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Original Article

Blockchain Beyond Borders: Rethinking Tanzania's Legal and Regulatory Framework for the Digital Age

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ABSTRACT

Blockchain technology highly impacts on global financial systems, digital governance, trade, and data management, hence challenging the adequacy of traditional legal and regulatory frameworks that are largely territorially bounded. In Tanzania, the emergence of blockchain-based applications, cryptocurrencies, smart contracts, and decentralised digital platforms presents both significant opportunities and complex regulatory challenges. While Tanzania has made progress in regulating aspects of the digital economy through legislation on electronic transactions, cybersecurity, data protection, and financial services, there remains no comprehensive legal framework specifically addressing blockchain technologies and their cross-border implications. This article examines the extent to which Tanzania's existing legal and regulatory architecture can respond to the realities of a borderless digital ecosystem. It argues that Tanzania's fragmented regulatory regime risks creating legal uncertainty, constraining innovation, and limiting the country's participation in the global digital economy. It proposes a forward-looking framework that balances technological innovation with regulatory certainty, financial stability, cybersecurity, and public interest considerations. Ultimately, it contends that Tanzania must move beyond reactive regulation and adopt a coherent blockchain governance strategy capable of addressing the opportunities and risks of the digital age.

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INTRODUCTION

The swift progression of blockchain technology redefines legal, economic, and governance structures globally. Although blockchain first emerged as the technological infrastructure underpinning Bitcoin, contemporary scholarship recognises it as a general-purpose distributed ledger technology with applications extending beyond cryptocurrencies to smart contracts, decentralised finance (DeFi), digital identity management, supply-chain governance, healthcare information systems, and public administration.[1] Unlike traditional information systems, blockchain operates through distributed networks that transcend territorial boundaries, challenging foundational legal concepts such as jurisdiction, sovereignty, contractual enforcement, ownership, and regulatory oversight.[2]

For Tanzania, blockchain presents a paradox. On one hand, it offers transformative opportunities to enhance transparency, improve financial inclusion, strengthen land administration, and modernise public services. On the other hand, its decentralised and borderless nature exposes significant gaps in existing legal frameworks. Tanzania's current digital governance architecture, including the Electronic Transactions Act and the Personal Data Protection Act,[3] was designed primarily for centralised digital systems and electronic commerce rather than decentralised ledger technologies (DLTs). Consequently, policymakers face the challenge of balancing innovation with legal certainty, consumer protection, data privacy, and financial stability. This article, therefore, argues that Tanzania requires a comprehensive and technology-neutral blockchain regulatory framework capable of addressing emerging legal questions while fostering innovation and economic growth.

METHODOLOGY

This article adopts a qualitative doctrinal legal research methodology to examine the adequacy of Tanzania's legal and regulatory framework in addressing the opportunities and challenges presented by blockchain technology. It primarily relies on the analysis of primary legal sources, including the statutes, regulations and policy documents governing digital technologies, financial services, data protection, and electronic transactions in Tanzania. It is complemented by a review of secondary sources, including scholarly articles, books, reports from international organisations, and comparative legal studies on blockchain regulation. The analysis identifies existing legal gaps, evaluates the extent to which Tanzania's current framework accommodates blockchain-based innovations, and proposes recommendations for a responsive, technology-neutral, and future-oriented regulatory framework that balances innovation, legal certainty, consumer protection, and public interest.

[1] Nakamoto S, *Bitcoin: A Peer-to-Peer Electronic Cash System,* 2008, pp. 1–8. Available at https://bitcoin.org/bitcoin.pdf > accessed on 24 June 2026; Swan M, *Blockchain: Blueprint for a New Economy,* O'Reilly Media, 2015, pp. 1–26; De Filippi, P., and Wright, A., *Blockchain and the Law: The Rule of Code,* Harvard University Press, 2018, 1–15; Werbach K, *The Blockchain and the New Architecture of Trust,* MIT Press, 2018, pp. 17–34.

