EFFECTS OF CRYPTOCURRENCY TRADING ON THE NIGERIAN ECONOMY (GDP)

BY

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, LAGOS STATE UNIVERSITY, OJO, LAGOS.

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE IN ACCOUNTING.

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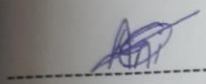
INTEGRITY ATTESTATION

I, **Okoye Anaetochukwu Vincent**, with **Matriculation Number 200811219**, do hereby declare that the research work titled "**Effect of cryptocurrency on the Nigerian economy (GDP)**" was conducted by me under the supervision of Mr. S.B. Adeyemi, within the Department of Accounting, Faculty of Management Sciences at Lagos State University.

I unequivocally state that this study is an authentic piece of my own creation, and I have not violated the intellectual property rights of any individual's work, research, or thesis.

By this declaration, I absolve my supervisor, department, faculty, and the university from any liability or accountability related to this research.



Okoye Anaetochukwu Vincent

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CERTIFICATION

This is to certify that **Okoye Anaetochukwu Vincent,** with matriculation number 200811219 carried out his project titled **"Effect of cryptocurrency on the Nigerian economy (GDP)"** under my supervision. This serves as compliance with the prerequisites for the conferral of a Bachelor of Science degree in the Department of Accounting within the Faculty of Management Sciences at Lagos State University, located in Ojo, Lagos.

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DEDICATION

To the Almighty God, who has blessed me with the intellect and passion to pursue knowledge, I humbly dedicate this project. Also, to my parents- Mr. and Mrs. Okoye whose selfless love, sacrifices and unwavering faith in me have shaped me into the person I am today. Your guidance, support and prayers have been my rock. I express my deepest gratitude to you both for being my pillars of strength.

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Abstract

This study investigated the influence of decentralized finance (DeFi) platforms, cryptocurrencies, and blockchain technology on financial intermediation and economic perceptions in Nigeria. Using a survey approach, the research gathered perspectives from various demographic groups. The findings suggested that DeFi platforms hold considerable potential to diminish dependence on traditional financial intermediaries, although obstacles such as insufficient awareness and security risks were prominent. Cryptocurrencies were recognized for their financial advantages, with many respondents reporting improvements in their financial status. Blockchain technology emerged as a key innovation with significant potential to improve payment systems. The study further highlighted demographic trends in cryptocurrency trading, showing that younger, wealthier, and more educated individuals were more actively involved. These results support theoretical models that emphasize the role of perceived usefulness and ease of use in the adoption of new technologies. The research recognizes the importance of public awareness campaigns, well-structured regulations, security measures, and inclusive strategies to overcome challenges and optimize the benefits of these technologies. Addressing these issues could enable Nigeria to drive innovation and achieve widespread adoption of DeFi, cryptocurrencies, and blockchain technology and economical growth.

KEYWORDS: Blockchain technology, Cryptocurrency, Gross Domestic Product, Decentralized exchange, Centralized exchange, Demography.

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND TO THE STUDY.

Although often seen as a recent trend, cryptocurrency has actually been around for nearly fifty years. The last ten years, in particular, have brought significant changes in digital assets and crypto investments. To get a clearer picture of the origins and future of cryptocurrency, we are taking a look at its history. 1983-2008: The Pre-Bitcoin Era–although Bitcoin did not become a giant overnight, it was quick to become the most recognizable cryptocurrency. In the first 25 years of digital currency, the stage was set to allow Bitcoin and other currencies to take the stage. In 1983, David Chaum developed eCash (an electronic platform created to transfer funds), aiming to let people transfer money anonymously online. As an early advocate for digital privacy, Mr. Chaum used cryptographic technology and blind signatures to ensure private and secure transactions. This innovation became crucial for future digital currencies, giving "crypto" its place in cryptocurrency. In 2008, the economic crisis rocked the financial industry to its core. The value of traditional money fell, and public trust in banks and financial institutions started to erode. The flaws in the existing systems were laid bare, and people began searching for a new solution. This environment made people more open to the idea of a decentralized alternative. Satoshi Nakamoto, who created Bitcoin, was inspired by this period and even mentioned the bank bailout in Bitcoin's very first block. On the 3rd of January, 2009 when the Bitcoin software was made available to the public.

Cryptocurrency, in summary is a digital currency that is driven by the push and pull of demand and supply under a secured network of exchange that promotes a decentralized system. Every form of finance, accounting, bookkeeping, trades have been governed by a centralized system since the dawn of commerce but, cryptocurrency brought into light a different system. The traditional form of exchange required centralized system governed by middlemen but, the plot of decentralized system eliminates such with its available and reliable technology. For thousand years, physical tokens have been being used as means of payment (for example;

shells, gold, coins, bank notes). In such setting, a direct exchange of sellers' goods and buyers' tokens allows them to achieve an immediate and final settlement. Unlike cash, cryptocurrency records the history of all transactions. This is achieved through a blockchain. A block consists of a set of transactions made between cryptocurrency users. These blocks form a chain, which contains the history of all past transactions, creating a ledger. This ledger allows anyone to publicly verify the balances or currency a user owns.

The true essence of cryptocurrency is simply it is digital money and, money serves three interrelated economic functions: it is a medium of exchange, a unit of account, and a store of value. Blockchain technology on which cryptocurrency is built on regards the present electronic commerce as obsolete. Online commerce largely depends on financial institutions to handle electronic payments as trusted intermediaries. Although this system works well for most transactions, it has significant drawbacks due to its reliance on trust. Satoshi Nakamoto (2008), commerce on the internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust-based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes.

True non-reversible transactions are impossible because financial institutions must mediate disputes. This mediation raises transaction costs, making small, casual transactions impractical and eliminating the option for irreversible payments for services. Due to reversals being possible, trust issues arise. Merchants must be cautious of their customers and may ask for more information than necessary, accepting a certain level of fraud as inevitable. While using physical currency in person avoids these issues, there is no way to replicate this trustless transaction model over the internet.

