Accessed: 15 October 2023).

Conscionability Test

Another pressing concern relates to the conscionability of agreements formed through smart contracts. The Law Commission's 199th report in 2016 emphasized Section 16 of the Indian Contract Act, which addresses inequalities in bargaining power due to one party's unfair advantage over the other. It was proposed that the court should examine substantive unfairness and provide relief if the terms are found to be unjust and unconscionable[22]. In the context of smart contracts, where the potential of this crucial part of the Indian Contract Act remains uncertain, the terms governing damages awarded under smart contracts may fail the conscionability test[23].

Non-Adherence to CFTC Framework

In 2017, a blockchain-based sharing of KYC data among banks was introduced, albeit limited to record-keeping and information sharing[24]. Cryptocurrencies have long been a contentious topic for the Reserve Bank of India (RBI). In 2018, the RBI issued a circular prohibiting regulated financial institutions from engaging with virtual currencies[25].

However, the issue of whether cryptocurrencies can be considered non-monetary consideration for a contract, akin to the Commodities Futures Trading Commission (CFTC) recognizing bitcoin as a commodity and taxing it accordingly, raises a complex question contradicting the RBI's policy. This becomes particularly relevant in light of the CFTC's order to the National Stock Exchange (NSE) in May 2018, allowing members to accept U.S. customer funds for trading in futures and options contracts without the need to register with the CFTC as a futures commission merchant, under its program of regulatory deference to foreign regulatory frameworks[26].

These multifaceted issues underline the intricate nature of smart contracts and their relationship with the existing legal framework, calling for further exploration and clarity.

THE NEED FOR A LEGISLATIVE FRAMEWORK

Legal recognition is a fundamental ideal necessary for upholding justice among parties involved. However, a significant void exists in the current legal landscape regarding the definition and establishment of a legal framework for blockchain-based contracts. This void requires immediate attention and resolution.

The Indian Contract Act already acknowledges legally enforceable agreements as "contracts." Simultaneously, the Information Technology Act, in conjunction with the Indian Contract Act, confers legality to electronic contracts (e-contracts). Nevertheless, what poses a substantial challenge for both policymakers and those who benefit from these policies, The absence of a comprehensive legislative framework is causing confusion and hindering progress. blockchain-based contracts.

Presently, the governmental efforts to shape policies related to blockchain technology are primarily focused on the regulation of cryptocurrency. In 2017, an inter-ministerial committee was established to investigate cryptocurrency-related issues. The committee presented its report on February 28th, 2019.,

22. *Ibid*
23. *199th report on unfair (procedural and substantive) terms in ...* Available at: https://indiankanoon.org/doc/140848451/ (Accessed: 16 October 2023).
24. *Ibid*
25. *Ibid*
26. Saidha, M.K. (2021) *Smart contracts and cryptocurrency – is it time to revisit the bounds of consideration?, IRCCL*. Available at: https://www.irccl.in/post/smart-contracts-and-cryptocurrency-is-it-time-to-revisit-the-bounds-of-consideration (Accessed: 16 October 2023).

subsequently introducing a draft bill that sought to ban the use of cryptocurrency.

This proposed legislation aimed to prohibit cryptocurrency usage and criminalize activities such as mining, buying, holding, selling, dealing, and issuance. Often, people mistakenly associate cryptocurrency with smart contracts. It is important to note that cryptocurrency represents only one facet of blockchain technology, while smart contracts constitute another. The government's recognition of blockchain technology's potential, as indicated in the committee report submitted in August, was unexpected given its earlier reluctance towards cryptocurrencies[27]. This bodes well for the acknowledgment of smart contracts.

The effectiveness of a law in society depends on its ability to encompass and recognize a comprehensive set of rights, duties, and obligations. In many societies and jurisdictions, legal recognition involves records, forms, documents, and other tangible artifacts[28]. The requirement for a digital signature imparts evidentiary value to an electronic agreement, recognizing the legality of e-contracts.

However, whether this recognition extends to the hash function of a smart contract remains a subject of debate[29]. The Chamber of Digital Commerce, an American advocacy group, suggests that it should. If the conditions outlined in the Indian Contract Act are met, even an agreement formed through a distributed ledger may hold legal significance. This is the gray area that researchers, legal scholars, and policymakers need to scrutinize[30].