[2] De Filippi P and Wright A, *ibid., pp.* 177–201 (discussing blockchain's challenge to territorial jurisdiction and state regulatory authority); Werbach K, *ibid., pp.* 85–104; Finck, M., *Blockchain Regulation and Governance in Europe,* Cambridge University Press, 2019, pp. 21–47. You may also wish to refer to *AA v Persons Unknown* [2019] EWHC 3556 (Comm), pp. 55– 61 (recognizing proprietary rights in crypto-assets and highlighting challenges arising from decentralized digital assets); *Ion Science Ltd v Persons Unknown* (21 December 2020, unreported) (granting disclosure orders relating to cryptocurrency fraud involving anonymous cross-border blockchain transactions); and *B2C2 Ltd v Quoine Pte Ltd* [2020] SGCA(I) 02, pp. 208– 240 (addressing contractual disputes arising from automated cryptocurrency trading systems).

[3] Cap. 442 R.E. 2023 and Cap 44 R.E. 2023 respectively.

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CONCEPTUALIZING BLOCKCHAIN

Blockchain may be defined as a distributed digital ledger that records transactions in a secure, transparent, and immutable manner across a network of computers. Unlike traditional databases controlled by a central authority, blockchain operates through a decentralised network where multiple participants maintain identical copies of the ledger. According to Don Tapscott and Alex Tapscott,[4] blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.[5]

At its core, blockchain consists of three essential components as follows;

Blocks

A block is a digital container that stores transaction data. Each block contains transaction information, a timestamp, and a cryptographic hash of the previous block. This linkage creates a chain of blocks, hence the term "blockchain."[6]

Distributed Ledger

Rather than storing data on a single server, blockchain distributes identical copies of the ledger across numerous network participants called nodes. Every participant can verify transactions independently.[7]

Consensus Mechanism

Transactions are validated through consensus protocols, such as proof of work (PoW); proof of stake (PoS); delegated proof of stake (DPoS); and practical byzantine fault tolerance (PBFT). These mechanisms ensure that participants agree on the validity of transactions without requiring a central authority.[8]

BLOCKCHAIN AND ITS LEGAL SIGNIFICANCE

It is important at this juncture to take cognisance of the fact that the significance of blockchain lies not merely in its technological architecture but in its ability to replace institutional trust with algorithmic trust. This shift of paradigms has profound legal implications because many legal systems are built upon centralised intermediaries such as banks, registrars, notaries, and governmental authorities. In this case, it is fairly pertinent to underscore and appreciate that blockchain applications embrace such things as digital currencies; smart contracts; land registries; digital identities; supply chain tracking; government procurement systems; and electronic voting systems. All these carry serious legal implications.

Along these lines, legal scholars have argued that blockchain represents a fundamental challenge to traditional regulatory paradigms because transactions may occur without identifiable intermediaries or geographical limitations; hence, De Filippi and Wright observe that blockchain systems facilitate peer-to-peer transactions without reliance on traditional intermediaries and raise significant questions regarding jurisdiction and regulatory authority.[9]

THE LEGAL FRAMEWORK GOVERNING BLOCKCHAIN IN TANZANIA

In Tanzania, blockchain regulation is not governed by a single comprehensive statute. Instead, it is influenced by a combination of laws dealing with electronic transactions, financial regulation, data protection, cyber security, and

[4] Tapscott, D., and Tapscott, A., *Blockchain Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World,* Portfolio Penguin, 2016.
[5] Ibid., p. 6.
[6] Antonopoulos, A.M., *Mastering Bitcoin: Programming the Open Blockchain,* 3rd ed., O'Reilly Media, 2017, pp. 167–170; National Institute of Standards and Technology (NIST), *Blockchain Technology Overview*, NISTIR 8202, 2018, p. 7.
[7] Mougayar, W., *The Business Blockchain: Promise, Practice, and Application of the Next Internet Technology,* Wiley, 2016, pp. 3–5; National Institute of Standards and Technology (NIST), ibid., pp. 2, 7–8; Nakamoto, S., ibid., pp. 1–2.
[8] National Institute of Standards and Technology (NIST), ibid., pp. 10-12; Nakamoto, S., ibid., pp. 2 - 3.
[9] De Filippi, P., and Wright, A., ibid., pp. 13–15, 180–184. See also Werbach, K., ibid., pp. 87–92; Finck, M., ibid., pp. 22–30.

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digital governance. The key instruments include the Electronic Transactions Act,[10] the Personal Data Protection Act,[11] the Cybercrimes Act,[12] and financial-sector regulations administered by institutions such as the Bank of Tanzania. Although these laws provide a foundation for digital transactions, they were not specifically designed to address decentralised blockchain ecosystems. This creates a regulatory gap: Tanzania has laws capable of recognising some blockchain functions, but lacks a complete framework addressing blockchain's unique characteristics and cross-border implications.