Bitcoin is the first widely used cryptocurrency, with others like Ethereum and Ripple emerging subsequently. Bitcoin, the most popular among cryptocurrencies, is also referred to as digital currency, digital cash, virtual currency, and electronic currency. Similar to fiat money, privately issued cryptocurrencies serve as a medium of exchange, a store of value, and a unit of account

or measurement. Prior to Nakamoto's 2008 white paper, various writers had proposed the potential roles of virtual currency in the creation and control of money, advocating for these functions to be managed independently of government and banking systems. Bitcoin is a decentralized digital currency without a central bank or single administrator, enabling peer-to-peer transactions on the Bitcoin blockchain network without intermediaries.

What we need is an electronic payment system that relies on cryptographic proof instead of trust. This would enable two parties to transact directly without needing a trusted third party. Transactions that are practically impossible to reverse would protect sellers from fraud, and simple escrow mechanisms could be used to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server, which generates computational proof of the chronological order of transactions. The system remains secure as long as honest nodes control more computing power than any group of attacker nodes working together. No way to achieve such other than the brilliance of the blockchain technology.

Cryptocurrency serves as a medium of exchange designed to transfer digital data securely. Cryptocurrencies are hard to counterfeit because of this security feature. They facilitate fund transfers between parties using public and private keys for security, with minimal processing fees, allowing users to avoid the high fees charged by banks for wire transfers. Wikipedia describes a blockchain as "a continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains a cryptographic hash of the previous block, a timestamp, and transaction data. By design, a blockchain is inherently resistant to modification of the data." Bitcoin can be used as a store of value, a medium of exchange, and an asset, similar to money, but it exists only as data. Blockchain technology emerged at a time when a secure and tamper-proof digital data storage method could have a massive impact. Its application can transform business models, processes, supply chains, and company-customer relationships across all sectors of the global economy.

Blockchain has the potential to disrupt industries that depend on intermediaries or strong centralized governance, offering a way to build trust directly between peers through

algorithms. Its development in the financial sector is especially promising due to the increasing need for secure online payments, which decentralized technology and the use of cryptocurrencies can provide.

Maurice (2018) There is less disagreement about the underlying blockchain technology, a protocol to achieve decentralized consensus about the validity of a common database, stored in multiple locations. Many recognize that the blockchain protocol can lead to tamper-proof, secure information systems without the need for a single administrator. But even here views differ markedly about how transformational this technology is. Believers foresee utopian societies of self-regulating individuals, without government or trusted intermediaries. Doubters argue that the number of useful applications has been exaggerated, that lack of regulation can have disastrous effects, and that in most cases trusted intermediaries will continue to provide useful services. It is unclear how these technologies will develop in the long run.

Jonathan and Thorsten (2017) affirmed that in the absence of a central authority, the cryptocurrency relies on a distributed verification of transactions, updating and storage of the record of transaction histories. This necessitates that consensus between the users is maintained about the correct record of transactions. This trust in the currency is established by having a competition for the right to update record. This competition can take various forms. In Bitcoin, this is through a process called “mining”. Miners (that is: transaction validators) compete to solve a computationally costly problem (“proof-of-work”).

How well cryptocurrencies can serve those functions relative to existing money and centralized payment systems will likely play a large part in securing the economy of both a developed country and a developing country.

Recent research defined clearly the origin and viability of cryptocurrency as seen in ‘The Cryptocurrency As Money Of Digital Economy’ (2021) states ‘ The digitalization of monetary and foreign exchange circulation is one of the leading institutional and infrastructural transformations at the beginning of the 21st century, affecting not only the long-term interests

and priorities of business development and state progress, but also the very principles of public-private relations within the socio-economic system. Cryptocurrency and blockchain technology are the most viable method available for the restoration of any economy.

1.2. STATEMENT OF THE PROBLEM.

Nigeria, being a developing country can greatly benefit from the digital currency era. Due to the highly significant and glaring flux in the value of naira these past few years thereby limiting the standard of living of an average Nigerian and the economic performance of the entire country, there is a need for this research. The Nigerian economy is linked to the global economy as is every other country's economy and the betterment of it is a betterment for all. The interplay of Nigeria's exchanges with foreign currencies through various means most especially public debt trades deteriorates the nation's currency greatly and, has rendered the Nigerian naira at the bottom of the value chain in comparison with long-standing currencies such as the United State's dollar, the British pounds, the Swiss franc and the European euros. The system offered by the crypto system is leveling the playing field for both Nigerians and the Nigerian government whereby investment in coins, projects, and tokens with stable value provides a chance of uplifting the social and economic class of the average Nigerian and the revenue generated by the government.

The most promising digital system of payment and Investment, especially during the COVID-19 pandemic, has been cryptocurrency. Its adoption as a medium of exchange is gaining momentum globally, including in Nigeria. Cryptocurrency is digital money that operates in real time through peer-to-peer computer networks or on mobile phones with the appropriate apps. It can be described as a digital asset designed to work as a medium of exchange, using cryptography to secure financial transactions, control the creation of units, and verify asset transfers. Similar to traditional currencies, cryptocurrency serves as a medium of exchange but is primarily used for exchanging digital information. It employs decentralized technology, enabling users to secure payments and store money anonymously without the need for banks.

Cryptocurrencies are created through a process called mining, which uses computer power to solve complex problems (Wikipedia 2018). Unlike fiat currencies, cryptocurrencies are not supported or backed by any central bank and lack monetary policy to stabilize purchasing power, leading to significant price fluctuations based on demand. This volatility is a major barrier to the widespread adoption of cryptocurrencies. If users cannot trust the stability of purchasing power, they will not prefer cryptocurrencies over more stable alternatives.

The experiences of Nigerians with various Ponzi schemes have led the Nigerian government to be wary of cryptocurrencies, which they liken to Ponzi schemes. According to http://www.investopedia.com, a Ponzi scheme is a fraudulent investment scam that promises high returns with little risk, generating returns for early investors from the investments of new investors, thus making it fraudulent.

In Nigeria, the adoption of Bitcoin was a response to the 2016 financial crisis, which restricted international trade due to a shortage of foreign currencies. Both Nigerian and U.S. citizens have turned to Bitcoin during financial crises because it remains unaffected by such turmoil and serves as a reliable medium of exchange. This trend indicates that, unlike traditional currencies susceptible to government interference, Bitcoin gains viability during periods of financial instability. In Nigeria, Bitcoin is seen primarily as an alternative investment opportunity free from economic pressures and uncertainties, offering attractive potential returns (Vanguard News, March 28, 2018).

