
AN APPRAISAL OF THE ROLE OF BLOCK CHAIN TECHNOLOGY IN THE GROWTH OF INSURANCE BUSINESS IN NIGERIA

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Abstract: The Nigerian insurance industry continues to experience low penetration, limited public trust, operational inefficiencies, and persistent fraud challenges, all of which hinder its contribution to national economic growth. Emerging digital innovations particularly block chain technology, present new opportunities to address these structural weaknesses. This study appraises the role of block chain technology in enhancing the growth of insurance business in Nigeria. The paper adopts a qualitative research design based on an extensive review of secondary data, including scholarly literature, industry reports, and selected international and African case studies. The study examines the application of block chain in fraud prevention, automated claims processing, customer identity management (KYC), reinsurance transparency, and micro insurance expansion. Evidence from global implementations indicates that block chain improves transparency, reduces operational costs, enhances customer trust, and increases administrative efficiency through smart contracts and decentralized record-keeping systems. However, the study identifies major barriers to adoption in Nigeria, including high implementation costs, regulatory uncertainty, infrastructural deficits, and limited technical expertise. The paper concludes that while block chain adoption in Nigeria's insurance sector is still at an emerging stage, its strategic integration could significantly enhance operational performance, financial inclusion, and long-term industry growth. The study recommends the development of a clear regulatory framework, industry-wide collaboration, and capacity building to facilitate sustainable block chain integration in the Nigerian insurance market.

Key words: Block Chain Technology, Insurance Business Growth,

Introduction

Insurance is a business organization that protects the policy holders against unforeseen circumstance that can lead to financial loss. The business is one of the financial service providers in Nigeria that offers intangible products to their customers. The industry plays a vital role in growth and development of the nation. They mitigate, manage and provide indemnity to businesses and individuals who suffer loss. In Nigeria, insurance companies carry out them through a network of underwriting, claims processing, customer service, and policy administration. Traditionally much of this process was manual, involving physical documentation and face to face interaction.

However, the industry has witness significant shift toward transformation in recent years. The global insurance industry is undergoing transformation driven emerging technologies and block chain stand at the fore front of this evolution. The insurance in Nigeria like many other developing countries faces several systematic challenges including low customer trust, fraud, poor claims management and high administrative costs. This issue has limited the growth and penetration of insurance operation, mainly in the rural and informal sector. In Nigeria, the performance of insurance industry is characterized by low penetration, limited digital infrastructure,

poor public trust, and operational inefficiencies (Marei, [2023](#)). These challenges hinder growth, limit customer acquisition, and reduce financial performance. According to Alshirah et al. ([2020](#)), many Nigerian insurers struggle with outdated systems, leading to data manipulation and fraud. However the introduction and gradual adoption of block chain technology present new opportunity to address these long term issues and improve the overall efficiency and trustworthiness of insurance services. As a result, there is a pressing need for innovative solutions that can drive customer efficiency transparency and insured confidence.

Block chain is a decentralized digital ledger that records transactions across a network of computers. Once information is entered, it cannot be altered without consensus across the network (Nakamoto, [2008](#)). The technology offers core features such as transparency, security, and immutability, making it suitable for industries that rely on trust and data integrity—like insurance (Deloitte, [2022](#)). Block chain technology has emerged as one of the most transformative innovations of the 21st century, with wide-reaching implications across various sectors including banking, healthcare, logistics, and insurance (Gupta & Gupta, [2018](#); Kshetri, [2017](#)). In the insurance sector these capabilities can redefine how policies are underwritten, how claims are processed, and how insured data is managed securely to attract more buyers (Lutfi et al., [2022](#); Moradi & Mohammadi, [2020](#)).

The implication of block chain on the growth of insurance is very crucial. Block chain reduce fraud and operational delay by automating claims and underwriting processes. It also enhances trust through transparency and traceable data. Making it easier to attract and retain customers. . Once the information is registered in the block chain, it is very hard to manipulate or changed without the agreement of the entire net work. This information is opened to both the insured and the insurer with internet access. Block chain technology offers a promising solution by providing a tamper-proof environment, secure audit trails, and real-time access to transaction data, all of which could significantly improve transparency and accountability in insurance transactions (Kim & Shin, [2019](#); Almaiah et al., [2022](#)). Block chain helps customers to see every transaction on what is happening in their policy documentation, every transaction like premium payments, claims payment, insurance investment and other insurance business transactions are uploaded in the internet. The customer can track every transaction with the insurer at the comfort of his home or elsewhere with the internet device like phone, computer etc.

