DIGITAL ECONOMY AND FINANCIAL CRIME IN NIGERIA

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Abstract

The study empirically investigated the relationship between digital economy and financial crime in Nigeria. Theoretical, conceptual and empirical literature on digital economy and financial crime were reviewed. The population of the study consists of institute of chartered accountants of Nigeria and Association of national accountants of Nigeria. The study implemented the population as census because the population is small. A total of 250 primary data were distributed to the respondents who are chartered accountants while 215 was collected and used for the analysis. The study adopts descriptive statistics for univariate analysis while Pearson Product Moment Correlation was used to test the formulated hypotheses with the aid of statistical Package for Social Sciences version 20. The findings show that blockchain economy significantly relates to financial fraud in Nigeria. Digital economy has significant relationship with financial fraud in Nigeria. The study concludes that there is a strong positive significant relationship between digital economy and financial crime in Nigeria. The study recommends among others that Enhance national cybersecurity measures to protect against financial cybercrimes through robust encryption standards, improving intrusion detection systems, and regular security audits of digital financial platforms. Encourage the adoption of blockchain technology in financial transactions to improve transparency and traceability.

Keywords: Blockchain economy, data economy, digital economy, financial crime

Introduction

Digital economy is characterized by the widespread impact of information and communications technology on all facets of economic activities, leading to the emergence of new ecosystem of services, products, and markets (Norton and Faraday 2019). The digital economy refers to the set of economic activities resulting from billions of everyday online connections among people, businesses, devices, data, and processes, encompassing a range of sectors from traditional tech sectors to newer digital platforms (Greene & Daniels, 2020). Extensive empirical literature review indicates that there are no known studies on digital economy and financial crime in Nigeria to the best knowledge of the researcher. However, there are related studies see (Festus and Samuel 2012; Manhonlen et al. 2020; Malik 2016; Nageri et al., 2013; Ogbodo and Miseseigha 2013; Okoye and Gbegi 2013; Oladapo 2014; Raimi et al. 2013; Samuel et al. 2014; Waseem 2017). Thus, this study investigates the relationship between digital economy and financial crime in Nigeria.

Marshall and Bennett (2020) maintained that money laundering is the systematic process by which criminals disguise the original ownership and control of the proceeds of illegal conduct by making such proceeds appear to have derived from a legitimate source. Money laundering involves a series of transactions used to change the character of illicit proceeds in order to disguise their illegal origin, thus allowing the offender to enjoy the profits without their true source being detected (Gibson & Ross, 2021). Wallace and Fields (2020) mentioned that financial fraud is the intentional act of deceiving individuals or

entities by misrepresenting or omitting information in financial transactions to achieve unlawful financial benefits. Financial fraud encompasses a range of activities where dishonest methods are used to secure an unfair or unlawful gain, often at the expense of others, which can include activities like securities fraud, credit card fraud, and mortgage fraud (Harmon & Navarro, 2021).

Garcia and Redmond (2020) stated that technological infrastructure denotes the integral framework of physical devices, networks, systems, and services that collectively enable, support, and enhance the functioning and scalability of digital applications, processes, and interactions in various domains. Technological infrastructure encompasses the array of interconnected hardware, software, networks, and protocols that form the backbone for digital communication, data storage, processing, and application deployment in today's interconnected world (Patel & Zhou, 2021). Advanced machine learning algorithms can sift through massive datasets to detect anomalies or patterns indicative of fraud or money laundering that might go unnoticed by human eyes (Smith & Rahman, 2022). Rodriguez and Chen (2021) noted that artificial intelligence economy refers to the integration and influence of artificial intelligence technologies on economic activities, processes, and models, leading to the creation of value through intelligent automation, data analysis, and innovative applications. The artificial intelligence economy represents the transformative phase in which artificial intelligence becomes a primary driver for business decisions, economic growth, and societal value creation, redefining industries and labor markets (Kim & Patel, 2022).

Artificial intelligence can automatically process public records, news, and other data to perform risk assessments on potential clients, partners, or investments (Johnson, 2021). Artificial intelligence algorithms, through predictive modeling, can forecast potential vulnerabilities or threats, allowing financial institutions to take preventative measures (Wang & Zhou, 2022). Artificial intelligence can craft highly personalized phishing messages or scams, making them seem more legitimate to unsuspecting individuals (Garcia & Newman, 2021). Traders might use artificial intelligence to manipulate stock prices subtly, exploiting tiny fluctuations for profit (Patel 2022). Artificial intelligence can be employed to discover vulnerabilities in financial software systems, potentially leading to unauthorized access or theft (Kumar & Tran, 2023). The use of artificial intelligence in finance, especially concerning personal data, raises significant ethical and privacy concerns. Issues like artificial intelligence bias can inadvertently lead to unfair financial outcomes (Fernandez & Li, 2021). Barnes and Nguyen (2021) observed that blockchain economy refers to a decentralized and distributed economic system where transactions and agreements are verified and recorded on a public or private ledger using cryptographic principles, eliminating the need for intermediaries and fostering trust and transparency. The blockchain economy encompasses the myriad of business models, marketplaces, and services powered by blockchain technology, promoting peer-to-peer interactions, immutable record-keeping, and decentralized autonomous organizations (Fischer & Kapoor, 2022).

