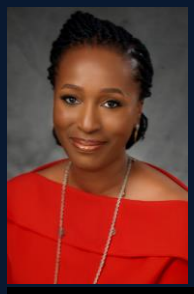
UDO UDOMA & BELO-OSAGIE

SMART CONTRACTS: ASSESSING SOME LEGAL IMPLICATIONS OF THEIR USE IN THE NIGERIAN CAPITAL MARKET

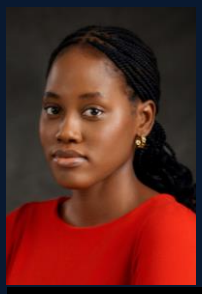


Yinka Edu
Partner

Joseph Eimunjeze
Partner

Lisa Esamah
Senior Associate

Itoro Uwemedimo Etim
Associate



Ifunanya Chinwuba
Associate

Tobi Oladepo
Associate

Introduction

The advent of blockchain technology has immensely impacted operations in the Nigerian financial ecosystem. Smart contracts, among various blockchain technology innovations, have one of the most transformative impacts on operations in financial transactions. These self-executing agreements rely on code and automation to revolutionise transactions in multiple industries.

As smart contracts usher in a new era of efficiency and automation, they also raise legal concerns and implications that require thorough scrutiny regarding their legality and efficiency in capital market transactions. The enforceability of these contracts depends on traditional legal principles and their adaptation to new digital frontiers. Although Nigerian law acknowledges the sanctity of contracts, the absence of specific legislation on this subject presents challenges. Furthermore, Nigerian courts have not yet made a judicial determination on such matters, making it essential for parties entering into transactions based on smart contracts to ensure their terms are clear, specific, lawful and enforceable.

Consequently, this article explores the legal implications of incorporating smart contracts into capital market transactions and operations in the context of the Nigerian legal system. The scope of the article will cover the enforceability of smart contracts within the extant legal framework in Nigeria, including the regulatory purview of the Securities and Exchange Commission (the "SEC") and the efficiency of smart contracts vis-à-vis traditional contracts in the Nigerian capital market, and the legal challenges and promises presented by smart contracts.

The Concept of Smart Contracts

A smart contract is generally a self-executing computer programme that automates the actions required in a contract. In other words, smart contracts are computer programmes built on a blockchain[1] technology that execute transactions when a predetermined set of conditions are met by the parties involved. It involves converting the terms of an agreement into a programming language and storing them as data within the blockchain to become part of the blockchain's immutable history.

A smart contract is created using a programming language specifically designed for creating smart contracts on blockchain platforms. The developer writes the contract code, which specifies the conditions, rules, and functions that would govern its behaviour, including the pre-agreed terms of the contract and deploys it onto a blockchain network.

[1] Blockchain is a distributed ledger technology that records transactions across a network of computers in a secure, transparent, and tamper-proof manner.

The process involves two parties, such as a buyer and a seller, interested in transacting on an asset. They enter into a smart contract, a fully digital and self-executing agreement, with its terms and clauses encoded on a decentralised blockchain network. These codes specify the agreement's terms, which both parties must agree to for the contract to be automatically enforced. The transaction occurs when the conditions specified in the terms are satisfied by the parties.

For instance, consider X, an investor, proposing to fund a business project idea from Y. X and Y enter into a smart contract that codifies the terms, rules, and penalties agreed to by the parties. If the project idea meets the conditions specified in the codes, the blockchain will transfer the funds to Y. Conversely, if the project idea does not satisfy the contract terms, the blockchain will return the money to X. In this example, the contract stores and validates transaction information and self-executes only when the specified conditions are met. The blockchain network is maintained by a network of participants called nodes. Changes to the contract's state or execution require consensus among these nodes. Before execution, the smart contract's code and conditions are verified by the network nodes. These conditions may range from transferring digital assets between addresses under specific circumstances to more complex actions like implementing multi-signature authentication for a transaction. Every transaction or event executed in the smart contract is recorded on the blockchain and cannot be altered by the parties. Smart contracts may be written entirely in code, have a natural language version, or incorporate a hybrid model where certain obligations are defined in natural language and others in code.