In terms of global treatment of smart contracts, Italy became the first country to establish a comprehensive legal foundation for them. The Italian law defines smart contracts as software based on Distributed Ledger Technology (DLTs) that automatically enforces the agreed-upon terms once the relevant ledger entry has been validated[31]. According to the law, smart contracts are legally equivalent to traditional contracts, provided that the digital authentication of the parties adheres to the method The guidelines established by the Agency for Digital Italy. (Agenzia per l'Italia Digitale – AGID).

Several U.S. states have also taken significant steps to incorporate blockchain and smart contracts into their financial and legal frameworks. For instance, in 2017, the state of Arizona enacted a law that granted smart contracts the same legal status as any other contract. The state of Delaware introduced the Delaware blockchain initiative, accompanied by an amendment to Delaware Corporation Law to delve deeper into blockchain technology[32]. Smart contracts have also been incorporated into the legislative frameworks of states such as Vermont, Nevada, Hawaii, New Hampshire, Illinois, and others.

27. *Blockchain technologies and IP Ecosystems: A wipo white paper*. Available at: https://www.wipo.int/export/sites/www/cws/en/pdf/blockchain-for-ip-ecosystem-whitepaper.pdf (Accessed: 16 October 2023).
28. *Legal protection of human rights - manual for human rights education with young people - www.coe.int* (no date) *Manual for Human Rights Education with Young people*. Available at: https://www.coe.int/en/web/compass/legal-protection-of-human-rights (Accessed: 16 October 2023).
29. Zhang, L. *et al.* (2022) *A survey of application research based on Blockchain Smart Contract - Wireless Networks, SpringerLink*. Available at: https://link.springer.com/article/10.1007/s11276-021-02874-x (Accessed: 16 October 2023).
30. Author links open overlay panelHorst Treiblmaier a *et al.* (2021) *The impact of blockchain on e-commerce: A framework for salient research topics, Electronic Commerce Research and Applications*. Available at: https://www.sciencedirect.com/science/article/pii/S1567422321000260 (Accessed: 16 October 2023).
31. Squerzoni, F. (2019) *Blockchain and smart contracts: Italy first to recognize an overarching legal foundation - contracts and commercial law - italy, Blockchain And Smart Contracts: Italy First To Recognize An Overarching Legal Foundation - Contracts and Commercial Law - Italy*. Available at: https://www.mondaq.com/italy/contracts-and-commercial-law/782378/blockchain-and-smart-contracts-italy-first-to-recognize-an-overarching-legal-foundation (Accessed: 16 October 2023).
32. Sorelle Friedler, S.V. *et al.* (2022) *Blockchain and U.S. state governments: An initial assessment, Brookings*. Available at: https://www.brookings.edu/articles/blockchain-and-u-s-state-governments-an-initial-assessment/ (Accessed: 16 October 2023).

In the Indian context, what is needed is legislation in line with these established frameworks. It is always better to make an attempt and potentially fail than to never make an effort at all.

RECOMMENDATIONS

It is imperative that India introduces its blockchain legislation. One of the most prudent approaches for India to develop legislation in these complex areas would be to adopt and adapt a comprehensive legal framework, similar to those in Western nations. This endeavour should follow a multi-pronged strategy with a clear goal of minimizing uncertainty. Effective legislation should anticipate and address foreseeable challenges that may arise in the future. If India seeks to legislate on blockchain and smart contracts, the law should address several major concerns[33].

A significant challenge with smart contracts is their immutability, meaning that once parties enter into a contract, it cannot be reversed[34]. A solution to this lies within contract jurisprudence itself. Courts can require parties to amend the original contract and create a new one. This new contract would effectively exchange the positions outlined in the original contract, thus undoing its effects. This approach can be applied in cases where there was no mutual agreement or when the parties involved in the blockchain were legally incapable of entering into a contract[35].

Another pressing concern is determining which law should apply when parties to a contract are from different countries. In such situations, the traditional "lex loci contractus" theory, which applies the laws of the place where the contract was formed, may not be sufficient[36]. This approach allows for a common choice of law without harmonizing the actual laws[37].