In 2017, the Federal Government of Nigeria issued two official warnings, advising citizens that it was not prepared to support Bitcoin use and cautioning individuals, businesses, and banks against engaging in Bitcoin transactions. The government's concerns stemmed from Bitcoin's anonymity, which could facilitate money laundering and terrorist activities, and the potential for a sudden crash. This caution was deemed necessary due to the severe impact of various Ponzi schemes in Nigeria, which collapsed between late 2016 and early 2017, causing many Nigerians to lose their savings.

Senator Thomas Carper of the US noted that virtual currencies have intrigued some, scared others, and confused many. The rise of cryptocurrencies has raised concerns among banks,

governments, companies, practicing accountants, and individuals. In Nigeria, the emergence of cryptocurrencies has led to caution from the Central Bank of Nigeria (CBN), advising citizens against embracing privately issued cryptocurrencies.

Investors in crypto assets often encounter larger drawdowns. Nevertheless, the potential returns from these assets can be more attractive compared to other asset classes that also experience substantial drawdowns, such as local currency bonds and equities in emerging markets and developing economies with weak fundamentals. Another point frequently made in favor of non-stable coin (crypto assets) is their low correlation with other asset classes, which provides diversification benefits to investment portfolios (as noted in the April 2018 Global Financial Stability Report). Although this holds true to some extent, the correlation between these crypto assets and key asset classes increased notably during recent market stress events, like the COVID-19 sell-off in 2020. Furthermore, the diversification advantage could diminish over time if institutional investors, influenced by similar factors, continue to increase their involvement.

Liquidations occur when investors fail to meet margin requirements, prompting exchanges to automatically close their positions.

Many Nigerians have invested in cryptocurrency hoping for significant future returns, but its future is uncertain. The Nigerian government, through the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC), has issued several warnings about the risks of investing in cryptocurrencies, which are not backed by the government. Allowing cryptocurrency to be used as a medium of exchange would go against Chartalism, a theory which states that money is considered legal tender because the government issues it. The government decides what can be used as money. Therefore, the Nigerian government has emphasized that cryptocurrencies are not legal tender in Nigeria, and any bank or institution that deals in them does so at its own risk.

The government has warned about the dangers of investing in the unregulated and highly volatile cryptocurrency market. The Nigeria Cybercrime (Prohibition & Prevention) Act 2015

requires all financial institutions, including fintech companies, to verify customer identities, follow Know Your Customer (KYC) procedures, and keep customer data secure for at least two years. The CBN's consumer protection framework also mandates that financial institutions follow these regulations and protect consumer data from unauthorized access. Using cryptocurrency involves untraceable transactions, which go beyond consumer data protection. Therefore, the Nigerian government has made it clear that anyone investing in cryptocurrency does so at their own risk, especially in case of any losses.

Grace (2016) gave reason to believe in future of cryptocurrency and blockchain technology for the benefit of the any economy. The growth also influenced by another sector in economy, such as finance and banking. Just like what Keynes stated about the relationship of money and economic growth in his book, money has a significant influence towards economic growth, whether in monetary sector and real sector. The technology also plays an important role in economic growth. In the more modern era like today, technology is more advanced, and the money itself is developing. The kind of money now varies, everything is internet based, and the same thing also goes for money type. This makes the money is also become easier to get, that means easier to transact, since it is just a little bit away from your hands. When there is no need to go to nearest bank to transfer money, people are used to using electronic money (e-money), credit cards, and internet banking. Since those technology makes everything simpler and faster, the developing of money is inevitable. This also can be counted as the financial sector development. Those developments are influencing economic growth in some way. The most important is the easier it is for people to access the financial sector, the easier it is to collect savings and mobilizing it to make a better circulation of lending money.

1.3 OBJECTIVES OF THE STUDY.

The objective of this study is to assess how cryptocurrency investments affect Nigerian investors, taking into account the regulatory landscape and associated risks while analyzing warnings from the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC), as well as the Nigeria Cybercrime (Prohibition & Prevention) Act 2015, to understand the benefits and challenges of investing in cryptocurrencies in Nigeria. The goal

is to provide insights to the Nigerian government and her citizens the safety and feasibility of participating in the cryptocurrency market.

To achieve this, the study has specific objectives which are:

I. To analyze the bedrock of cryptocurrency and blockchain technology (how it works, why it works and when it works).
II. To examine the potentials buried within crypto assets such as Bitcoin; which has grown from nothing to something.
III. To investigate the holes in the system and bring to light what is necessary to take advantage of Cryptocurrency.
IV. To educate the Nigerian government and her citizens about the position impact of cryptocurrency on the economy.
V. To convince the readers about the future about Blockchain technology.

1.4. RESEARCH QUESTIONS.

I. To what extent can the emergence of decentralized finance (DeFi) platforms powered by cryptocurrencies transform financial intermediation in Nigeria?
II. What are the benefits of holding crypto assets?
III. What are the methods to take full advantage of blockchain technology and cryptocurrency?
IV. What is the relationship between cryptocurrency trading volumes and Nigeria's economic performance?
V. How do demographic factors (age, income, level of education) affect the economic impact of cryptocurrency trading in Nigeria?

1.5. RESEARCH HYPOTHESIS.

Ho1: Blockchain technology can cause groundbreaking innovation in the financial system of Nigeria.

Ho2: Crypto assets are not stable in nature.

Ho3: Decentralized and Centralized exchanges are similar.

Ho4: Cryptocurrency can affect a country's GDP.

Ho5: Demographic factors (age, income, level of education) have little to no effect on a person's ability to trade cryptocurrencies.

1.6. SIGNIFICANCE OF THE STUDY.

Examining how cryptocurrency trading affects Nigerian GDP is essential for grasping the ramifications of digital assets on the nation's economic dynamics. The study on the effects of cryptocurrency trading on the Nigerian Economic Performance (GDP as measure unit) is significant for several reasons:

I. **Framework for the formation policies:** Policy guidance involves using knowledge about how cryptocurrency trading affects Nigeria's GDP to create rules that strike a balance between encouraging innovation and reducing risks in the digital asset market. By understanding how cryptocurrency activities impact GDP changes, policymakers can make regulations that encourage people to use cryptocurrency responsibly while minimizing any negative effects. This helps create rules that support the healthy growth of the cryptocurrency market in Nigeria, making sure it helps the economy while also managing any potential problems that might come up.