Financial crime is a pervasive issue in Nigeria, causing significant economic damage and reducing trust in financial institutions. Forms of financial crime in Nigeria include fraud, money laundering, cybercrime, and corruption, among others. The digital economy, specifically technologies such as blockchain, artificial intelligence, and machine learning, can play a crucial role in mitigating these problems. This study seeks to comprehensively explore the relationship between the digital economy and financial crime in Nigeria. Leveraging artificial intelligence, blockchain, and data economy as proxies for the digital economy, and financial cybercrime, money laundering and financial fraud as proxies for financial crime, the study aims to assess how the digital economy impacts the occurrence and nature of financial crime. It further seeks to understand how cybersecurity measures and technological advancements moderate this relationship. The digital literacy gap, especially among older and less-educated populations, exacerbates this problem (Nwogugu, 2015).

Despite these clear challenges, there is little empirical research that thoroughly investigates the relationship between the digital economy and financial crime in Nigeria. Such research is crucial to develop comprehensive, proactive, and adaptive strategies to mitigate these risks. Therefore, this study will address

this gap by examining the intersection of the digital economy and financial crime in Nigeria, with the goal of informing policy and providing a framework for future interventions. The objectives of the study are to identify the relationship between blockchain economy and financial fraud in Nigeria and ascertain the relationship between data economy and financial fraud in Nigeria.

Literature Review

Theoretical Framework

Fraud Triangle Theory

The Fraud Triangle was developed by Donald Cressey, an American sociologist and criminologist. He presented this theory in his research in the 1950s, which was later published in his 1973 book, "Other People's Money: A Study in the Social Psychology of Embezzlement. The Fraud Triangle Theory is a model that explains the factors that cause someone to commit occupational fraud. It consists of three components: Pressure (or Motive) is a financial or emotional force that pushes the individual towards committing the fraud. It could be personal debts, a desire for a lavish lifestyle, or pressures to meet financial targets at work. Opportunity is the condition or situation that allows fraud to occur, often when the individual believes their fraudulent actions won't be discovered. Rationalization is the mental process the perpetrator uses to justify their illicit actions, convincing themselves that their fraudulent actions are necessary or deserved. Pressure: Economic conditions, unemployment, or desires for wealth can act as pressures. In Nigeria, where a significant percentage of the population is young and tech-savvy but faced with unemployment or underemployment, the motivation to exploit the digital economy through scams or fraud might increase. Opportunity: T

he digital economy, while offering many benefits, also presents numerous opportunities for fraud. Weak cybersecurity, inadequate regulations, and the anonymity provided by digital transactions can be exploited. For example, the proliferation of online banking and transactions can, without proper safeguards, give rise to opportunities for cyber fraud. Rationalization: In a society with significant wealth disparities and where some might perceive corruption as pervasive, individuals may rationalize digital fraud as a way to "level the playing field" or as a victimless crime, especially if the targets are foreigners or large corporations. By understanding all three components of the Fraud Triangle, policymakers and businesses can develop comprehensive strategies to combat digital fraud, addressing not just the act but also the underlying motivations and rationalizations.
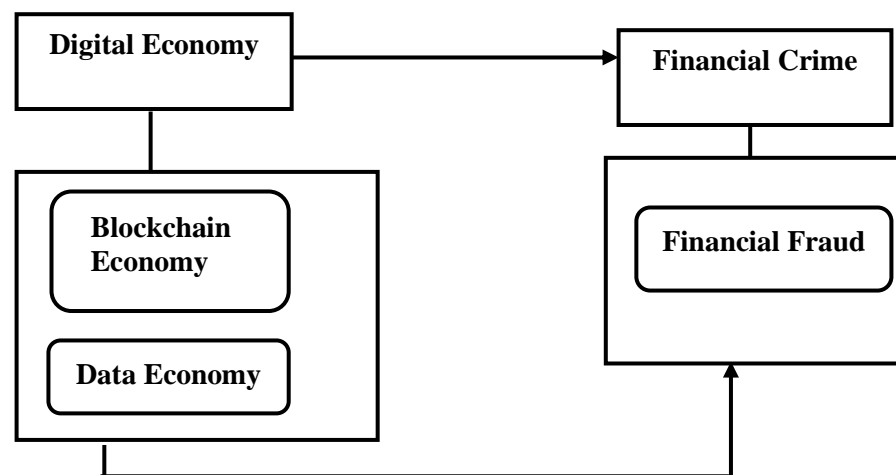

Figure: 1.1: Conceptual Framework of the relationship between Digital Economy and Financial Crime. Source; McAfee and Brynjolfsson (2012), Okoye et al. (2020), Wigwe and Uzoma (2022).

Conceptual Review

Digital Economy

At the same time, the digital economy contributes to improving the quality of the labor force; increasing innovation, improving the competitiveness of economic entities; increasing revenues and effective demand for goods and services; expanding international economic ties and attracting foreign capital; improving management efficiency through the growth of an integrated information space. Digitalization of the economy is a new form of ensuring the competitiveness of the economy for a long period of time. It is possible to resist the onslaught of competitors only with its openness because a transparent economy is more stable. The concept of the digitalization research of production is reduced to the following algorithm: to accumulate the knowledge necessary for the successful conduct of the core business (Toffler, 2008). The main task of the digital economy as a control system is to determine the flow of transfers (exchange), the contractors must make a joint decision on their value. The digital economy as an electronic control system can not only coordinate the actions of billions of people, but does it so in a way that people in most cases can make smart choices without complicated calculations.

