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## Understanding the Convergence of Cryptocurrency and Blockchain in Legal Terms

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*The development of cryptocurrency and the use of blockchain technology have transformed the financial sector and brought about new possibilities for the collection of transactions that are decentralized and transparent as well as secure. This focus addresses the intersection of these technologies in legal contexts, more specifically, the implications for regulation, contract law, intellectual property, and other areas of conflict resolution. The paper analyses how the principle of the non-alterability of the blockchain ledger undermines the traditional aspects of evidence whilst providing avenues for more secure forms of electronic contracts and management of property rights. The paper proceeds to examine the regulation of cryptocurrencies as a way of combating money laundering and tax evasion while analyzing the complications brought by geographical jurisdictions. The paper points out the delicate balance that exists between encouraging innovation and the desire to protect consumers. The use of blockchain technology in transparency and effectiveness in legal activities like land registries and courts, among others, is also discussed. The emerging patterns elicited from the case studies and the reviewing of legal cases have been used in this paper to support the position for the need for harmonized international guidelines that will make it easier to address the challenges these technologies pose. In the end, the paper combines all research methods it argues are necessary to solve the problem. Key areas of focus include financial regulation, smart contracts, intellectual property rights, data protection, and governance. The study provides a comprehensive understanding of how blockchain and cryptocurrency are reshaping legal landscapes, paving the way for a balanced coexistence.*

**Keywords:** *cryptocurrency, blockchain, law, regulation, financial regulation, smart contracts, intellectual property, data protection, governance.*

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## INTRODUCTION

*"Cryptocurrency is not just a medium of exchange, it's a store of value, it's a unit of account."*

*-Balaji Srinivasan, Co-founder of Counsyl and former CTO of Coinbase*

The first known attempt to create a Cryptocurrency was e-cash in the 1980s. David Chaum<sup>1</sup> wrote the first whitepaper to make e-cash, and cryptocurrency is the result of many years of development by many people. The very first cryptocurrency was created by Satoshi Nakamoto which is known as Bitcoin. The Bitcoin software was made available to the public by a computer programmers' group on January 03, 2009. It releases around 21 million Bitcoins to the public. There are over 9000 cryptocurrencies there as of 2024. The global market capitalization today is around \$3.7 trillion. The Cryptocurrency market in India is projected to witness significant revenue growth, reaching approximately \$6.6 billion by 2024. The Chain of blocks that contain some specific information can be defined as a blockchain<sup>2</sup>. Blockchain works as a ledger that is constantly growing and keeps the record of all the transactions permanently in a file. This process takes place in a secure, chronological, and immutable way. Each time a block is completed in storing information, a new block is generated. Researchers Scientists Stuart Haber and W. Scott Storchella introduced the concept of blockchain technology<sup>3</sup>. They work on a practical Computational solution for digital document time-stamping that couldn't be misdated, they develop a system with the help of cryptography. In this system, the time-stamped documents are stored in a chain of blocks. Merkle Trees formed a legal corporation by developing a system called "Brunetta". It has some more features to store several documents to be collected

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<sup>1</sup> Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' (*Bitcoin.org*, 2008) <<https://bitcoin.org/bitcoin.pdf>> accessed 20 November 2024

<sup>2</sup> Michael Crosby et al., 'Blockchain Technology: Beyond Bitcoin' (2016) *Applied Innovation Review* <<https://scet.berkeley.edu/wp-content/uploads/AIR-2016-Blockchain.pdf>> accessed 20 November 2024

<sup>3</sup> Stuart Haber and W Scott Stornetta, 'How to Time-Stamp a Digital Document' (1991) 3 *Cryptology* <<https://link.springer.com/article/10.1007/BF00196791>> accessed 20 November 2024

into one block. This technology became unused when the patent came into existence in 2004 in the USA.

## **LEGALITY OF BLOCKCHAIN AND CRYPTOCURRENCY IN INDIA**

The Legality of Blockchain and Cryptocurrency in India is a bit complex. Currently, there isn't a dedicated law or regulation that governs the development, use, and operation of blockchain or distributed ledger technology (DLT)<sup>4</sup> in India. The Indian government has shown a positive attitude towards blockchain technology, with the National Institution for Transforming India Aayog<sup>5</sup>, the government's think tank, tasked with studying use cases as blockchain technology and developing viable prototypes. The Reserve Bank of India (RBI) has issued cautionary advisories about the potential financial, operational, legal, customer protection, and security-related risks associated with virtual currencies.

In 2019, a draft bill titled “Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019” was proposed, which sought to prohibit the use, issuance, transfer, mining, generation, disposal, or sale of cryptocurrencies in India. But in March 2020, the Supreme Court<sup>6</sup> of India struck down the RBI's directive prohibiting banks from providing services to crypto businesses, citing that the RBI had not provided sufficient reasons for the ban.<sup>7</sup>

### **Regulations of Blockchain and Cryptocurrency in the Indian Context -**

**The Information Technology Act 2000:** This act provides legal recognition and protection for transactions carried out through electronic data interchange and other means of electronic communication.