Evidentiality related to smart contracts is another issue that can be resolved by legalizing smart contracts. To address this, India should consider adopting and adapting legislation similar to Arizona and Nevada in the USA, which have granted smart contracts the same evidentiary value as electronic contracts[38]. If Indian law requires digital signatures for electronic contracts, a similar provision could be extended to smart contracts. For example, the law might state that submitting a blockchain that electronically contains the signature or verifies a person's intent to provide a signature would satisfy legal requirements[39].

Determining where to draw the legal boundaries is vital. Arizona, for instance, has enacted laws such as HB 2216 to prevent the misuse of smart contracts, specifically for tracking firearms. India should also consider establishing limits where the use of blockchain-based contracts could jeopardize public order.

33. *Draft discussion paper - niti aayog*. Available at: https://www.niti.gov.in/sites/default/files/2023-02/Blockchain_The_India_Strategy_Part_I.pdf (Accessed: 17 October 2023).
34. *What is a smart contract, and how does it work?* (no date) *Cointelegraph*. Available at: https://cointelegraph.com/learn/what-are-smart-contracts-a-beginners-guide-to-automated-agreements (Accessed: 17 October 2023).
35. Riva, G.M. (2020) *What happens in blockchain stays in blockchain. A legal solution to conflicts between digital ledgers and privacy rights*, *Frontiers*. Available at: https://www.frontiersin.org/articles/10.3389/fbloc.2020.00036/full (Accessed: 17 October 2023).
36. US Legal, Inc. (no date) *Find a legal form in minutes, Conflict of Laws*. Available at: https://conflictoflaws.uslegal.com/laws-applicable-to-contracts/lex-loci-contractus/ (Accessed: 20 October 2023).
37. (1st June 1990) *Consolidated version of the Treaty on the functioning of the ... - EUR-lex*. Available at: https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_2&format=PDF (Accessed: 20 October 2023).
38. *USA: Smart contracts definition and legality*. Available at: https://neo-project.github.io/global-blockchain-compliance-hub//united-states-of-america/USA-smart-contracts.html (Accessed: 17 October 2023).
39. (1st December 2000) *Guidelines for usage of digital signatures in e-governance - V1*. Available at: https://egovstandards.gov.in/sites/default/files/2021-07/Usage%20of%20Digital%20Signature%20in%20e-Governance%20Ver1.0.pdf (Accessed: 17 October 2023).

The taxation of smart contracts is another important consideration. While Nevada[40] decided against taxing smart contracts, implementing such taxes could generate revenue and provide the government with better contract tracking capabilities. It is important, however, that legislative action is not rushed. Italy, for example, has AgID[41] for managing digital agendas, and Delaware's blockchain initiative has led to a blockchain law. India might also benefit from creating an organization dedicated to the development and exploration of blockchain technology.

It is clear that smart contracts will significantly impact a country's legal system. India's jurisprudence is not inherently opposed to smart contracts. What India needs is a well-crafted law capable of addressing every concern thoroughly.

CONCLUSION

In conclusion, the introduction of blockchain technology into the legal domain is a remarkable development. Our exploration of the evolution and legality of blockchain-based smart contracts brings us one step closer to embracing a new era[42]. While certain aspects of smart contracts remain uncertain and ambiguous, we cannot afford to ignore such innovations. In this ever-evolving landscape, what we need is extensive research, thorough analysis, and informed policymaking.

Smart contracts have the potential to revolutionize digital contracts, offering solutions that range from small financial transactions to more complex applications in areas like insurance, logistics, and healthcare. India's initial scepticism about blockchain technology is understandable, but it should not hinder the state from crafting new legislation to regulate its use within the country. The vast possibilities of smart contracts await exploration, and the absence of a proper legal framework should no longer impede national progress[43].

In conclusion, I echo the words of Muhammed Iqbal, which resonate in the current context: "Let this be our beautiful departure from stagnation; let our minds come alive; enter another dimension; go beyond the stars, eagerly struggling to find that... which our naked eyes did not know existed; rise like a falcon born to soar and not be alone but be present amongst others[44]." It is time for India to embrace the potential of blockchain technology and smart contracts and set sail toward a new era of legal innovation.

40. (79th Session (2017)) *The people of the state of Nevada, represented in ... - nevada legislature*. Available at: https://www.leg.state.nv.us/Session/79th2017/Bills/SB/SB398_EN.pdf (Accessed: 20 October 2023).
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