A digital economy has a great impact on socioeconomic development by supporting SME growth and creating jobs. A digital economy stimulates competition and innovation, leading to the development, localization, and delivery of new products and services. Digital financing gives retailers the opportunity to sell goods and services with a different business model. It provides consumers with the ability to Pay As You Go, abandoning the old model of reducing goods and services into affordable increments, and enabling people to buy things without cash, which reduces security risks. A digital economy also provides jobs and improves the standard of living. In Sub-Saharan Africa, where population growth outpaces jobs created, youth under 25 years of age make up 60% of Africa's unemployment, and a reported 122 million new jobs are needed by 2020 in order to reduce poverty. The digital economy improves the standard of living by increasing the value of labor input. Mobile financial services save people's time, improve the quality of labor inputs and increase mediation. They can also give greater access to capital, and connect new, remote users to existing markets

In Africa, there are millions of small independent shops that are inefficient in ordering and fulfilment. This segment could be the catalyst for creating open platforms that will allow business model innovations. Furthermore, organisations of every size make cash-based salary or other payments to partners, employees, and other beneficiaries. Converting cash into digital payments can increase operational efficiencies. In Uganda, USAID helped six implementing partners transition from cash to digital payments for employees and training beneficiaries. Data Monetization The expansion of mobile phones and connectivity has resulted in massive amounts of new data on individuals about whom very little was previously known. This data has enormous value for private-sector firms, governments, and non-profit organizations serving these segments. Better data on customer, constituent, and end user needs can help organizations in any sector design, develop, and deliver better goods and ser-vices, achieve operational savings or other efficiencies. Most organizations, if they are able to collect or acquire data on users or suppliers of raw inputs, lack the ability to analyze this data and effectively inte-grate it, on an ongoing basis, to improve processes and offerings. And issues of privacy and security of personal information are bound to prevent organizations from capitalizing on this data's full value until standards are set.

Blockchain Economy

The majority of the global economy is supported by the banking industry. No other middleman in the global financial system is as massive or well-established as banks. Digitalization has had a significant impact on the financial services industry. Digital currency and digital payment have essentially replaced prior monetary systems, such as barter and commodity money, followed by fiat currency. ATMs, EFTs, e-clearing, RTGS, i-banking, debit/credit cards, and m-banking are just a few of the banking advances made possible by technological progress over time (Gupta, & Gupta, 2018). The banking industry is now

extremely reliant on technology, making blockchain a potentially game-changing innovation. Using cryptographic hash functions, blockchain technology can record immutable blocks of transactions. It eliminates the middleman. Although blockchain technology is still in its theoretical beginnings, it has the potential to substantially disrupt banking and financial institutions. Because of this, there may be a significant shift in the economic structure. In the past two decades, the information technology sector has grown and developed at a dizzying speed (Gupta, & Gupta, 2018).

Technology has altered nearly every economic area. Regulation and compliance make it tough to enter the banking business; nonetheless, Fintech companies have emerged as a significant challenge to traditional banks. Combining finance with technology, fintech refers to enterprises that utilize cutting-edge information technology to provide banking and associated services. They provide payments, clearing and settlements, trading and investing, digital currencies, and other services. Fintech's advent and the innovations it introduces to the delivery of improved financial services mark a substantial shift in the sector. Typically, financial technology companies thrive at tackling specific challenges where conventional banks fail. Due to fintech's benefits in terms of speed, cheap cost, dependability, and transparency, banks may face competition from fintech businesses. Banks were long the unquestioned leaders in the payment industry, but Fintech firms are currently making significant inroads. A bank transfer across international boundaries can take anywhere from one to five working days and often costs between $40 and $50. (TransferWise).

Fintech makes it possible to send remittances quickly, cheaply, and without effort. The speed at which fintech allows clearing and settlement cannot be matched by banks. The usage of digital currencies and digital wallets is growing. Apple, like several other companies, provides its users with a digital wallet that may be used to make purchases or apply for credit. Facebook aims to deploy Libra, a digital currency for payments, in 2021. As more individuals utilize and get accustomed to Fintech, banks may anticipate an increase in competitiveness (Thakor, 2020). Along with artificial intelligence, robotic process automation, big data, etc., blockchain is considered a potential future technology. Numerous financial organizations, including banks, private equity firms, startups, and others, are paying close attention to blockchain.