Traditional legal systems are built around identifiable actors such as banks, registries, government agencies, contractual parties, and regulated intermediaries. Blockchain challenges this structure because transactions may occur directly between users through decentralised networks. De Filippi and Wright argue that blockchain transforms the relationship between law and technology by shifting trust from institutions to technological protocols.[13] Similarly, Werbach explains that blockchain creates a new "architecture of trust" where cryptographic verification replaces many traditional trust intermediaries.[14] This shift creates both opportunities and regulatory difficulties for Tanzania.

Indeed, at this point, the fundamental question blockchain regulation seeks to address is: how should law govern a technology designed to reduce dependence on centralised institutions?

The Contemporary Legal Framework Relevant to Blockchain

The Electronic Transactions Act.[15]

The Act is the most directly relevant legislation because it provides legal recognition for electronic communications and transactions. It recognises electronic records,[16] electronic contracts,[17] electronic signatures,[18] and electronic evidence.[19] Under the Act, electronic information cannot be denied legal effect merely because it is in electronic form.[20]

Relevance to Blockchain

Blockchain operates through electronic records stored in distributed ledgers. Therefore, blockchain-based records may potentially qualify as electronic records under the Act. This provides legal support for blockchain-based agreements, digital recordkeeping, electronic authentication, and blockchain evidence. The recognition of electronic signatures is also significant because blockchain transactions rely on cryptographic signatures to authenticate ownership and authorise transfers.[21] Smart contracts may also benefit from the Act because it recognises electronic contracts. A blockchain smart contract could potentially be interpreted as an electronic agreement where traditional contractual requirements, offer, acceptance, intention, and consideration, are satisfied.[22]

Deficits

Despite its importance, the Act has several weaknesses:

a. No definition of blockchain or distributed ledger technology

The Act does not address blockchain networks, cryptocurrencies, tokens, smart contracts, and decentralised applications. This creates uncertainty regarding their legal status.

b. **Centralized assumptions**

The Act assumes identifiable service providers and parties. Blockchain networks, however, may

[10] Cap. 442 R.E. 2022.
[11] Cap 44 R.E 2023.
[12] Cap. 443 R.E. 2023.
[13] De Filippi, P., and Wright, A., ibid., pp. 13–15.
[14] Werbach, K., ibid., pp. 87–92.
[15] Cap. 442 R.E. 2022.
[16] Ss. 4 - 5.
[17] Ss. 21 – 27.
[18] Ss. 6 – 8.
[19] Part IV.
[20] S. 5.
[21] Ss. 18–24.
[22] Nditi, N.N.N., *General Principles of Contract Law in East Africa*, 1st edn., DUP, 2012, Ch. 2; s. 10 of the Law of Contract Act.

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involve anonymous users and globally distributed nodes.

c. **Limited cross-border rules**

The Act does not adequately address jurisdiction over blockchain transactions, applicable law, and international enforcement. As Finck observes, blockchain challenges traditional jurisdiction because digital transactions may occur simultaneously across multiple territories.[23]

The Personal Data Protection Act.24

The Act establishes Tanzania's framework for regulating personal information processing. The Act provides principles relating to lawful processing, consent, data security, data subject rights, and accountability.[25]

Relevance to Blockchain

Blockchain can support privacy-enhancing applications such as decentralised identity, secure medical records, and authentication systems. The Act provides a legal basis for ensuring that blockchain applications respect individual privacy rights.

Deficits

Blockchain's defining feature, which is immutability, creates tension with data protection principles. For example, personal data stored on a blockchain may be difficult to delete; correction of inaccurate information may be technically difficult; and consent withdrawal may be problematic. In fact, the conflict between permanent blockchain records and privacy rights remains a major unresolved issue globally.[26]

The Cybercrimes Act.27

The Act provides criminal regulation of offences involving computer systems and digital information. It therefore addresses such issues as unauthorised access, illegal interception, data interference, and cyber fraud.[28]

Relevance to Blockchain

The Act is relevant because blockchain systems depend on cybersecurity. It may apply to conduct such as hacking digital wallets, manipulating blockchain systems, and stealing digital assets.