Evaluation of the Advantages of Smart Contracts over Traditional Contracts in Capital Market Transactions

Smart contracts have revolutionised capital market transactions due to their benefits over traditional contracts in terms of automation of settlement, data reporting, ease of access, etc. We have analysed some of these benefits below.

(a) **Automated settlement**: Smart contracts are programmed to execute transactions automatically after the pre-determined conditions are met. This eliminates the need for verification by intermediaries, as is the case in a traditional contract. Smart contracts ensure the simultaneous exchange of assets and payment from days to near-instantaneous settlement.

(b) **Less intermediaries and costs**: The traditional settlement process for capital market transactions often involves multiple intermediaries, leading to delays and increased operational costs.

Smart contracts operate on a decentralised blockchain technology and enable direct peer-to-peer transactions, where parties to the contract can engage each other directly. The automated execution of smart contracts also reduces the need for intermediaries like verification and escrow institutions. This helps to reduce transaction costs and minimise the risk of human error.

(c) **Data reporting:** All transaction data is recorded on the blockchain and immutable, providing real-time access for transaction parties. This transparency can improve auditing, reporting, and regulatory oversight.

(d) **Accessibility**: Smart contracts operate outside of regular commercial and business hours, allowing parties to engage in transactions at any time, even outside regular business hours. This contrasts with traditional business hours, which may limit accessibility and impact timelines.

(e) **Independent verification**: The public and immutable nature of the blockchain network allows transparency where the authorised parties to the contract can independently verify the transaction status and history.

(f) **Introduction of a new Demographic of investors**: The ease and accessibility of smart contracts make it possible to initiate the investment process simply with internet access using an internet enabled device. This global reach attracts more diverse investors, including retail investors, looking for investment opportunities.

(g) **Reduction of fraudulent activities:** By automating the execution of contractual terms and conditions, smart contracts assist in reducing the risk of fraud. This thereby creates a more secure environment for parties to transact business including in capital market transactions.

Incorporation of Technology-Driven Solutions in the Nigerian Capital Market

Various steps have been taken by different regulators to incorporate technology-driven solutions to enhance operations and stimulate transactions in the Nigerian capital market. Some of these include the following:

(a) **Innovations by the SEC**

The Nigerian capital market have welcomed digitisation and technology-driven solutions like online platforms, digital offerings and mobile applications in capital market operations and transactions.

This is enabling investors to trade and manage their portfolios conveniently from the comfort of their homes and offices. In 2018, the Electronic Initial Public Offering (e-IPO) Committee of the SEC approved the introduction of e-IPOs in Nigeria. That introduced the first public offer through a digital platform in Nigeria in 2022[2]. In 2019, the Nigerian Exchange Limited launched the Beta version of its mobile application, X-Mobile, and the upgraded version in 2021[3]. The application was launched to ensure that capital market players, existing investors and potential investors have the requisite statistics to maximise their engagement in the market.

The SEC acknowledges the significant role that blockchain and distributed ledger technology play in the Nigerian capital market. Consequently, the SEC released the revised Nigeria Capital Market Master Plan (2021 - 2025) ("CMMP") in 2022 which noted that the move towards embracing blockchain technology to transform the capital market has been met with increasing interest, particularly for institutional-grade investments. The industry, driven by rapidly evolving data, has become more efficient with this technology. The adoption of blockchain or distributed ledgers technology promises to revolutionise core processes in capital market transactions, providing richer data sets, universal data sources, and distributed records.[4]

Furthermore, the SEC also introduced FinPort, an Innovation and FinTech Portal for regulatory requirements relevant to Fintech businesses. The SEC has also demonstrated its willingness to innovate operations in the Nigerian capital market by calling for proposals for an ICT transformation strategy, scheduling programmes for Fintech operators, and regulating crowdfunding platforms, digital sub-brokers, and robo-advisory services[5].