After completing a transaction via blockchain technology, several prominent financial institutions are keen to incorporate it into their operations. Among these institutions are J.P. Morgan, Bank of America, Merrill Lynch, HSBC, and several others (Gupta, & Gupta, 2018). The decentralized and unchangeable ledger of blockchain may herald a new era in the history of record keeping. However, banks are not the only organizations that may profit from blockchain technology. It might considerably enhance the backend of the banking sector and reduce operational expenses. When it comes to solving the issues now afflicting banks, blockchain technology is vital. The key advantages of blockchains are their enhanced productivity, lower costs, increased transparency, and lack of middlemen (Thakor, 2020). First, blockchain increases the efficiency of a transaction by eliminating the requirement for an intermediary to make a phone call. Automated systems are faster and more efficient than people in keeping and managing records. Additionally, it minimizes the overall transaction and operation costs. It is possible to settle transactions and release payments without paying the fees of a middleman or commission-based broker. Encryption is used to ensure that all transactions on a blockchain are secure. By disseminating blockchains, all participants can view transaction details in real-time, thereby enhancing the trustworthiness of the network. Since this year through a digital deposit procedure, consumers can see their transactions finalized in as little as 10 minutes, allowing a bank client to serve the unbanked or those who do not have access to traditional banking services. Additionally, the various platforms used in blockchain are designed with an improved security system and lending network. Lastly, better financial services can be enjoyed when services such as check cashing, and payday are being replaced by cryptocurrency-based solutions.

Data Economy
According to the OECD (2013) the data economy is an integral part of the digital economy. They define the digital economy as the application of internet-based digital technologies to the production and trade of goods and services. In this context, the data economy emerges from the digital economy as the economic activities that involve the collection, processing, and application of data. McAfee and Brynjolfsson (2012) suggest that the data economy is a subset of the digital economy, focusing on the ability to extract insight from an enormous volume, velocity and variety of data. The digital economy, in their view, is the broader economic system in which these data-based activities occur. European Commission (2020) they perceive the data economy as a crucial segment of the digital economy, with the latter defined as an economy that focuses on digital technologies and computing power. The data economy, in this perspective, is the part of the digital economy that emphasizes data as an essential asset for economic growth, innovation, and competitiveness. Tapscott (2014) suggests that the data economy represents the economic transformations led by the digital revolution. The digital economy, in his view, is the total economic output derived from billions of everyday online connections among people, businesses, devices, data, and processes, and the data economy represents the critical subset of the digital economy that is based on the extraction of economic benefits from these connections. Mayer-Schönberger and Cukier (2013) argue that the data economy is a vital component of the digital economy that focuses on data as a crucial economic asset. They consider the digital economy as the broad domain of economic activities that use digitized information and knowledge as key factors of production, the data economy being the specific subset of these activities where the primary focus is on the utilization and monetization of data.

Financial Crime
Sutherland (1949) defines financial crime as criminal acts committed by individuals or corporations in the course of their occupations that lead to financial gain. This includes activities such as fraud, embezzlement, insider trading, and more. The Financial Action Task Force (FATF, 2012) defines financial crime as any non-violent offense that results in a financial loss. It includes crimes such as money laundering, terrorist financing, bribery, corruption, fraud, illegal gambling, and tax evasion. Rezaee and Riley (2010) reported that financial crime is a subset of white-collar crime and can include offenses such as securities fraud, embezzlement, corporate fraud, and money laundering. These acts typically involve deceit, violation of trust, and are financially motivated. Albrecht and Albrecht (2004) describe financial crime as illegal acts committed by an individual or a group of individuals to obtain a financial or professional advantage. These actions often involve some degree of deception, trickery, or breach of confidence. Naylor (2003) defines financial crime as illegal acts where the goal is economic profit. This can involve activities such as cybercrime, tax evasion, mortgage fraud, insurance fraud, organized crime, and money laundering.

This refers to all crimes committed by an individual, group of individuals or corporations whereby money has been taken or another property belonging to someone else is fraudulently taken with or without his/her consent to obtain financial or professional gain. This means that financial crimes are a form of crimes that occur when a person or organization takes money or property from another in a deceptive manner without non-violent, coercion and illegally uses them with the intent to gain or benefit at the owners' detriments. These crimes include theft, fraud, deception, blackmail, corruption, money laundering, and bribery, amongst others. The Dictionary of Criminal Justice Data in Pickett and Pickett (2002) sees financial crime to be financial gain committed by employing deception by individuals whose occupational status is entrepreneurial professional or semi-professional that utilize their special occupational skills and opportunities to illegally exploit others. This means financial crime is a non-violent crime perpetrated for financial benefit utilizing deception and committed by anyone having special technical and professional who have knowledge of an individual's business, groups and government irrespective of the person's occupation.

According to Eiya and Otalor (2013) financial crime is illegal financial dealings or activities such as fraud or any other economic-related crime against property including the falsification of the ownership of

property lawful acquired by the owner but falsified by another as one's personal use and benefit. That suggests financial crime may be committed either through violent or non-violent using tricks, cunning, intelligence and skills by individuals, groups, and corporations against persons, body corporate and governments to gain financial and other benefits. Dada and Jimoh (2020) viewed financial crimes as illegal activities that possess the attributes of deception, truce breaking and cover-up, which do not involve the enforcement of physical force or violence. This means that financial crime is a non-violent crime perpetrated by individuals, groups and corporate entities to gain personal or business advantage against another. The Economic and Financial Crimes Commission (EFCC, 2004) defined financial crimes to include violent and non-violent criminal and illicit activities committed with the objective of acquiring wealth illegally in a manner that violates existing legislation. That suggests financial crime is the possibility of making illicit money by any means either through the gunpoint, falsifying of records, tricks or cunning by ill-intentioned individuals to large-scale operations masterminded by organized criminals ranging from fraud, embezzlement, money laundering, bribery, narcotic drugs, trafficking, tax evasion, theft of intellectual property and piracy, foreign exchange malpractice including counterfeiting, market abuse, and any other corrupt malpractices in Nigeria.