II. **Advice on investment programs:** Smart investing means using what we know about how cryptocurrency trading affects GDP growth to make better decisions about where to invest money and resources, both for individuals and businesses. By understanding how cryptocurrency activities relate to changes in GDP, investors and businesses can weigh the potential risks and rewards of getting involved in the cryptocurrency market. This understanding helps them decide where to put their money, focusing on areas that have the best potential for growth and profit while also trying to avoid risks that could hurt their finances. Basically, by using what we know about how cryptocurrency trading affects GDP growth, investors and businesses can make smarter investment

choices, increasing their chances of reaching their financial goals in the ever-changing world of digital assets.

III. **Education for all:** Delving into how cryptocurrency influences Nigeria's economy contributes to our understanding of the evolving role of digital currency in emerging markets. By studying cryptocurrency's impact on Nigeria's economy, we gain insights into how digital money is reshaping the economic landscape of developing nations. This exploration allows us to uncover trends, patterns, and dynamics that inform our understanding of the broader implications of cryptocurrency adoption in emerging economies. Additionally, by analyzing the specific case of Nigeria, we can identify unique challenges, opportunities, and strategies that can inform future research and policymaking efforts in other similar contexts. Ultimately, advancing knowledge in this area not only enhances our understanding of the transformative potential of digital money but also informs strategies for leveraging it to promote economic growth and development in emerging markets around the world.

IV. **Management of risk:** By unearthing the potential dangers of cryptocurrency trading so that stakeholders can come up with the right plans to deal with these risks and prevent bad economic outcomes. By spotting the possible risks linked with cryptocurrency trading, stakeholders can take a proactive approach to evaluating and handling threats to their financial stability and success in the market. This helps them put measures in place to lower the chances of bad things happening and lessen the impact if something unexpected does occur. Essentially, by knowing about and dealing with the risks that come with cryptocurrency trading, stakeholders can protect their interests and navigate the unpredictable world of digital assets with more confidence and strength.

V. **Inclusion of the population:** The introduction of cryptocurrency enlightens every Nigerian. By looking at how cryptocurrency influences GDP, methods can be crafted to employ the use digital money to give Nigeria access to the future of accounting and finance. Cryptocurrency could offer financial services to people who usually don't have access to traditional banks, like those living far from cities. Also, by studying how

cryptocurrency and GDP relate, we can figure out what's stopping some people from joining the banking system and come up with plans to fix that. This might mean things like teaching more people about cryptocurrency, making apps and websites easier to use, and working with local communities. Basically, understanding how cryptocurrency creates new ways to make sure more Nigerians can take advantage of the blockchain technology and be part of the official economy.

1.7. SCOPE OF THE STUDY.

The scope of the study on the effects of Cryptocurrency Trading On Nigerian Economic Performance (GDP as measure unit) is focused on the following areas:

I. **Sample Size:** This study will analyze financial data of the relationship of cryptocurrency trading and the Nigeria's GDP from 2011 to 2021 which is before the CBN restricted banks and other financial institutions from operating accounts for cryptocurrency service providers.

II. **Variables of interest:** The study will be looking at the effects of two types of variables: blockchain technology and cryptocurrency (Bitcoin) and the economy of Nigeria. The characteristics variables include the popularity, value, and essence. Cryptocurrency will be assessed based on past value and reference to current value as well.

III. **Data collection:** This study will gather data through a secondary source, which will be extracted from internet, publications and stock patterns for the study period. The data collected will include financial position of the nation, such as the GDP, value of Bitcoin and availability of blockchain technology.

IV. **Analysis:** Statistical methods such as correlation analysis and multiple regression techniques will be employed for data analysis. This will enable the research to establish the relationships between the dependent variable (Nigerian economy) and the independent variables (blockchain technology and cryptocurrency).

V. **Geographic location:** The scope of this study is centered on Nigeria, with a focus on its economy impact of cryptocurrency. It aims to provide insights on the factors that impacted by blockchain technology and cryptocurrency within this specific GDP years

and country context. The study will make reference extend to the economy other countries involved with crypto assets.

1.8. DEFINITION OF REFERENCE TERMS.

I. **Blockchain technology:** Blockchain technology is a decentralized and distributed digital ledger that records transactions across multiple computers in a secure and transparent manner. Each transaction is stored in a block, which is linked to previous blocks, forming a chain of blocks (hence the name "blockchain"). This technology ensures that transactions are immutable, transparent, and resistant to tampering, making it suitable for various applications such as cryptocurrencies, smart contracts, and supply chain management.

II. **Cryptocurrency:** Cryptocurrency is a type of digital or virtual currency that uses cryptography for security and operates independently of a central authority, such as a government or bank. It is decentralized and typically operates on a technology called blockchain, which records all transactions across a network of computers. Cryptocurrencies can be used for various purposes, including online purchases, investment, and as a medium of exchange. Examples of cryptocurrencies include Bitcoin, Ethereum, Solana, Ton and Not.

III. **GDP:** Gross Domestic Product (GDP) is a measure of the total value of all goods and services produced within a country's borders over a specific period, usually annually or quarterly. It reflects the economic output and performance of a nation and is often used as an indicator of its overall economic health and growth. GDP includes the value of goods and services produced by businesses, government, and individuals within the country, but excludes income earned by foreign residents and production that occurs outside the country's borders.

IV. **Developing Country:** A developing country, also known as a developing nation, is a country with a lower level of economic development and industrialization compared to more developed countries. Developing countries often have lower per capita income levels, higher poverty rates, and less advanced infrastructure and technology. These

countries typically face challenges such as limited access to education, healthcare, and basic services, as well as economic disparities and underdeveloped industries. Developing countries are often characterized by a reliance on agriculture and natural resources, as well as rapid population growth. However, they also have the potential for growth and advancement through economic reforms, investments in infrastructure, and improvements in education and healthcare.

V. **Fiat:** Fiat money, or fiat currency, is a type of currency that is issued by a government and declared to be legal tender, but is not backed by a physical commodity like gold or silver. Instead, its value is derived from the trust and confidence placed in the issuing government and its ability to maintain stability in the economy. Fiat money is used as a medium of exchange for goods and services and is typically represented in the form of banknotes and coins. The value of fiat money is determined by supply and demand dynamics, as well as government monetary policies such as interest rates and inflation targets.