Smart contracts may be efficiently incorporated into capital market operations and transactions in Nigeria through the tokenisation of securities, envisaged by the Investment and Securities Act, 2007 (as amended)[6]. Assets like stocks, bonds, and other securities can be represented as digital tokens on a blockchain where each token corresponds to a specific unit of the underlying asset. To demonstrate its drive to digitise the trading of tokenised securities, the SEC issued the Rules on Issuance Offering and Custody of Digital Assets[7] in 2022 (the "Rules"). The Rules regulate transactions involving digital and virtual assets in the Nigerian capital market, including Securities Token Offerings and Digital Assets Offerings.

[2] https://www.mtn.com/wp-content/uploads/2022/02/MTN-Nigeria-Results-of-Public-Offer-allocation-SENS.pdf
[3] https://ngxgroup.com/ngx-releases-beta-enhanced-x-mobile/
[4] The Nigeria Capital Market Master Plan (2021 - 2025) (revised edition) (https://sec.gov.ng/wp-content/uploads/2022/12/SEC-NIGERIA_Capital_market_masterplan_2021_2025-Final.pdf) accessed 30th May 2024
[5] https://sec.gov.ng/finport/
[6] Section 315 of the ISA defines securities to include securities which may be transferred by means of any electronic mode approved by the SEC.
[7] https://sec.gov.ng/rules-on-issuance-offering-and-custody-of-digital-assets-sec-nigeria-fr-may-2022/

The Rules cover various aspects such as the issuance of digital assets as securities, regulations for entities raising capital through digital asset offerings, registration requirements for Digital Asset Offering Platforms ("DAOP") and Digital Asset Custodians ("DAC"), regulations for Virtual Assets Service Providers ("VASP"), and Digital Assets Exchanges ("DAX").

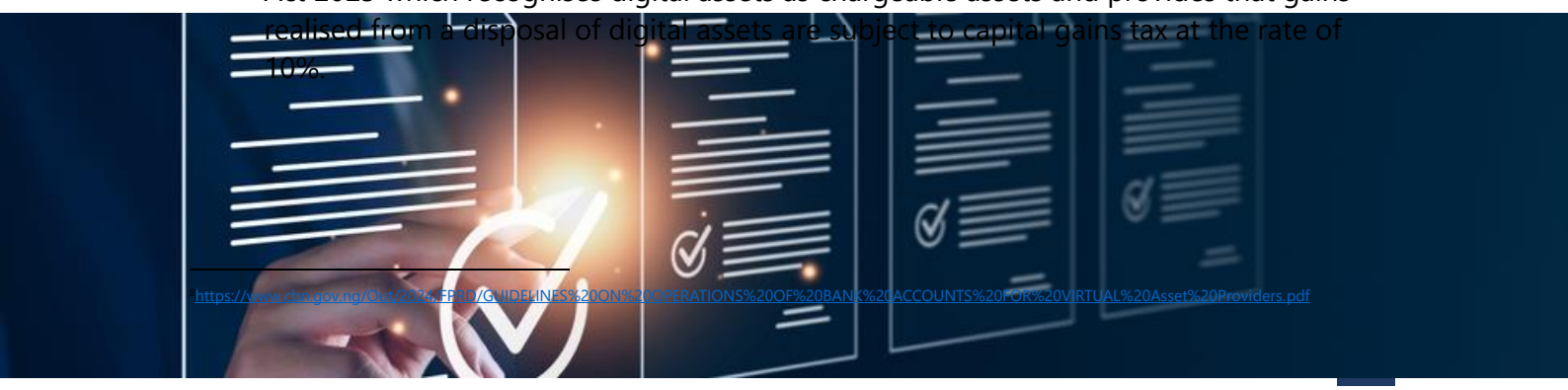
In June 2024, the SEC also introduced the Accelerated Regulatory Incubation Programme ("ARIP"), a regulatory sandbox that allows Fintech companies to test their innovative products and services in a controlled environment while adhering to regulatory requirements. The ARIP provides guidelines for onboarding VASPs and Digital Infrastructure Providers (DIPs), ensuring they operate within a framework that promotes investor protection and market integrity. This initiative aims to facilitate the development and adoption of new technologies in the Nigerian capital market. You can view our earlier article on the SEC's framework for ARIP here.