Financial crimes according to Eiya and Otalor (2013) may involve fraud or any other crime against property. It may be in respect of falsification of the ownership of property belonging to another as one's own personal use and benefit. Financial crimes may be carried out by individuals, corporations, or by organised crimes against individuals, corporate bodies and governments. Financial crimes involve corruptions, bribery, political donation, nepotism, kickbacks, artificial pricing and frauds of all kinds. The EFCC Act (2004) attempts to capture the variety of economic and financial crimes found either within or outside the organisation. The salient issues in the definition include violent, criminal and illicit activities committed with the objective of acquiring wealth illegally in a manner that violates existing legislation and these include any form of fraud, embezzlement, money laundering, bribery, narcotic drug, trafficking, tax evasion, theft of intellectual property and piracy, foreign exchange malpractice including counterfeiting, open market abuse, dumping of toxic waste and prohibited goods, illegal oil bunkering and illegal mining, looting and any form of corrupt malpractices and child labour.

In the opinion of Okafor (2004) fraud can be said to be a non-violent crime and illicit activity committed with the aim of acquiring illegal wealth either individually, as a group or an organised manner which violates existing legislation governing the economic activities of government and its administration. Fraud, according to Ramamoorti (2008) involves deceit, purposeful intention, risk of being cut, rationalisation, strong desire and violating trust. Fraud is a planned tricky process or device usually undertaken by a person or group of persons with the full intention of cheating another person or organisation to gain ill-gotten benefits (Onodi et al., 2015). Ngai et al. (2010) observe in their study that financial fraud is becoming an increasingly serious problem and effectively detecting an accounting fraud has always been an important but complex task for financial experts

Financial crime is defined as any nonviolent offence that is committed by or against an individual or corporation that can result in financial loss, has a high patency to corrupt and sabotage the economic policy of the government. Financial crime covers a multitude of offence ranging from fraud to money laundering looting to financial malpractice (which includes offence committed through financial activities such as round fripping grant of unsecured loan or over draft facilities, redness activities which cause the collapse of banks) by individual and financial institutions. They also includes; obtaining money by false pretence-popularly known as advance fee fraud (419) looting and money laundering which is a generic term used to describe the process by which criminal disguise the original ownership and control of the proceed appears to have been derived from a legitimate source (Economic and Financial Crime Commission, 2002). From the definition, it can be seen that financial crime can threaten the security of consequences as it undermines initiative and effort to establish and strengthens market-based economics.

Financial Fraud

Albrecht and Albrecht (2004) define financial fraud as an intentional act using deceit, trickery, or breach of confidence to gain an unfair or dishonest advantage, which is often financial. Financial fraud is a subset of financial crime and includes activities like securities fraud, insurance fraud, and credit card fraud. Rezaee and Riley (2010) describe financial fraud as a deliberate act that uses dishonesty, a breach of trust, and deceit to take financial advantage of an individual, group, or organization. It is a type of financial crime and involves activities such as accounting fraud, bank fraud, and embezzlement. Dorminey et al. (2012) reported that financial fraud involves the intentional misrepresentation, deceit, or concealment of financial information intended to deceive others and result in personal or organizational financial gain. It is a key element of financial crime and encompasses activities like tax evasion, money laundering, and corporate fraud. Wells (2004) defines financial fraud as the intentional perversion of truth in order to induce another to part with something of value or to surrender a legal right. It includes a broad range of activities and is a subset of financial crimes. Sutherland (1949) defines financial fraud as white-collar crime committed by individuals in the course of their occupation. This includes activities such as bribery, insider trading, fraud, embezzlement, and more. Financial fraud is a subset of financial crime, characterized by deceit, concealment, or violation of trust that is not dependent on the threat of physical force or violence (Sutherland, 1949). Financial crime can be broadly defined as any non-violent crime that results in a financial loss. It encompasses a wide range of illegal activities, including fraud, embezzlement, insider trading, money laundering, bribery, tax evasion, and cybercrime targeting financial institutions or transactions (Rezaee, 2002).

Financial crime can significantly harm individuals and institutions, disrupt financial systems, and weaken economic development. Hence, it is a serious concern for governments, regulatory bodies, and businesses worldwide (Stessens, 2000). Financial fraud is a specific category of financial crime. It involves intentionally deceiving a person or organization for financial gain. Fraudsters often use sophisticated methods to conceal their activities. Financial fraud includes activities such as credit card fraud, insurance fraud, securities fraud, mortgage fraud, and Ponzi schemes. It can also involve fraudulent financial reporting, where companies provide false or misleading information to investors, regulators, or the public (Albrecht, et al., 2011).