Deficits

The Act was designed primarily around conventional cyber offences. It does not specifically address issues like blockchain attacks, smart contract exploitation, decentralised autonomous organisations, and cryptocurrency fraud. Consequently, enforcement against blockchain-specific misconduct may be difficult.

Financial Regulation and Digital Assets

Blockchain has significant implications for financial systems whose applications including cryptocurrency, tokenised assets, decentralised finance, and digital payments. Therefore, financial regulators must address issues relating to money laundering, consumer protection, and market stability. Actually, in this respect, international standards increasingly require regulation of Virtual Asset Service Providers (VASPs).[29]

However, Tanzania lacks a comprehensive statutory framework covering issues related to cryptocurrency exchanges, digital asset custody, token issuance, stablecoins, and DeFi platforms. This deficiency creates uncertainty for businesses and investors.

BLOCKCHAIN AND CROSS-BORDER LEGAL IMPLICATIONS

Blockchain's borderless nature creates challenges beyond Tanzania's territorial jurisdiction.

[23] Finck, M., ibid., pp. 21–30.
[24] Cap 44 R.E 2022.
[25] Parts II–III.
[26] Finck, M., ibid, pp. 102–108.
[27] Cap. 443 R.E. 2023.
[28] Ss. 4 – 16.
[29] Financial Action Task Force (FATF), *Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers,* 2021, pp. 5–20. Available at https://www.fatf-gafi.org/en/publications/Fatfrecommendations/Guidance-rba-virtual-assets-2021.html> accessed on 25 June 2026.

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Jurisdictional Challenges

A blockchain transaction may involve a scenario engaging a Tanzanian user, foreign developers, international validators, and globally distributed data. This raises questions like which country's law applies? Which court has authority? And how are judgments enforced? In this context, traditional jurisdictional rules based on physical location become difficult to apply.[30]

Digital Asset Ownership Across Borders

It remains a fact that blockchain creates new forms of assets, including cryptocurrencies, non-fungible tokens (NFTs), and tokenised property. Courts globally have increasingly recognised digital assets as property. In *AA v Persons Unknown*,[31] the English High Court recognised Bitcoin as property capable of legal protection. However, Tanzania lacks equivalent statutory clarity on issues of ownership, inheritance, security interests, and asset recovery. This has explicit potential to complicate international transactions involving Tanzanian users.

Smart Contracts and International Commerce

Smart contracts are self-executing computer programs stored on a blockchain that automatically perform, verify, or enforce the terms of an agreement when predetermined conditions are met. With these qualities, they can enable automated cross-border transactions. However, they raise issues regarding governing law, contractual interpretation, and liability. In *B2C2 Ltd v Quoine Pte Ltd*,[32] the Singapore Court of Appeal examined legal responsibility arising from automated cryptocurrency trading systems. This case conveniently illustrates the need for Tanzanian law to clarify how automated blockchain agreements should be treated.

DEFICITS OF TANZANIA'S BLOCKCHAIN REGULATORY FRAMEWORK

The major weaknesses include:

Absence of a Comprehensive Blockchain-Specific Legal Framework

The foremost weakness of Tanzania's regulatory landscape is the absence of legislation specifically governing blockchain technology, cryptocurrencies, smart contracts, decentralised finance (DeFi), and non-fungible tokens (NFTs). Existing laws such as the Electronic Transactions Act, the Electronic and Postal Communications Act, and the Cybercrimes Act regulate aspects of electronic communications and digital transactions but do not expressly address blockchain-based systems. This legislative vacuum creates legal uncertainty regarding the status of blockchain transactions, ownership of digital assets, token issuance, and liability arising from decentralised networks. Consequently, innovators, investors, and consumers operate without clear legal protections or obligations. Recent commentary on Tanzania's digital asset environment notes that despite growing cryptocurrency adoption, the country still lacks a comprehensive regulatory framework for virtual assets.[33]

Regulatory Ambiguity Regarding Cryptocurrencies and Virtual Assets

Tanzania's position on cryptocurrencies has historically been inconsistent. In 2019, the Bank of Tanzania (BoT) issued a public notice cautioning against the use, marketing, and trading of cryptocurrencies, emphasising that the Tanzanian Shilling is the only legal tender and that virtual currencies were not legally authorised.[34] However, subsequent developments have complicated this position. The Finance Act 2024 introduced a withholding tax on digital asset transactions, suggesting partial recognition of