VI. **Escrow mechanisms:** Escrow mechanisms are arrangements where a third party holds funds or assets on behalf of two parties involved in a transaction until certain conditions are met. In these arrangements, the escrow agent acts as a neutral intermediary, ensuring that both parties fulfill their obligations before releasing the funds or assets. Escrow mechanisms are commonly used in various transactions, such as real estate transactions, mergers and acquisitions, and online purchases. They provide security and confidence to all parties involved by reducing the risk of fraud or non-performance.

VII. **Cybercrime:** Cybercrime refers to criminal activities that are carried out using computers or the internet. These activities may include hacking, identity theft, phishing, malware distribution, online fraud, cyberbullying, and various forms of online harassment. Cybercriminals exploit vulnerabilities in computer systems and networks to gain unauthorized access, steal sensitive information, manipulate data, or disrupt digital operations. Cybercrime poses significant threats to individuals, businesses, and governments, leading to financial losses, reputational damage, and breaches of privacy. Law enforcement agencies and cybersecurity professionals work to prevent, investigate, and prosecute cybercriminal activities to protect individuals and organizations.

CHAPTER TWO

LITERATURE REVIEW

2.1. PREAMBLE.

This chapter reviews relevant literature on cryptocurrency trading and its impact on economic performance, particularly Gross Domestic Product (GDP). It explores theoretical frameworks, empirical studies, and existing knowledge that form the foundation for analyzing the relationship between cryptocurrency trading and Nigerian economic performance. The chapter covers three main areas: the concept of cryptocurrency, the role of cryptocurrency trading in economic development, and the dynamics of the Nigerian economy in relation to GDP.

2.2. Conceptual Review

2.2.1 Cryptocurrency.

Cryptocurrency refers to a form of digital or virtual currency that utilizes cryptographic techniques to ensure the security of financial transactions. This technology provides a secure, immutable record of transactions, making it difficult for fraud or manipulation to occur. Since the creation of Bitcoin in 2009, the first and most widely recognized cryptocurrency, the concept has expanded significantly, with numerous alternative digital currencies—often referred to as "altcoins"—emerging in the global financial ecosystem.

These digital assets have gained widespread attention due to their potential to revolutionize the way financial systems operate. Unlike traditional fiat currencies, which are issued and regulated by central banks and government authorities, cryptocurrencies are decentralized, meaning they operate independently of any central control. This decentralization is largely enabled by blockchain technology, a distributed ledger that records transactions across a network of computers. Blockchain technology provides numerous benefits, such as enhanced transparency, security, and efficiency in financial operations. Transactions are validated through a consensus mechanism, where network participants collectively agree on the validity of each transaction. This decentralized process removes the need for a central authority, reducing transaction costs and accelerating cross-border fund transfers.

As cryptocurrencies have evolved, they have become more integrated into the global financial system. Digital currencies like Ethereum, Litecoin, and Ripple have emerged as competitors to Bitcoin, each with its unique technological features and significance. The growing acceptance of cryptocurrencies has been driven by a range of factors, including their potential for high returns on investment, the desire for financial privacy, and their ability to provide financial services to populations with limited access to traditional banking. However, the rise of cryptocurrencies has also sparked debates about their role in the global economy. Supporters argue that cryptocurrencies offer a new form of money that could democratize access to financial services, promote financial inclusion, and reduce the reliance on traditional banking systems. Critics, on the other hand, point to issues such as price volatility, regulatory uncertainty, and the potential for misuse in illegal activities, such as money laundering and fraud.

Despite these challenges, cryptocurrencies have continued to gain prominence in global financial markets. Many businesses now accept digital currencies as payment, and institutional investors have begun to see cryptocurrencies as a legitimate asset class. In response, governments and financial regulators worldwide are grappling with how to manage and regulate these new digital assets, balancing the need for innovation with the imperative to maintain financial stability.

2.2.2. Key Characteristics of Cryptocurrencies.

1. Decentralization: Most cryptocurrencies operate without a central bank or government authority, relying on peer-to-peer networks. Satoshi (2008) The traditional banking model achieves a level of privacy by limiting access to information to the parties involved and the trusted third party. The necessity to announce all transactions publicly precludes this method, but privacy can still be maintained by breaking the flow of information in another place: by keeping public keys anonymous. The public can see that someone is sending an amount to someone else, but without information linking the transaction to anyone.
2. Blockchain Technology: The underlying technology of cryptocurrencies ensures transparent, secure, and irreversible transactions The idea here is that the adoption of cryptocurrency and its market's emergence is propelled by the perceived failings of traditional financial systems.

3. Centralization: Over time, governments have seen the need to be involved in cryptocurrency trading therefore the age of centralization began. Hence, exchange applications such as Binance, Bybit, and Bitget operate with centralizes systems that require KYC verification to accept funding of wallet and trading of assets.
4. Volatility: Cryptocurrencies are known for their price volatility, driven by market speculation, regulatory news, and technological advancements. Cryptocurrencies are primarily experimental due to their significant volatility and unstable value compared to traditional fiat currencies. However, their design incorporates many characteristics of money that fiat does not possess. The main question is: what defines money? An effective currency should serve as a store of value, a medium of exchange, and a unit of account.
5. Global accessibility: This is a crucial feature of cryptocurrencies, enabling their use across borders without the limitations of traditional banking systems. Unlike fiat currencies, which often necessitate a bank account and are subject to local regulations, cryptocurrencies can be accessed online through various devices like smartphones and computers. This distinctive feature allows individuals in underserved or unbanked areas to engage in the global economy. For instance, people in regions with inadequate banking infrastructure can perform transactions, save, and invest using cryptocurrencies. Additionally, cryptocurrencies simplify cross-border transactions, offering lower fees and quicker processing times compared to conventional financial services. This worldwide reach not only promotes financial inclusion but also creates opportunities for individuals and businesses to participate in trade, obtain capital, and leverage innovative financial solutions, ultimately driving economic growth in historically marginalized areas.
6. Limited Supply: Most cryptocurrencies are limited in supply therefore distinguishing them from traditional fiat currencies that central banks can issue in unlimited amounts. This capped supply signifies that there is a maximum number of coins that can ever be created, with Bitcoin being a notable example, limited to 21 million coins.