Financial fraud is a form of financial crime but not all financial crimes involve fraud. For example, money laundering, a financial crime, does not necessarily involve deception or a breach of trust, but rather the concealment of illicit funds' origins. In contrast, financial fraud always involves some form of deceit or falsehood. Financial fraud and other forms of financial crime are often intertwined. For instance, a fraudulent scheme might involve money laundering to hide the illicit gains. Both types of crime require sophisticated techniques to detect and prevent, as well as stringent regulatory controls to discourage them (Sikka, 2008). There are several specific types of financial fraud: Securities fraud this occurs when someone manipulates financial markets in a way that is illegal, often involving stocks or bonds. Insider trading is an example of securities fraud (Bainbridge, 1999). Insurance fraud this can involve individuals defrauding insurance companies, such as by making false claims, or insurance companies defrauding individuals, such as by denying valid claims (Clarke, 1997).

Credit card fraud this happens when someone uses another person's credit card information without their permission, often for personal financial gain (Holt, & Graves, 2007). Tax evasion this is a form of fraud involving illegal practices to avoid paying taxes. This can include underreporting income, inflating deductions, or hiding money and its interest (Slemrod, & Bakija, 2004). Efforts to combat financial fraud involve a variety of methods, including regulatory oversight, forensic accounting, and law enforcement investigations. Forensic accounting involves the use of accounting skills to investigate fraud or embezzlement and to analyze financial information for use in legal proceedings (Crumbley, et al., 2005). Law enforcement agencies investigate financial crimes and work to bring those responsible to justice. This

often involves collaboration with other entities, including financial institutions and international organizations.

Financial fraud has significant consequences, not only for the direct victims but also for society as a whole. Economic cost the direct cost of financial fraud is enormous, with billions of dollars stolen each year. Beyond the direct financial loss, financial fraud also leads to increased costs of doing business, which can be passed on to consumers (Dyck, et al., 2010). Trust in the financial system this fraud undermines confidence in the financial system. This can lead to decreased investment and economic activity, and can even contribute to financial crises (Johnson, et al., 2000). Social cost this financial fraud can have significant social costs, such as stress and hardship for victims. There's also a broader societal cost in the form of resources devoted to detecting, prosecuting, and preventing fraud (Piquero et al., 2008). The future of combating financial crime will be shaped by technological advancements and increased international cooperation. Technology and data analysis this advances in technology can help detect and prevent financial fraud. This includes machine learning and artificial intelligence algorithms that can identify suspicious transactions, as well as improved data analysis techniques (Bolton, & Hand, 2002). Regulatory technology (RegTech) this refers to technology that can help companies comply with regulations more effectively and efficiently. It can play a key role in identifying and preventing financial fraud (Arner et al., 2016). International cooperation: Financial crime is often cross-border, making international cooperation essential. This includes cooperation between law enforcement agencies, regulatory bodies, and financial institutions across different jurisdictions (Naylor, 2003).

Cybersecurity advancements this given the rise of digital banking and financial transactions, strengthening cybersecurity is vital. This includes improved encryption techniques, multi-factor authentication, and stronger firewalls (Khan, & Alghathbar, 2010). Behavioral biometrics this financial institution are beginning to use behavioral biometrics, such as keystroke dynamics, mouse use characteristics, and even patterns of touch and swipe on smartphones, to detect and prevent fraudulent activities (Moran, 2018). Collaboration with FinTech and RegTech companies this traditional financial institution are increasingly partnering with FinTech and RegTech companies to use their technological solutions to combat financial fraud. This often involves leveraging machine learning algorithms and big data analytics (Arner et al., 2016). Education and awareness this raising awareness about the different types of financial fraud can empower consumers to protect themselves. This includes educating them about common scams and teaching them to recognize the signs of fraudulent activities (Button et al., 2009). Improved reporting mechanisms this encouraging victim of financial fraud to report the crimes is essential better reporting mechanisms can help authorities understand the scale and nature of the problem, leading to more effective strategies to combat it (Button et al., 2014).

Strengthening regulatory framework these strengthening laws and regulations related to financial fraud, and ensuring their enforcement, is critical. This includes updating laws to keep pace with changes in technology and the methods used by fraudsters (Braithwaite, 2000). While technology has brought immense benefits in terms of efficiency and convenience in the financial sector, it has also created new avenues for fraud. Cyber fraud involves using the internet, email, or other electronic communications to deceive individuals or organizations for financial gain. Phishing attacks, identity theft, and online scams are examples of this type of fraud (Anderson, et al., 2012). Cryptocurrencies like Bitcoin and Ethereum offer opportunities for financial innovation, but they have also been associated with various fraudulent activities. These include Ponzi schemes, pump and dump schemes, and initial coin offering scams (Zetzsche, et al., (2018). As technology continues to evolve, financial fraud is likely to become more sophisticated. We might see a rise in AI-driven fraud, deep fake technology used to perpetrate fraud, and an increase in cross-border digital crimes. In response, we will need continuous advancements in cybersecurity, fraud detection technology, and international legal and regulatory frameworks to keep pace (Gordon, & Willox, 2020). The future of fraud: A look at the landscape through 2020 Deloitte Insights). Understanding the psychological aspects of

financial fraud can help us develop more effective prevention strategies. We therefore propose the following hypotheses:

H$_{01}$:   There is no significant relationship between blockchain economy and financial fraud in   Nigeria.

H$_{02}$:   There is no significant relationship between blockchain economy and financial fraud   in Nigeria.