(Sarker & Datta, [2022](#)). Okun ([2012](#)) opines that customer deposits not only reflect the level of trust and engagement customers have with their insurers but also serve as a tangible indicator of the impact of digital transformation and block chain technology.

Globally, empirical studies have started exploring block chain's role in transforming financial reporting and performance. For instance, Breda ([2023](#)) found that although block chain's immediate benefits are not always visible, long-term adoption positively impacts liquidity and efficiency. Similarly, Pan et al. ([2020](#)) emphasized that block chain increases enterprise operational capability, which translates into improved Return on Assets (ROA). As Nigerians seek to deepen financial inclusion and expand the insurance base, understanding the strategic role of block chain become very important. This study, therefore appraises the essence of block chain as a transformative force in the growth of insurance business in Nigeria.

Conceptual Review

Challenges of Block Chain Adoption in Nigeria Insurance companies.

Despite the benefits block chain offers in business, adaptation of block chain in Nigerian faces several obstacles. These challenges limit its growth potential in insurance sector and industry.

a. High Cost of Implementation. Initial setup is expensive because it requires strong investment on technology, skilled manpower and security system. Most small insurance companies cannot afford the initial cost. According Olojede and Akinola (2022) observe, that most Nigerians financial institutions find the cost of transmitting to block chain prohibiting, particularly small insurers.

b. Poor awareness and understanding. Aboyeji (2020) states that a major barrier to block chain development is lack of widespread education and understanding, leading to mistrust and low adoption rate in Nigerians. In Nigeria block chain knowledge is limited among business, regulators and general public, may fear their private information become too open if not manage properly.

c. Regulatory uncertainty. In 2021 the Central Bank of Nigeria (CBN) shows interest in digital innovations conflicting policies, such as the ban on crypto currency transaction. This makes Nigerian legal and regulatory framework remain unclear having caused fear and hesitation among investors.

Overview of the Insurance Business in Nigeria

The Nigerian insurance sector contributes less than 1% to GDP, showing low Penetration due to weak trust, fraud, delayed claims, and lack of awareness (NAICOM, [2020](#)). The industry operates on manual and semi-digital systems, often causing inefficiency and data loss. Growth in the sector requires a shift towards innovation and customer-centered services, which block chain offers. Block chain is essential in insurance due to its ability to handle sensitive data securely, automate processes through smart contracts, and offer traceable and permanent records (PwC, [2021](#)). It can eliminate the need for intermediaries, reduce administrative costs, and increase accountability between insurers and policyholders.

Applications of Block chain in Insurance

The application of block chain technology will go a long way in the transformation of insurance business in Nigeria, where the business operation seen to be difficult to understand by average Nigerian. The business activities in Nigeria are challenged with a lot of problems such as fraud, inefficient processes, lack of transparency and limited customer trust persist. Block chain can be applied in the Nigerian insurance industry to support and promote insurance business operation as follows:

1. Fraud Detection and Prevention: The use of block chain in Nigeria's insurance sector will help to control and dictate fraud, such as false claims or multiple claims on a single policy. According to the OECD ([2020](#)), insurers that have integrated block chain report increased customer satisfaction and cost savings up to 30%. Block chain shared, immutable ledger that can record all transactions and claims across insurers, making it difficult to falsify claims or data. Smart contracts can automatically reject suspicious or duplicate claims.

2. Automated Claims Processing: Claims in insurance business are often delay because it requires carefulness on the part of the insurer. The insurer thoroughly exams the claim proposal details to find out whether the claim request exist due to insured event. Most often insurer's surveyor is send to the scene to document and provide report to the company. As a result claim may be delayed and the client may not find the situation easy. Delays in claims processing and payment discourage insurance adoption. However with the use of block chain in

insurance firm can automatically trigger claim payments when predefined conditions are met (e.g., accident verified, policy active). This reduces processing time and increases customer satisfaction. Automated contract execution ensures timely claims processing without human intervention (Deloitte, 2022).

3. Customer Identity and KYC (Know Your Customer): Most insurance firm in Nigeria manually documents the insured detail, given room for loss of document and constant request for verification and documentation of customer details. KYC is a digital process use to document, verify and indentify the insured identity. The goal is to prevent fraud, money laundering and financial crime. With block chain, once the insured submits their KYC to one insurance company, other trusted insurers on the same block chain network can access it securely. This reduces stress for the insured and save time for insurance companies. Procedures are often slow, repetitive, and inconsistent across providers.

4. Reinsurance Transparency: Insurers often transfer risks to reinsurers. Tracking these agreements and claims can be complex and opaque. Block chain act as a shared digital ledge. Both the insurance and reinsurance company can see the same data at the same time, such as premium paid, claim filed and risk details.