[30] De Filippi, P., and Wright, A., ibid., pp. 177–201.
[31] [2019] EWHC 3556 (Comm) paras 55–61.
[32] **[2020] SGCA(I) 02 paras 208–240.**
[33] Financial Action Task Force (FATF), *Updated Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers,* 2021, pp. 5–20.
[34] Bank of Tanzania, *Public Notice on Cryptocurrencies* (12 November 2019). https://www.bot.go.tz/Adverts/PressRelease/en/20200313072404242 08.pdf > accessed on 24 June 2026.

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virtual assets for taxation purposes,[35] while the High Court's decision in *Yellow Card Tanzania Limited v Nyamwero Michael Nyamwero*[36] indicated that the absence of a regulatory framework does not automatically render cryptocurrency transactions unlawful. This contradiction creates uncertainty regarding the legality of cryptocurrency trading, enforceability of crypto-related contracts, licensing requirements for exchanges, and consumer protection mechanisms.

Lack of Legal Recognition of Smart Contracts

Smart contracts constitute one of the most transformative applications of blockchain technology. These self-executing agreements automate contractual performance through computer code. Although the Electronic Transactions Act recognises electronic records and electronic communications, it does not expressly recognise blockchain-based smart contracts or provide rules governing the formation of smart contracts, contractual consent through code, interpretation of coded agreements, allocation of liability for coding errors, and dispute resolution mechanisms. This omission creates uncertainty concerning the enforceability of blockchain-based contractual arrangements under Tanzanian contract law. Academic literature has observed that blockchain systems increasingly shift transactions from traditional legal regulation to automated code-based governance, thereby necessitating legal adaptation.[37]

Inadequate Anti-Money Laundering and Counter-Terrorism Financing Measures for Virtual Assets

Tanzania currently lacks a dedicated regulatory regime for Virtual Asset Service Providers (VASPs) such as cryptocurrency exchanges, wallet providers, and token issuers. The FATF recommends that jurisdictions define virtual assets and VASPs, require licensing or registration of VASPs, implement customer due diligence (KYC), apply the Travel Rule, and establish supervisory and enforcement mechanisms.[38] Tanzania has not yet implemented a comprehensive framework aligned with these standards. The absence of such measures increases risks of money laundering, terrorist financing, sanctions evasion, fraud, and cross-border illicit financial flows.[39]

Absence of Consumer and Investor Protection Mechanisms

Blockchain transactions are often irreversible. Once recorded on a blockchain, transactions cannot easily be reversed or modified. Tanzania presently lacks specific statutory provisions dealing with cryptocurrency fraud, exchange insolvency, token offering disclosures, investor compensation schemes, custodial obligations of digital asset platforms, and dispute resolution for blockchain transactions. Consequently, users of blockchain-based services face significant risks without the protections commonly available in traditional financial markets.[40]

Uncertainty Regarding NFTs and Digital Property Rights

The legal status of NFTs remains unclear under Tanzanian law. There is no legislation defining ownership of tokenised assets, transfer of NFT-related intellectual property rights, legal status of tokenised land or securities, and succession and inheritance of digital assets. The FATF guidance notes that some NFTs may fall within the definition of virtual assets depending on their economic function and use. Without legislative clarification, disputes involving NFT ownership and digital property rights may be difficult to resolve under existing legal frameworks.[41]

[35] Finance Act, No. 6 of 2024, s 41, inserting s 83C into the Income Tax Act (Cap. 332).
[36] (Commercial Case No 12171 of 2024) [2024] TZHCComD 310 (13 December 2024).
[37] De Filippi, P., and Hassan, S., *Blockchain Technology as a Regulatory Technology: From Code is Law to Law is Code*, 2018, pp. 21–28. Available at https://firstmonday.org/ojs/index.php/fm/article/view> accessed on 24 June 2026.
[38] Financial Action Task Force (FATF), ibid., pp. 7–20.
[39] Ibid., pp. 13–20.
[40] Ibid, pp. 5–20.
[41] Ibid, pp. 23–27.