Empirical Review

Ichide et al. (2022) examined the meaning, component, topology of financial crimes, the activities and extent of financial crimes, victims of financial crimes, facilitating factors of financial crimes, and government efforts in curbing financial crimes. The financial crimes identified were corruption such as kickbacks, bribery, extortion and embezzlement, fraud, such as Ponzi-scheme, pyramid schemes, fraudster online, phishing, card fraud skimming, counterfeit cards, advanced fee scams, fund transfer and fake prizes, money laundry, tax evasion and sale of fictitious financial instruments. Government efforts in curbing financial crimes include the promulgation of various laws aimed at providing the legal framework to combat these crimes, the treasury single Account policy and the establishment of the independent corrupt practices and other Related Offences Commission (ICPC) and the Economic and the Financial Crimes Commission (EFCC). The government should put in place a machinery to implement the various laws aiming at financial crimes in Nigeria to avoid an economic downturn. Wigwe and Uzoma (2022) suggested that financial crimes in the petroleum industry in Nigeria are a victimless one whereas, this paper holds a different view namely that: the major stakeholders (the federal government of Nigeria, international oil companies, and host communities) appear to be the perpetrators of financial crimes as well as the victims.

Okoye et al. (2020) determined the effect of economic financial crimes on business entities performance in Nigeria. The specific objectives of this study are to: identify the Factors motivating business crime in Nigeria and determine the causes of economic crime and concepts of prevention in Nigeria. Survey research design was adopted and the formulated hypotheses were tested with Chi-Square statistical tool with aid of SPSS version 20.0. From the results, the study revealed that the factors motivating business crime affect business performance in Nigeria. It was also that those economic crimes affect business performance in Nigeria. It recommended that the control units of the company should be more filled with qualified and competent staff in order to perform their functions effectively.

Kan et al. (2022) examined digital economy and the upgrading of the global value chain of china's service industry. China's service trade competitiveness is weak, and the service industry occupies a low position in the global value chain; therefore, promoting the upgrade of the global value chain of China's service industry is worth studying. Under the new situation of the continuous integration of the digital economy and the real economy, the digital economy has injected new momentum into the mid to high end of the global value chain of China's service industry. Based on the panel data of the service industry sub-sectors, the mediating effect model is constructed, and the system global value chain (Generalized Method of Moments) is used to empirically determine whether the digital economy can significantly improve the participation and position of China's service industry in the global value chain, and promote the upgrading of the global value chain of China's service industry.

Briggs et al. (2020) investigated the effect of financial crime on local government productivity in Rivers State. The study specifically ascertained the effect of financial crime on effective service delivery and human resource administration in Rivers State local government councils. The predominant factors that induced financial crime in Rivers State local government councils were also identified.

Methodology

This study adopts both descriptive and correlational research designs to explore the relationship between digital economic and financial crime in Nigeria. Descriptive research design aims to provide a comprehensive and systematic description of a specific phenomenon or issue. It involves the collection and presentation of detailed information to create a precise and accurate picture of the situation under study. The study adopts descriptive statistics for univariate analysis while Pearson Product Moment Correlation was used to test the formulated hypotheses with the aid of statistical Package for Social Sciences version 20.

Results and Discussion

Table 4.1: Correlation Analysis on blockchain economy and financial Fraud

Correlations

		Blockchain economy	financial Fraud
Blockchain economy	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.000
	N	215	215
Financial Fraud	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.000	
	N	215	215

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.1 shows a correlation analysis between "Blockchain Economy" and "Financial Fraud" using the Pearson product-moment correlation coefficient. The Pearson correlation coefficient for the relationship between "Blockchain Economy" and "Financial Fraud" is 0.516. This indicates a moderate positive correlation. It suggests that as the Blockchain Economy grows or expands, there is a corresponding moderate increase in Financial Fraud activities. The significance value is 0.000, which is significantly lower than the 0.05 alpha level typically used in statistical analyses. This indicates that the correlation between these two variables is statistically significant at the 0.05 level, suggesting a very low probability that this correlation occurred by chance. The sample size for this analysis is 215 for both variables, providing a strong basis for the correlation analysis.

With a correlation coefficient of 0.516 and a significance level well below 0.05, we can conclude that there is a moderate positive relationship between the growth of the Blockchain Economy and the incidence of Financial Fraud within the context of Nigeria's digital economy. This correlation suggests that as the Blockchain Economy develops in Nigeria, there might be an associated increase in financial fraud activities. This is an important consideration for stakeholders in the blockchain sector, including businesses, regulators, and policymakers, as it highlights the need for robust fraud detection and prevention mechanisms in blockchain related financial transactions and activities.