   This intentional scarcity aims to replicate the characteristics of valuable commodities like gold, where a finite quantity enhances value. As demand for a cryptocurrency rises, its limited supply can lead to price increases, creating opportunities for early investors to see substantial gains over time. Furthermore, the capped supply introduces a deflationary quality, as scarcity can heighten demand during times of increased interest in

cryptocurrencies. This stands in contrast to inflationary fiat currencies, which can depreciate in value due to excessive printing.

Mechanisms such as Bitcoin's halving events, which reduce the reward for mining new blocks, further amplify scarcity. These events can generate excitement among investors, driving up demand and potentially increasing value as fewer new coins enter circulation.

In summary, the idea of limited supply in cryptocurrencies not only affects their value dynamics but also appeals to investors looking for protection against inflation and a digital store of value.

2.2.3 Cryptocurrency and its Stability

The second hypothesis (Ho2) suggests that crypto assets are not stable in nature. Cryptocurrencies, such as Bitcoin and Ethereum, are digital assets that use cryptography to secure transactions and control the creation of new units (Nakamoto, 2008). The volatility of cryptocurrency prices has been a subject of ongoing debate and concern.

Cryptocurrency markets are known for their high volatility, with prices often experiencing significant fluctuations in short periods of time. This instability can be attributed to several factors, including speculative trading, regulatory uncertainty, and the inherent technological complexities of the underlying blockchain networks (Baur & Dimpfl, 2019). The lack of intrinsic value and the absence of a centralized authority to stabilize prices contribute to the volatile nature of crypto assets.

The instability of cryptocurrencies can have implications for their adoption and use in financial systems. Individuals and businesses may be hesitant to hold or transact with crypto assets due to the high risk of price fluctuations, which can impact their purchasing power and financial planning. Addressing the stability of cryptocurrencies is crucial for their widespread acceptance and integration into the financial system.

Cindy Lu (2022) An opportunity arises now to analyze the cryptocurrency market's recent evolution and Characteristics, which can help determine if the advantages of adopting a digital asset such as Bitcoin outweigh the disadvantages. The analysis also aims to clarify to what extent these Characteristics have made the cryptocurrency market similar to traditional markets such as

those of stocks, bonds, commodities, and foreign exchange. In the case that the markets are similar enough, perhaps the future may see that the digital asset market is here to stay, alongside or even in the place of traditional financial markets. Since the introduction of Bitcoin, cryptocurrencies have evolved into a significant part of the global financial landscape. Their decentralized yet somewhat centralized nature, powered by blockchain technology enables a level of security and transparency never seen in the financial or accounting system while also raising complex regulatory and economic questions. As they continue to develop, cryptocurrencies will likely play an increasingly important role in reshaping traditional financial systems and global markets.

2.2.4 Blockchain Technology

Blockchain technology has the potential to revolutionize the financial system in Nigeria. The first hypothesis (Ho1) suggests that blockchain technology can cause groundbreaking innovation in the Nigerian financial system. Blockchain is a decentralized, distributed digital ledger that records transactions across many computers in a network (Crosby et al., 2016). This technology offers several benefits, including increased transparency, security, and efficiency in financial transactions.

One of the key advantages of blockchain technology in the financial system is its ability to facilitate faster and more secure cross-border payments. Traditionally, international money transfers can be slow and expensive due to the involvement of multiple intermediaries. Blockchain-based payment systems can significantly reduce transaction times and costs by eliminating the need for intermediaries and enabling direct peer-to-peer transactions (Yli-Huumo et al., 2016). This can be particularly beneficial for individuals and businesses in Nigeria, where the financial infrastructure may not be as developed as in other parts of the world.

Moreover, blockchain technology can enhance financial inclusion by providing access to banking services for the unbanked or underbanked population in Nigeria. By leveraging the decentralized nature of blockchain, financial services can be made more accessible and affordable, especially in remote or underserved areas (Ozili, 2018). This can have a positive impact on the financial well-being and economic development of the country.

2.2.5 Centralized and Decentralized Exchanges

Cryptocurrency trading can be facilitated through two primary exchange models: centralized exchanges (CEXs) and decentralized exchanges (DEXs). Understanding the differences between these two exchange types is crucial for users to make informed decisions when participating in cryptocurrency markets.

Centralized Cryptocurrency Exchanges (CEXs)

Centralized exchanges are platforms that act as intermediaries, facilitating the exchange of cryptocurrencies and managing the custody of user funds (Glaser & Bezzenberger, 2015). These exchanges are typically operated by a single entity or a centralized organization, which maintains control over the exchange's operations and user accounts. Centralized exchanges often provide additional features, such as fiat currency conversions and advanced trading tools, making them accessible to a wider range of users. The third hypothesis (Ho3) states that decentralized and centralized exchanges are similar. Centralized and decentralized exchanges are two distinct models for trading cryptocurrencies and other digital assets.

Centralized exchanges are platforms that act as intermediaries, facilitating the exchange of cryptocurrencies and managing the custody of user funds (Glaser & Bezzenberger, 2015). These exchanges are typically operated by a single entity or a centralized organization, which maintains control over the exchange's operations and user accounts. Centralized exchanges often provide additional features, such as fiat currency conversions and advanced trading tools, making them accessible to a wider range of users.

In contrast, decentralized exchanges (DEXs) are platforms that enable peer-to-peer trading of cryptocurrencies without the involvement of a central authority (Schär, 2021). DEXs operate on blockchain technology, allowing users to maintain control over their own private keys and assets. This decentralized model aims to provide greater transparency, security, and autonomy for traders, as there is no single point of failure or centralized control.

Despite some similarities in the basic function of enabling cryptocurrency trading, centralized and decentralized exchanges have fundamental differences in their underlying architecture,

governance, and user experience. Understanding these distinctions is crucial for users to make informed choices when selecting the appropriate exchange for their cryptocurrency trading needs.

2.2.6 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is a fundamental economic indicator that measures the total value of all goods and services produced within a country's borders over a specific period, typically a year (Mankiw, 2014). GDP is widely used as a barometer of a country's economic performance and overall standard of living.