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Absence of Institutional Coordination and Regulatory Oversight

As already intimated above, blockchain technology cuts across multiple sectors including banking, telecommunications, cybersecurity, taxation, data protection, and financial markets. Yet, Tanzania lacks a dedicated regulatory authority or coordinated framework capable of overseeing blockchain activities. Responsibility is fragmented among several institutions, including the Bank of Tanzania, the Tanzania Communications Regulatory Authority, the Financial Intelligence Unit, and tax authorities. This fragmentation may lead to regulatory overlap, gaps, and inconsistent enforcement.[42]

UNIQUE CHALLENGES POSED BY BLOCKCHAIN TECHNOLOGIES IN TANZANIA

Blockchain technology presents unique regulatory and legal challenges in Tanzania because it operates through decentralised, borderless, and often anonymous digital networks that do not fit neatly within traditional legal structures. Unlike conventional databases controlled by identifiable institutions, blockchain systems distribute control among multiple participants, making it difficult to determine legal responsibility, enforce regulatory obligations, and resolve disputes. The use of blockchain for cryptocurrencies, smart contracts, tokenised assets, and decentralised applications raises questions concerning legal recognition, ownership, liability, taxation, consumer protection, and financial regulation.[43]

A major challenge is the absence of a comprehensive blockchain-specific regulatory framework. This creates uncertainty regarding whether blockchain-based transactions are legally enforceable, how digital assets should be classified, and which institutions have authority to regulate blockchain activities. Another challenge relates to cryptocurrency and virtual asset regulation. Blockchain enables the creation and transfer of digital assets that operate outside traditional financial institutions. This creates difficulties for monetary authorities because virtual assets may affect financial stability, foreign exchange controls, consumer protection, and anti-money laundering (AML) systems. The Financial Action Task Force (FATF) recognises that virtual assets require tailored regulation because their borderless nature may allow illicit financial flows unless jurisdictions implement effective supervision of virtual asset service providers (VASPs).[44] Tanzania's earlier position, reflected in the Bank of Tanzania's 2019 notice cautioning against cryptocurrency trading and use, illustrates the regulatory tension between technological innovation and financial oversight.[45]

As a matter of fact, blockchain's decentralised structure also creates accountability challenges. In traditional transactions, liability can usually be assigned to banks, companies, or intermediaries. However, blockchain networks may involve unknown developers, validators, miners, and users operating across jurisdictions. Determining who is legally responsible for fraud, hacking, coding errors, or failed smart contracts can therefore be difficult. Scholars argue that blockchain challenges conventional assumptions of centralised legal control because "code" increasingly performs functions traditionally undertaken by legal institutions.[46] A further challenge concerns data protection and privacy. Blockchain records are designed to be permanent and difficult to alter, while modern data protection laws increasingly recognise rights such as correction and deletion of personal information. This creates a possible conflict between blockchain immutability and privacy principles. Tanzania's data protection framework must therefore consider how personal data stored on

[42] Ibid, pp. 20–21, 67–68.
[43] Financial Action Task Force (FATF), ibid, pp. 5–7.
[44] FATF, ibid, pp. 11–21.
[45] Bank of Tanzania, *Public Notice on Cryptocurrencies* (12 November 2019), pp. 1–2.
[46] De Filippi, P., and Hassan, S., *Blockchain Technology as a Regulatory Technology: From Code is Law to Law is Code,* 21(12) **First Monday**, 2016, pp. 1–10.

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distributed ledgers can comply with privacy obligations.[47]

Blockchain technology also creates challenges concerning evidence, authenticity, and digital ownership. Courts may be required to determine whether blockchain records, digital signatures, token ownership records, and smart contract transactions are authentic and reliable. Although Tanzania has developed rules on electronic evidence, blockchain-specific evidentiary questions such as verification of wallet ownership, authenticity of tokens, and integrity of distributed records remain underdeveloped.[48] Finally, blockchain introduces challenges of cross-border regulation and institutional coordination. Blockchain transactions frequently involve participants, servers, and service providers located in different jurisdictions, making territorial regulation difficult. Effective governance requires cooperation between financial regulators, communications authorities, tax authorities, cybersecurity agencies, and international bodies. FATF emphasises that regulation of virtual assets requires coordinated supervision, information sharing, and international cooperation due to the global nature of these technologies.[49]

RECOMMENDATIONS FOR REFORMS

The existing legal and regulatory framework remains insufficiently developed to address the unique challenges posed by this technology as seen in the preceding section. Tanzania's current laws and emerging tax measures under the Finance Act[50] regulate certain aspects of digital activities but do not provide a comprehensive framework governing blockchain-based innovation. Consequently, legal recognition of blockchain technology-related issues remains uncertain. In this context, Tanzania requires forward-looking legal reforms that move beyond traditional regulatory approaches and establish a balanced framework capable of encouraging technological innovation while safeguarding financial integrity, public interest, and legal certainty in the digital age.