(b) Innovation by the Central Bank of Nigeria

In December 2023, the Central Bank of Nigeria ("CBN") relaxed its restriction regarding its regulated financial institutions engaging in cryptocurrencies transactions and settlement of transactions in cryptocurrencies. In this regard, the CBN released the Guidelines on Operation of Bank Accounts for Virtual Asset Service Providers ("Guidelines"). The Guidelines allow VASPs incorporated in Nigeria and licensed by the SEC, (such as DAC, DAOPs, and DAX operators to open and operate bank accounts in Nigeria[8]. The Guidelines permit financial institutions to open bank accounts for eligible institutions and to allow such eligible institutions to operate such accounts for their transactions.

(c) Recognition of digital assets as a class of assets

The Federal Government of Nigeria ("FGN") now recognises digital assets as a class of assets in Nigeria. This has removed the debate on whether digital assets are a class of assets under Nigerian law. Consequently, the FGN has now classified digital assets as chargeable assets for the purpose of capital gains tax. This is pursuant to the Finance Act 2023 which recognises digital assets as chargeable assets and provides that gains realised from a disposal of digital assets are subject to capital gains tax at the rate of 10%.



[8] https://www.cbn.gov.ng/Out/2024/FPRD/GUIDELINES%20ON%20OPERATIONS%20OF%20BANK%20ACCOUNTS%20FOR%20VIRTUAL%20Asset%20Providers.pdf

In view of the above innovations, and due to the nature of digital tokens, there is a likelihood that the issuers and VASPs will employ smart contracts to automate the process of trading, and settlement of transactions, in digital tokens.

Legal Considerations and Issues in Smart Contracts

While the advantages of utilising smart contracts in capital market operations and transactions are evident, several legal considerations must be addressed to facilitate their efficient and effective implementation in Nigeria. These considerations include:

(a) Validity and enforceability

Currently, there is no specific legal framework recognising or regulating smart contracts in Nigeria. Their enforceability, therefore, depends on traditional contract law principles, which may not adequately address the unique characteristics of smart contracts. However, Nigerian courts recognise a contract as an agreement between two or more parties that creates obligations capable of being enforced or otherwise legally recognised[9].

The essential elements of a contract under Nigerian law include offer, acceptance, consideration, intention to create legal obligation (consensus ad idem), and capacity to enter into a contract[10]. The question of enforceability will consider all these elements alongside other applicable laws. Accordingly, in our view, smart contracts will be enforced as valid electronic contracts under Nigerian law. This is because the construct of smart contracts fulfils all the essential elements of a valid contract, notwithstanding that they occur on the blockchain.

In addition, the Evidence Act 2011 (as amended by the Evidence (Amendment) Act 2023) recognises the use of digital signatures in court documents or legal processes. In this context, smart contracts are executed using digital signatures, which are generated by private keys on the blockchain.

(b) KYC and AML/CFT requirements

In 2022, the SEC issued the Securities and Exchange Commission (Capital Market Operators Anti-Money Laundering and Combating the Financing of Terrorism) Regulations 2022. These regulations aim to prevent money laundering, terrorism financing, and proliferation of criminal activities in the Nigerian capital market.

[9] Eyiboh v. Mujaddadi (2022) 7 NWLR (Pt. 1830) 381 SC, GTI Asset Management & Trust Ltd v. Oyo State Government & Anor (2022) LPELR-58765(CA)
[10] Eyiboh v. Mujaddadi (2022) 7 NWLR (Pt. 1830) SC

The regulations establish Know Your Customer ("KYC") and Customer Due Diligence ("CDD") requirements, including the disclosure of beneficial owners and intermediaries. Capital market operators using smart contracts can automate AML/CFT measures by mandating KYC and CDD verifications and using transaction monitoring algorithms to detect suspicious activities.