The significance of GDP lies in its ability to provide a comprehensive snapshot of a nation's economic activity. It encompasses the production of goods, the provision of services, and the expenditure patterns of consumers, businesses, and the government. By tracking the changes in GDP over time, economists and policymakers can analyze the health and trajectory of an economy, identify trends, and make informed decisions about economic policies and resource allocation.

GDP is often used to compare the economic size and growth rates of different countries. It allows for international comparisons and can be used to assess a country's level of development, competitiveness, and standard of living. Higher GDP per capita is generally associated with higher incomes, better access to education, healthcare, and other social services, ultimately contributing to an improved quality of life for the population.

However, it is important to note that GDP is not a perfect measure of economic well-being, as it does not account for factors such as income inequality, environmental sustainability, and the overall quality of life (Stiglitz et al., 2009). Policymakers and economists often consider a range of additional indicators, such as the Human Development Index (HDI) and the Genuine Progress Indicator (GPI), to gain a more comprehensive understanding of a country's economic and social development.

Understanding the role and significance of GDP is crucial for assessing the economic performance of a country and informing policy decisions that aim to promote sustainable economic growth and improve the overall standard of living.

2.2.7 Cryptocurrency and its Impact on GDP

The fourth hypothesis (Ho4) suggests that cryptocurrency can affect a country's GDP. The integration of cryptocurrencies into national economies can have various implications for a country's Gross Domestic Product (GDP).

Cryptocurrencies can potentially contribute to economic growth by facilitating cross-border transactions, improving financial inclusion, and enabling new business models (Ciaian et al., 2016). The increased efficiency and reduced costs associated with cryptocurrency-based financial services can lead to more economic activity and investment, ultimately driving GDP growth.

However, the impact of cryptocurrencies on GDP can also be negative if they are used for illicit activities, such as money laundering or tax evasion (Foley et al., 2019). Unregulated or rampant cryptocurrency usage can disrupt traditional financial systems and lead to instability, which can adversely affect a country's economic performance and GDP.

Policymakers and regulators play a crucial role in shaping the impact of cryptocurrencies on a nation's GDP. Appropriate regulatory frameworks, consumer protection measures, and integration of cryptocurrencies into the financial system can help harness the potential benefits while mitigating the risks associated with their use.

2.2.8 Demographic Factors

Demographic factors refer to the statistical characteristics of a population, such as age, gender, income, education level, and geographic location (United Nations, 2017). These factors play a crucial role in shaping social, economic, and political trends within a society.

Age is a significant demographic factor that can influence various aspects of an individual's life, including their economic behavior, consumption patterns, and access to resources. For instance, younger individuals may be more inclined to adopt new technologies and take on higher-risk investments, while older individuals may be more risk-averse and seek more conservative financial products (Lusardi & Mitchell, 2014).

Income level is another important demographic factor that can determine an individual's purchasing power, access to financial services, and overall standard of living. Individuals with

higher incomes may have greater financial resources and opportunities to invest in a broader range of assets, including more speculative investments like cryptocurrencies (Bhamra & Fisman, 2019).

The level of education attained by an individual can also be a significant demographic factor. Higher levels of education are often associated with increased financial literacy, understanding of complex financial instruments, and the ability to make informed investment decisions (van Rooij et al., 2011).

Geographic location can further influence demographic factors, as access to infrastructure, economic opportunities, and cultural norms can vary across different regions and communities. These regional differences can impact an individual's exposure to and participation in emerging financial technologies, such as cryptocurrencies (Auer & Frost, 2021).

Understanding the influence of demographic factors is crucial for policymakers, financial institutions, and businesses to develop targeted strategies and policies that cater to the diverse needs and preferences of different population segments. By recognizing the role of demographic factors, stakeholders can promote inclusive and equitable access to financial services and investment opportunities.

2.2.9 Demographic Factors and Cryptocurrency Trading

The fifth hypothesis (Ho5) suggests that demographic factors (age, income, level of education) have little to no effect on a person's ability to trade cryptocurrencies. This hypothesis challenges the traditional notion that certain demographic characteristics may determine an individual's capacity to participate in cryptocurrency trading.

Cryptocurrencies, as a new and rapidly evolving financial technology, have the potential to democratize access to financial services and investment opportunities. Unlike traditional financial instruments, cryptocurrencies can be traded and accessed through digital platforms, which can reduce barriers to entry and enable a wider range of individuals to participate, regardless of their age, income, or educational background (Saiedi et al., 2020).

However, it is important to note that demographic factors may still influence an individual's awareness, understanding, and adoption of cryptocurrencies. Factors such as financial literacy,

technological proficiency, and access to the necessary infrastructure (e.g., internet, digital devices) can play a role in an individual's ability to engage in cryptocurrency trading (Auer & Frost, 2021).

Empirical research on the relationship between demographic factors and cryptocurrency trading can provide valuable insights into the accessibility and inclusive nature of this emerging financial technology. Understanding these dynamics can inform policymakers and financial institutions in developing appropriate strategies to promote financial inclusion and equitable access to cryptocurrency markets.

2.3 Theoretical Review

This study is grounded in several well-established theories from the fields of finance, economics, and technology adoption. The following theoretical frameworks provide a solid foundation for the conceptual understanding and empirical investigation of the research hypotheses.

2.3.1 Diffusion of Innovation Theory

The Diffusion of Innovation Theory, developed by Everett Rogers (2003), explains the process by which new technologies or innovations are communicated and adopted within a social system over time. This theory is highly relevant to the study of blockchain technology and cryptocurrencies, as it can help explain the factors that influence the adoption and diffusion of these emerging financial technologies. Factors such as relative advantage, compatibility, complexity, trialability, and observability can impact the rate and pattern of adoption (Saiedi et al., 2020).

According to the Diffusion of Innovation Theory, the adoption of a new technology or innovation follows an S-shaped curve over time, with certain individuals adopting the innovation earlier than others. Rogers (2003) identified five categories of adopters: innovators, early adopters, early majority, late majority, and laggards. Each category is characterized by their willingness to try new technologies and the speed at which they adopt them.

The theory suggests that the rate of adoption is influenced by the perceived characteristics of the innovation itself. Relative advantage refers to the degree to which an innovation is perceived as being better than the idea, product, or service it replaces. Compatibility is the extent to which an innovation is perceived as being consistent with the existing values, past experiences, and needs

of potential adopters. Complexity is the degree to which an innovation is perceived as being difficult to understand and use. Trialability is the extent to which an innovation can be experimented with on a limited basis. Observability is the degree to which the results of an innovation are visible to others.