Enact a Comprehensive Blockchain and Virtual Assets Regulatory Framework

Tanzania should consider adopting a dedicated blockchain and virtual assets law to address the regulatory gaps created by the absence of blockchain-specific legislation. Existing laws regulate aspects of digital activities but do not comprehensively address blockchain applications, cryptocurrencies, smart contracts, NFTs, decentralised finance (DeFi), or tokenised assets. In this case, a new framework should define such things as blockchain technology, distributed ledger technology (DLT), virtual assets, virtual asset service providers (VASPs), crypto-assets, stablecoins, NFTs, and tokenised securities. The legislation should distinguish between legitimate blockchain innovation and activities posing financial, security, or consumer risks. It is hereby suggested to enact the Tanzania Blockchain and Digital Assets Act aligned with international standards, including the Financial Action Task Force (FATF) Recommendations on virtual assets.[51]

Establish a Licensing and Registration Regime for virtual asset service providers (VASPs)

Tanzania should introduce mandatory licensing or registration requirements for entities dealing with virtual assets, including cryptocurrency exchanges, digital asset custodians, wallet providers, token issuers, and blockchain-based financial platforms. Currently, the absence of a clear licensing framework creates uncertainty for businesses and consumers. In this case, a regulatory regime should require minimum capital requirements; cybersecurity standards; governance requirements; consumer protection

[47] FATF, ibid, pp. 23–25.
[48] *Ami Tanzania Ltd v Prosper Joseph Msele*, Civil Appeal No. 159 of 2020 (Court of Appeal of Tanzania) (2021).
[49] FATF, ibid, pp. 20–21, 67–68.
[50] No. 6 of 2024.
[51] Financial Action Task Force (FATF), ibid, pp. 11–21.

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policies; audit obligations; and compliance with anti-money laundering rules.[52]

Create a Regulatory Sandbox for Blockchain Innovation

Tanzania should establish a blockchain regulatory sandbox allowing innovators to test blockchain-based products under regulatory supervision. The sandbox should allow controlled experimentation with blockchain payments, smart contracts, digital identity systems, tokenisation, supply-chain solutions, and digital certificates. This approach would encourage innovation while allowing regulators to understand emerging technologies.

Legally Recognise Smart Contracts

The law should expressly recognise smart contracts as legally enforceable agreements. Although the Electronic Transactions Act[53] recognises electronic records and electronic signatures, it does not specifically regulate blockchain-based self-executing contracts. Thus, reforms should clarify whether smart contracts satisfy contractual requirements; how consent is established; liability for coding errors; dispute resolution mechanisms; and jurisdiction over automated transactions.

Provide Legal Recognition and Regulation of Digital Assets as Property

Tanzania should clarify the legal status of digital assets because a blockchain asset may represent ownership rights, contractual rights, intellectual property rights, financial interests, or access rights. The law should determine whether digital assets constitute property, how ownership is transferred, inheritance of digital assets, enforcement of security interests, and treatment during insolvency. This would reduce uncertainty in blockchain-based transactions.

Introduce a Consumer Protection Framework for Digital Assets

Because blockchain transactions are often irreversible, consumers require special protection. Therefore, legislation should require disclosure of risks before investment; clear terms of service; fraud prevention mechanisms; complaint-handling procedures; dispute resolution mechanisms; and protection against misleading token offerings. A regulatory framework should address risks involving scams, hacking, loss of private keys, market manipulation, and fraudulent initial token offerings.