5. Micro insurance Expansion: In Nigeria, a large portion of the population remains uninsured due to cost, complexity, or lack of access. Block chain removes the need for too many middlemen and paper work enables low-cost, transparent micro insurance models that can reach the underserved. Mobile-based block chain platforms can offer affordable policies and seamless claim handling.

Research Methodology

This research will adopt a qualitative approach to examine the role of the block chain technology on insurance business in Nigeria. Given that block chain is an evolving area in insurance business, case studies will be used.

The secondary research foundation using academic journals, white papers, and industry reports provides essential breadth and credibility.

Presentation and Analysis of Data

Case Studies

AXA Group (2018) also known as fizzy block chain powered flight insurance in Europe. It is one of the most cited block chain innovation and largest insurance companies in Europe that worked on block chain based solution. Fizzy was established to automate flight delay insurance using Ethereum smart card contract. The model was used to monitor global air traffic database and insured flight delay. if the insured flight delayed by more than two hours the smart contract would automatically trigger a payment without need for the insured to fill a claim. These reduced the queue of insured who may want to file claims. The entire system process, from policy purchase to claim settlement was documented on public block chain, making it transparent, secured and fast. Although it meets its waterloo in 2020 due to scalability.

African fintech foundry and FSD (2021) is a company that helps business grow in technology in Nigeria Micro Insurance for Rural Populations. It backed Bimalab Nigeria, a school and work shop set up to help and train young companies that use technology like block chain, mobile, phones, apps etc. It creates easy and affordable insurance that even market women, farmers and small business can use. It develops solutions to insurance challenges in Nigeria such as reaching the rural dwellers.

It uses block chain to startup platform for policy distribution, digital ID and to process insurance policy coverage via mobile phones. These enable policyholders to manage insurance services securely without coming

in physical contact to process the policy coverage. The transparency of block chain increase trust among rural users, while the automation of claims helped insurance reduce operating cost.

Also Etherisc (2021) collaborate with Acre Africa to build up a design that allowed insurance companies to decentralize insurance applications. They developed crop insurance products for smallholder farmers in Kenya and some other African countries excluding Nigeria and other parts of African counties. The innovation approach uses satellite weather data and smart contracts to automatically compensate farmers in case of drought or excessive rainfall. The system ensures farmers don't have to file a claim payment. Payments are automatically made if the crops in the farm are destroyed by bad weather.

4.1 Lessons learnt from the case studies

The knowledge from the case studies above shows how block chain Etherisc, AXA Group and African fintech foundry and FSD become more efficient and trustworthy. The insured experience faster payout and company save money by detecting fake claims early. While block chain technology offers significant benefit such as security, and efficiency, it continues to face challenges, particularly in terms of scalability as observed in the AXA Group case study (2018).

However block chain can be designed to address specific insurance challenges ranging from automated policy purchasing to claims settlement, reducing queues, preventing fraud and building trust. The Nigerian insurance industry needs to adopt these strategies in its daily operations. Doing so will help the average Nigerian develop a clear understanding of insurance and eliminate the fears and negative perception surrounding it.

Furthermore, insurers should learn from past challenges related to scalability and design their systems to accommodate future growth. This approach will go a long way in promoting the insurance business, increase profitability, and encourage investment and supporting overall economic growth.

Conclusions, and recommendations

This study examines the essence of block chain technology in the growth of insurance business in Nigeria. The block chain can be used to automate claim, improve customer trust, expands insurance coverage to rural dwellers and reduce fraud. However in Nigeria there are lots of challenges that can affect the adoption of block chain technology in insurance business such as regulatory uncertainty, high cost of implementation, poor infrastructure and cyber insecurity. Despite these obstacles the potential benefits of block chain in insurance sector in Nigeria remains immense.

Nigerian insurers should develop block chain based smart contact to automate claim process, reduce human interference and enhance insured satisfaction. Also the regulatory bodies like NAICOM and CBN should establish a clear regulatory framework, encourage innovation while ensuring customers protection.

Insurers should ensure that they educate the insured and make them understand the platform better. These can be achieved through organization radio, TV, social/ newspaper campaign in a simple language. Hold seminars or training also update insurance policy document to address block chain and explain it in simple terms.

In all block chain technology present a powerful opportunity to transform Nigeria insurance business by increasing transparency, reduce operational cost, insured fear and expand insurance business to the grace root.

The experience gained from international and local case study have proven that adoption of block chain by the insurers in Nigeria can solve may traditional insurance challenges.

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