**The Banking Regulation Act 1949:** This act empowers the RBI to regulate financial systems in India.

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<sup>4</sup> Bhuvana R. and Sreeramana Aithal, 'RBI Distributed Ledger Technology and Blockchain - A Future of Decentralized India' (2020) International Journal of Management Technology and Social Sciences <<http://dx.doi.org/10.47992/IJMTS.2581.6012.0091>> accessed 20 November 2024

<sup>5</sup> 'Blockchain: The India Strategy' (NITI Aayog, January 2020) <[https://www.niti.gov.in/sites/default/files/2020-01/Blockchain\\_The\\_India\\_Strategy\\_Part\\_I.pdf](https://www.niti.gov.in/sites/default/files/2020-01/Blockchain_The_India_Strategy_Part_I.pdf)> accessed 20 November 2024

<sup>6</sup> Draft Banning of Cryptocurrency and Regulation of Official Digital Currency Bill 2019

<sup>7</sup> *Internet and Mobile Association of India v Reserve Bank of India* (2021) SC 2720

**The Reserve Bank of India Act 1934:** This act establishes the RBI as the central bank of India and empowers it to regulate the financial system.

**The Payment and Settlement Systems Act 2007:** This act provides a framework for the regulation and supervision of payment systems in India. The legality of cryptocurrency in India is a bit complex. While cryptocurrencies are not recognized as legal tender, trading and investing in them is legal. The Reserve Bank of India (RBI), the Ministry of Finance, and the Securities and Exchange Board of India (SEBI) are the primary regulatory bodies involved in overseeing cryptocurrency operations in the country.

### **KEY POINTS TO CONSIDER**

**Taxation:** The Income which is generated from Cryptocurrency transactions tends to be at a flat rate of 30%, with an additional 1% TDS, which is also known as Tax Deducted at the source on the transactions that exceed ₹50,000 annually.<sup>8</sup> **Regulatory Framework:** There were many myths regarding crypto-trading, but the Indian government is working on a framework to regulate cryptocurrencies, unfortunately, it's still pending. **Proposed Ban:** The ministries also proposed a bill for the cryptocurrency and its regulation for the official digital currency bill, 2021, which mainly aims to ban all private cryptocurrencies, but it is still pending; no action has been taken yet.

**Decentralized Nature:** It's a major issue to operate across borders cause it's not organized by a single operator or team within a particular jurisdiction. These things make it more challenging than it seems for regulators to determine jurisdiction, which leads to difficulty in identifying responsible entities. There are some also;

### **Technical Complexity -**

**Limited understanding of blockchain technology:** There are limited sources for understanding blockchain technology. The regulators may lack a deep understanding of blockchain technology, which makes it very tough for them to develop effective regulations. **Cryptographic techniques:** Cryptography is the process of hiding or coding information so that only the person a message was intended for can read it. The use of advanced cryptographic

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<sup>8</sup> Finance Act 2022, s 115BB

techniques in decentralized technologies is a part of the technical complexity that can make it difficult for regulators to access and analyze data.

**Enforcement Challenges:** Difficulty in tracking transactions: In a decentralized society, the technology that shows enforcement challenges provides legal anonymity, which makes regulators make a statute to track transactions, and there is also limited cooperation from international counterparts. The executioners face challenges while getting cooperation from cross-border counterparts.

**Regulatory Framework:** There is some conflict with the existing laws where peer-to-peer networking clashes with existing statutes and regulations such as the Foreign Exchange Management Act (FEMA) and the Prevention of Money Laundering Act (PMLA), and that creates a lack of clear regulations for decentralized technologies that still evolving and that leads to unclear, where making it difficult for lawmakers to regulate and enforce laws and regulations. There are some other challenges.

**Scalability:** Scalability issues define the problems that arise when a system or process in the context of technology that increased traffic, usage, or data growth struggles to handle. There seem to be some security risks in open-source technologies, making it more challenging for executives to ensure the regulations that mitigate these risks. The regulators like Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), the Ministry of Finance, Department of Economic Affairs, need to work very closely with industry stakeholders, and technology experts to develop the most effective and adaptive way that balance innovation with consumer protection and national security. There is a concept of Smart Contract law which defines a piece of code stored on a blockchain that self-executes contract terms when certain conditions are met.

**Validity of Smart Contracts:** The Indian Contract Act 1872 regulates all the contracts where agreements practiced between the parties are all considered in the Indian Contract Act 1872. Smart Contracts are also valid Contracts that meet the fundamental needs for valid Contracts, including Offer, Acceptance, and Consideration. There are some issues with smart Contracts that pose some challenges, like the immutable nature of blockchain technology that makes it difficult to change or rectify mistakes in smart Contracts. There is also an issue with e-signatory; the lack of electronic signatures in smart Contracts may revoke whole Contracts between the parties.

**Jurisdictional Issues:** In the context of smart contracts, the issues that arise are jurisdictional because they operate on a decentralized network that has no physical presence. To solve this challenge, autonomy should be granted between the parties, allowing both parties to approve on the question of jurisdiction. The government has taken steps to address this need, including the introduction of the Cryptocurrency and Regulation of Official Digital Currency Bill, 2021.