Align Blockchain Regulation with AML/CFT Standards

Tanzania should implement a virtual asset AML/CFT regime consistent with FATF standards. Reforms should include customer due diligence (KYC), suspicious transaction reporting, record-keeping, beneficial ownership identification, Travel Rule compliance, and supervision of VASPs. This would allow Tanzania to benefit from blockchain innovation while reducing risks of money laundering, terrorist financing, fraud, and illicit financial transfers.[54]

Develop a Legal Framework for NFTs and Tokenised Assets

Tanzania should introduce rules governing NFTs because they create new forms of ownership and commercialisation. The law should address ownership of NFT-linked assets, intellectual property rights, royalties, authenticity verification, transfer of ownership, and taxation. The framework should clarify whether NFTs are virtual assets, digital property, securities, or intellectual property instruments.

Strengthen Data Protection and Privacy Rules for Blockchain Systems

Blockchain creates tension between transparency and privacy because records are often immutable. Tanzania should harmonise blockchain regulation with the Personal Data Protection Act by addressing personal data stored on blockchains, the right to correction or deletion, responsibility of blockchain operators, and cross-border data

[52] Ibid. pp. 15–16. FATF requires jurisdictions to ensure that VASPs are licensed or registered and subject to effective supervision.

[53] Cap. 442 R.E. 2022.

[54] Financial Action Task Force (FATF), ibid. pp. 18–20, 37–38.

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transfers. Special rules may be needed for permissioned blockchains used by government or financial institutions.

Establish a Coordinated Blockchain Regulatory Authority

Blockchain regulation currently involves multiple institutions, creating possible gaps and overlaps. Tanzania should establish either a dedicated Blockchain Regulatory Authority, or an inter-agency Blockchain Regulatory Council. The body should be vested with mandates to coordinate licensing, supervision, policy development, cybersecurity, taxation, and international cooperation.

Reform Tax Laws to Address Blockchain Activities

The Finance Act,[55] introduced taxation of digital asset transactions through amendments to the Income Tax Act,[56] including withholding tax provisions relating to digital assets. However, further clarification is required on income tax treatment, capital gains, VAT, mining activities, NFT transactions, and token issuance. Tax rules should be clear enough to encourage compliance without discouraging innovation.

Promote Blockchain Education and Institutional Capacity Building

Legal reform should be supported by judicial training, regulatory capacity building, cybersecurity expertise, digital forensic skills, and public awareness programmes. Courts and regulators must understand blockchain evidence, smart contracts, and digital asset disputes.

As a whole and at the bottom-line, for Tanzania to benefit from blockchain technology, regulation must move beyond uncertainty and prohibition toward a balanced innovation-focused approach. A modern blockchain framework should promote technological growth while ensuring financial stability, consumer protection, cybersecurity, and compliance with international standards. The objective should not be to restrict blockchain innovation but to create a trusted legal environment where blockchain applications can develop safely within Tanzania's digital economy.

CONCLUSION AND THE WAY FORWARD

Conclusion

Blockchain technology marks a defining moment in the transformation of the digital economy, challenging traditional concepts of ownership, trust, transactions, and regulation. For Tanzania, the rise of blockchain presents both an opportunity and a regulatory challenge. While existing legal frameworks provide a foundation for governing digital activities, they remain inadequate to fully address emerging issues relating to virtual assets, smart contracts, NFTs, decentralised systems, data protection, and cross-border digital transactions. The future of Tanzania's digital transformation will depend on whether the law can evolve alongside technological innovation. Rather than approaching blockchain through restriction or uncertainty, Tanzania should adopt a balanced regulatory approach that promotes innovation while safeguarding public interest, financial stability, cybersecurity, and consumer protection.

The Way Forward

Tanzania should move towards the development of a comprehensive blockchain regulatory framework that provides clear legal recognition of digital assets and blockchain-based transactions. This should include establishing licensing and supervisory mechanisms for virtual asset service providers, recognising the legal validity of smart contracts, strengthening consumer protection measures, and aligning blockchain regulation with international standards on anti-money laundering and cybersecurity. Furthermore, Tanzania should introduce regulatory sandboxes to allow controlled experimentation with blockchain solutions, enhance cooperation among regulatory institutions, and invest in digital capacity building for regulators, courts, and other stakeholders. Through these reforms, Tanzania can position

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itself not merely as a consumer of blockchain innovation but as an active participant in shaping Africa's digital future.

Ultimately, Blockchain Beyond Borders is a call for a new regulatory mindset, i.e., one that views law not as a barrier to technological progress, but as an instrument for building trust, encouraging responsible innovation, and unlocking the transformative potential of blockchain technology in the digital age.

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