Table 4.2: Correlation Analysis on data economy and financial fraud
Correlations

		Data economy	Financial fraud
Data economy	Pearson Correlation	1	.893**
	Sig. (2-tailed)		.000
	N	215	215
Financial fraud	Pearson Correlation	.893**	1
	Sig. (2-tailed)	.000	
	N	215	215

**. Correlation is significant at the 0.05 level (2-tailed).

The table 4.2 shows a Pearson product-moment correlation analysis between the digital economy and financial fraud in Nigeria. The Correlation between Data Economy and Financial Fraud is 0.893. This value indicates a very strong positive correlation between the two variables. A positive correlation means that as the digital economy grows or increases, financial fraud also tends to increase. Sig. (2-tailed): 0.000. This p-value is far below the 0.05 significance level. It means there's less than a 5% probability that the observed correlation occurred by chance if there were no actual relationship in the population. A p-value of 0.000 suggests that the probability of the observed correlation occurring by chance is extremely low. The sample size is 215 for both variables. This is a sufficiently large sample size, which adds reliability to the correlation result. Based on this analysis, and this correlation is statistically significant. The high correlation coefficient (0.893) indicates that as activities in the digital economy increase, financial fraud also tends to increase considerably. Given the statistical significance ($p < 0.05$) of this correlation, it is highly unlikely that this strong relationship is due to random chance. Therefore, we can conclude with a high degree of confidence that there is a significant positive relationship between the growth of the digital economy and the occurrence of financial fraud in the context of Nigeria.

Discussion of Findings
The objective of hypothesis 1 was to test the relationship between blockchain economy and financial fraud in Nigeria. The study adopts the use of Pearson product moment correlation coefficient which indicate that there is a moderate positive relationship between Blockchain Economy and Financial Fraud in Nigeria; Table 4.23 shows a correlation analysis between "Blockchain Economy" and "Financial Fraud" using the Pearson product-moment correlation coefficient. The Pearson correlation coefficient for the relationship between "Blockchain Economy" and "Financial Fraud" is 0.516. This indicates a moderate positive correlation. It suggests that as the Blockchain Economy grows or expands, there is a corresponding moderate increase in Financial Fraud activities. The significance value is 0.000, which is significantly lower than the 0.05 alpha level typically used in statistical analyses. This indicates that the correlation between these two variables is statistically significant at the 0.05 level, suggesting a very low probability that this correlation occurred by chance. The sample size for this analysis is 215 for both variables, providing a strong basis for the correlation analysis. With a correlation coefficient of 0.516 and a significance level well below 0.05, we can conclude that there is a moderate positive relationship between the growth of the Blockchain Economy and the incidence of Financial Fraud within the context of Nigeria's digital economy. This correlation suggests that as the Blockchain Economy develops in Nigeria, there might be an associated increase in financial fraud activities. This is an important consideration for stakeholders in the blockchain sector, including businesses, regulators, and policymakers, as it highlights the need for robust fraud detection and prevention mechanisms in blockchain related financial transactions and activities.

The objective of hypothesis 2 was to test the relationship between data economy and financial fraud in Nigeria. The study adopts the use of Pearson product moment correlation coefficient result indicates there is a strong significant positive relationship between digital economy and financial fraud in Nigeria; The table 4.26 shows a Pearson product-moment correlation analysis between the digital economy and financial

fraud in Nigeria. The Correlation between Data Economy and Financial Fraud is 0.893. This value indicates a very strong positive correlation between the two variables. A positive correlation means that as the digital economy grows or increases, financial fraud also tends to increase. Sig. (2-tailed): 0.000. This p-value is far below the 0.05 significance level. It means there's less than a 5% probability that the observed correlation occurred by chance if there were no actual relationship in the population. A p-value of 0.000 suggests that the probability of the observed correlation occurring by chance is extremely low. The sample size is 215 for both variables. This is a sufficiently large sample size, which adds reliability to the correlation result. Based on this analysis, and this correlation is statistically significant. The high correlation coefficient (0.893) indicates that as activities in the digital economy increase, financial fraud also tends to increase considerably. Given the statistical significance ($p < 0.05$) of this correlation, it is highly unlikely that this strong relationship is due to random chance. Therefore, we can conclude with a high degree of confidence that there is a significant positive relationship between the growth of the digital economy and the occurrence of financial fraud in the context of Nigeria.

Conclusion and Recommendations

This research study investigates the relationship between digital economy and financial crime in Nigeria. The study concludes that there is a significant correlation between the rapid growth of digital financial services and an increase in various forms of financial crimes, including online fraud, cybercrime, and money laundering. While the digital economy offers numerous benefits such as increased financial inclusion and economic growth, it also presents new vulnerabilities that criminals exploit. The analysis suggests that while advancements in digital technology facilitate economic activities, they also require parallel enhancements in security protocols and regulatory frameworks to protect against financial crime. Thus, the study concludes that there is a strong positive significant relationship between digital economy and financial crime in Nigeria. There is a moderate positive relationship between Blockchain Economy and Financial Fraud in Nigeria; there is a strong significant positive relationship between digital economy and financial fraud in Nigeria. We therefore make the following recommendations:

- Allocate resources towards ongoing research and development in financial technology security. This involves investing in new technologies and methodologies to stay ahead of evolving financial crime strategies.
- Engage in international cooperation to combat cross-border financial crimes. As financial crime often transcends national boundaries, international collaboration can play a crucial role in tackling these challenges effectively.
- Recognize that artificial intelligence, blockchain, and data economy have unique implications and vulnerabilities. Tailor cybersecurity and regulatory measures to the specific needs and risks of each sector.
- Regularly review and update policies and strategies to adapt to the rapidly changing digital economy landscape. This ensures that the regulatory environment remains relevant and effective against emerging financial crime tactics.

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