**Application of Smart Contracts:** Smart Contracts face challenges like the potential to revolutionize the way Contracts are executed and enforced. Increased efficiency, transparency, and security are the benefits it offers. There are different sectors like supply chain management, Intellectual Property Rights, and Voting systems it may apply to. The rise of Cryptocurrency has far-reaching consequences for property law and Ownership. The classification is still unclear, cryptocurrency is a legal form of 'Property' in the context of taxation.<sup>9</sup>

**Ownership and Possession:** The Ownership and Possession of Intangible goods raises a lot of questions in our increasingly digital world. As a form of currency that exists solely in cyberspace, cryptocurrency challenges the traditional notions of what it means to own something. Unlike physical assets such as cash, real estate, or tangible goods, cryptocurrencies like Bitcoin and Ethereum are intangible. The idea that ownership is not merely determined by physical control but also by one's ability to access and utilize digital wallets introduces a new paradigm for understanding possession.

**Transfer of Ownership:** The transfer of Ownership of cryptocurrency is enhanced through the blockchain. It provides a very secure and transparent record of transactions for the transfer of ownership.

**Security and Custody:** There are two important issues with cryptocurrencies that we know as security and custody. The absence of explicit rules and regulations regarding custodian liability and owner rights protection.

**Taxation and Wealth:** The impact of cryptocurrencies on wealth and taxes is that substantial cryptocurrency taxation is still developing, although the government has made it clear that

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<sup>9</sup> *Internet and Mobile Association of India v Reserve Bank of India* (2020) 10 SCC 274

profits from cryptocurrency transactions are subject to taxes. The taxation law is still being developed.

## **REGULATORY FRAMEWORK**

The implications of addressing cryptocurrency for property law and ownership need that the government has taken steps to regulate cryptocurrency on issues such as ownership, transfer, and taxation. The buying and selling of cryptocurrencies involve the following statutes:

- Income-tax Act, 1961: Cryptocurrency transactions are subject to income tax, and gains from cryptocurrency trading are taxable as capital gains.
- Goods and Services Tax (GST) Act, 2017: Cryptocurrency transactions may be subject to GST, depending on the nature of the transaction.
- Foreign Exchange Management Act (FEMA), 1999: Cryptocurrency transactions involving foreign exchange may be subject to FEMA regulations.
- Prevention of Money Laundering Act (PMLA), 2002: Cryptocurrency transactions may be subject to PMLA regulations, which aim to prevent money laundering and terrorist financing.
- Information Technology Act, 2000: Cryptocurrency transactions may be subject to IT Act regulations, which govern electronic transactions and data protection.
- Securities Contracts (Regulation) Act, 1956: Cryptocurrency transactions may be subject to SCRA regulations, which govern securities trading.
- Reserve Bank of India (RBI) Regulations: The RBI has issued guidelines and regulations for cryptocurrency transactions, including restrictions on banking services for cryptocurrency exchanges.

## **IMPLICATIONS FOR DISPUTE RESOLUTION**

**Need for Alternative Dispute Resolution Mechanisms:** The government should make ADR (alternative dispute resolution) mechanisms for smooth proceeding for the matters which may arise from this particular subject that are to be resolved in the arbitration and mediation cell for the beneficiary of people in the decentralized nature of cryptocurrencies and smart contracts.

**Role of Courts:** The courts will need to play a crucial role in resolving disputes related to cryptocurrency and smart contracts, likewise it does with all the arbitration, mediation, and tribunals like NGT, CAT, ITAT, SAT, etc., and it provides clarity on the legal framework governing these technologies.

**Establishment of a Regulatory Sandbox:** The government may establish a regulatory sandbox to allow fintech companies to test and innovate new products and services, including those related to cryptocurrency and blockchain.

## CONCLUSION

In conclusion, the rise of cryptocurrency and blockchain technology presents significant implications for property law and ownership. There are some complexities in navigating this technology while balancing to promote innovation while protecting consumers and preventing illicit activities. The Reserve Bank of India's (RBI) cautious approach to regulating cryptocurrency, as well as the government's proposal to ban private cryptocurrencies, highlights the need for clear guidance and regulations to govern the use of these technologies.

The Indian judiciary has also played a crucial role in shaping the regulatory landscape for cryptocurrency and blockchain. The Supreme Court's judgment in the *Internet and Mobile Association of India v Reserve Bank of India* case<sup>10</sup>, which struck down the RBI's ban on cryptocurrency, highlights the need for a nuanced approach to regulating these technologies.

As India continues to evolve as a hub for fintech and blockchain innovation, the government must provide a clear and supportive regulatory framework to promote the development of these technologies. This can be achieved through the establishment of a regulatory sandbox, clear guidelines on cryptocurrency taxation, and the development of a comprehensive blockchain policy. Ultimately, the future of cryptocurrency and blockchain in India will depend on the government's ability to balance innovation with regulation. By providing a clear and supportive regulatory framework, the government can help promote the development of these technologies and unlock their full potential to drive economic growth, financial inclusion, and innovation in India.

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<sup>10</sup> *Ibid*