(c) Data protection

The Nigeria Data Protection Act 2023 ("NDPA") regulates data controllers and processors in Nigeria or those processing personal data of Nigerian subjects or residents. Capital market operators are among the entities that must comply with the requirements of the NDPA. The NDPA mandates lawful data collection, minimal data usage, and limited retention periods. The Nigeria Data Protection Regulation Implementation Framework 2019 (deemed made pursuant to the NDPA) specifies statutory retention periods for storing personal data. Personal information collected during the KYC process in smart contracts can be encrypted and stored in decentralised identity systems, allowing selective disclosure, updates, and erasure as necessary, ensuring protection from unauthorised access. The consent of the customers should also be obtained digitally regarding the processing of their date as a condition to proceed with the relevant transaction.

(d) Governing law and jurisdiction

Given the decentralised nature of blockchain networks, determining the applicable law and jurisdiction in case of disputes can be challenging. Traditional legal principles for establishing jurisdiction may not adequately address the complexities introduced by the borderless and distributed nature of blockchain technology. Disputes may arise involving parties from different jurisdictions, creating uncertainty about which legal framework would apply to the contract. In Nigeria, the determination of governing law and jurisdiction typically depends on the location of the parties, where the contract was executed or performed, the subject matter of the contract, and the agreement of the parties. However, with smart contracts operating on a global blockchain network, pinpointing a specific jurisdiction becomes complex. This ambiguity can lead to conflicts of law and enforcement issues, as different jurisdictions may have varying regulations and interpretations concerning smart contracts.

To address these challenges, parties involved in smart contracts should consider including governing law and jurisdiction clauses within the contract. The clauses can specify the applicable law and the preferred forum for resolving disputes, providing clarity and reducing the risk of jurisdictional conflicts. In addition, the adoption of international legal standards and cooperation between jurisdictions may help create a more consistent and predictable legal environment for smart contracts.

(e) Dispute Resolution

Disputes in smart contracts can be complex due to the decentralised nature of blockchain. Smart contracts must be legally valid to be enforceable. Parties should specify dispute resolution methods within the contract, detailing the recourse and liability allocation. Choosing a dispute resolution mechanism enforceable by courts is essential, especially for accessing off-chain assets.

On-chain dispute resolution automates the process using arbitration, with the smart contract executing the arbitrators' decisions. This requires an arbitration clause in the smart contract. Alternatively, parties can opt for off-chain resolution through traditional courts or arbitrators. Courts may face challenges interpreting code, but this can be addressed by using expert witnesses, such as programmers.

(e) Potential Risks and Challenges

Potential risks, such as coding errors and discrepancies between coding and natural language versions of a smart contract, may discourage its use, given that it is immutable. The issues of hacking, scalability and subsequent change of law or regulation may affect the performance of smart contracts. The decentralised nature of blockchain also decentralises liability in the event of a dispute, and the difficulty in identifying who to sue may arise. Where the transaction is cross-border, there may be uncertainty over jurisdiction and governing law. Also, the novelty of smart contracts may introduce complex issues of legal recognition and integration of blockchain technology into the existing financial infrastructure.

However, regular code audits using third-party security firms may detect vulnerabilities in the smart contract code. Using escrow mechanisms and multi-signature wallets also adds an extra layer of security to reduce the risk of unauthorised transactions. In addition, off-chain systems and data sources integrated into the smart contracts are not immutable and can be updated as necessary.

Conclusion

Smart contracts have the potential to revolutionise capital market transactions in Nigeria by increasing efficiency, reducing costs, and enhancing transparency. However, to fully realise their benefits, it is essential to address the legal and regulatory challenges they present. The SEC's initiatives, such as the ARIP and the Rules on Issuance Offering and Custody of Digital Assets, are positive steps towards creating a supportive environment for the adoption of smart contracts in the Nigerian capital market. By continuing to embrace technological advancements and fostering collaboration between regulators and market participants,

Nigeria can position itself as a leader in the innovative use of smart contracts in capital market transactions.

This article has been authored by Yinka Edu, Joseph Eimunjeze, Lisa Esamah, Itoro Uwemedimo Etim, Ifunanya Chinwuba and Tobi Oladepo of the Capital Market team at Udo Udoma & Belo-Osagie. For more information about our Capital Market practice group offerings, please visit our website at www.uubo.org or email us at uubo@uubo.org.

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