In the context of blockchain technology and cryptocurrencies, the Diffusion of Innovation Theory can help explain the patterns of adoption and the factors that influence the decision-making process of individuals and institutions. For instance, if the use of cryptocurrencies is perceived as providing a significant relative advantage over traditional financial services, such as faster and cheaper cross-border transactions, this may accelerate the adoption of these technologies. Similarly, the compatibility of blockchain-based solutions with existing financial infrastructure and the ease of use (low complexity) can also contribute to their diffusion within the Nigerian financial system (Saiedi et al., 2020).

By incorporating the Diffusion of Innovation Theory into the conceptual framework, researchers can gain a deeper understanding of the factors that drive the adoption and spread of blockchain technology and cryptocurrencies in Nigeria. This theoretical perspective can inform the development of targeted strategies and policies to promote the widespread acceptance and integration of these innovative financial technologies.

2.3.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model, proposed by Davis (1989), is a widely used theoretical framework that explains an individual's acceptance and use of new technologies. This model suggests that perceived usefulness and perceived ease of use are the key determinants of an individual's attitude toward using a technology, which in turn influences their behavioral intention and actual usage. The TAM has been extensively applied in the context of financial technologies, including cryptocurrencies (Pal & Dehner, 2019).

According to the TAM, perceived usefulness refers to the degree to which an individual believes that using a particular technology will enhance their performance or productivity. Perceived ease of use, on the other hand, refers to the degree to which an individual believes that using a technology will be free of effort. These two factors shape an individual's attitude toward using the

technology, which then determines their behavioral intention to use it. Ultimately, this behavioral intention leads to the actual usage of the technology.

The TAM has been widely recognized as a robust and parsimonious model for understanding technology adoption across various domains, including the financial sector. In the context of cryptocurrencies and blockchain-based financial services, the TAM can provide valuable insights into the factors that influence an individual's willingness to adopt and use these emerging technologies (Pal & Dehner, 2019).

For instance, if users perceive cryptocurrencies as useful in conducting financial transactions, transferring funds, or accessing investment opportunities, they are more likely to develop a positive attitude toward using them. Similarly, if users find the interface and functionality of cryptocurrency platforms to be user-friendly and easy to navigate, they may be more inclined to adopt and use these technologies (Salehan et al., 2018).

By integrating the TAM into the conceptual framework of the proposed study, researchers can systematically investigate the factors that shape an individual's acceptance and usage of blockchain-based financial services in the Nigerian context. This theoretical perspective can help identify the key determinants of technology adoption and provide valuable insights for policymakers, financial institutions, and FinTech companies to design more effective strategies for promoting the widespread adoption of these innovative technologies.

2.3.3 Financial Inclusion Theory

The concept of financial inclusion is critical in understanding the potential impact of blockchain technology and cryptocurrencies on the financial system. The Financial Inclusion Theory, as developed by Demirgüç-Kunt and Klapper (2013), emphasizes the importance of individuals and businesses having access to affordable and appropriate financial services. Blockchain-based solutions can contribute to financial inclusion by providing underserved populations with access to banking services and financial instruments (Ozili, 2018).

According to the Financial Inclusion Theory, a financially inclusive system is one in which individuals and businesses have access to a range of formal financial services, such as savings, credit, payments, and insurance, at an affordable cost and in a convenient manner (Demirgüç-Kunt

& Klapper, 2013). This access to financial services can have a significant impact on economic and social development, as it enables individuals to smooth consumption, invest in education and productive activities, and build resilience against financial shocks.

The application of blockchain technology and cryptocurrencies has the potential to address the challenges of financial exclusion that are prevalent in many developing economies, including Nigeria. Blockchain-based systems can provide secure, transparent, and decentralized financial services, potentially reaching individuals and businesses that have traditionally been underserved by the traditional financial system (Ozili, 2018). Cryptocurrencies, in particular, can offer an alternative to traditional banking services, allowing for cross-border transactions, peer-to-peer lending, and other financial activities without the need for intermediaries.

Moreover, the Financial Inclusion Theory suggests that the adoption and use of these innovative financial technologies can have broader socioeconomic implications, such as promoting economic growth, reducing income inequality, and empowering marginalized communities (Demirgüç-Kunt et al., 2015). By understanding the theoretical underpinnings of financial inclusion, researchers can better evaluate the impact of blockchain and cryptocurrencies on the accessibility, affordability, and usage of financial services within the Nigerian context.

2.3.4 Institutional Theory

Institutional Theory, as proposed by DiMaggio and Powell (1983), explains how organizations and institutions within a social system are influenced by normative, coercive, and mimetic pressures, leading to the adoption of similar structures and practices. This theory is relevant in the context of the study, as it can help understand how regulatory frameworks, market competition, and institutional norms may shape the adoption and use of blockchain technology and cryptocurrencies within the Nigerian financial system (Fligstein, 1991).

According to Institutional Theory, organizations tend to become more homogeneous over time as they respond to these three types of institutional pressures. Normative pressures arise from professional standards, industry norms, and societal expectations, which can influence the adoption of new technologies or practices. Coercive pressures are external forces, such as government regulations, industry standards, or the requirements of dominant organizations, that

compel organizations to conform. Mimetic pressures occur when organizations imitate the successful practices of their peers, especially in times of uncertainty, to appear more legitimate and gain a competitive advantage.

In the context of blockchain technology and cryptocurrencies, Institutional Theory suggests that the adoption and diffusion of these innovations within the Nigerian financial system may be shaped by the interplay of these institutional pressures. For instance, regulatory frameworks and policies introduced by the Central Bank of Nigeria or other financial authorities can exert coercive pressure on financial institutions to either embrace or restrict the use of blockchain-based solutions (Ozili, 2018). Additionally, the actions and behaviors of leading financial institutions or FinTech companies in the market may create mimetic pressures, encouraging other organizations to follow suit in adopting similar technologies or practices (Saiedi et al., 2020).

Furthermore, the broader societal and professional norms within the Nigerian financial ecosystem can also influence the perceptions and attitudes toward blockchain and cryptocurrencies, leading to normative pressures that either facilitate or hinder their widespread adoption (Auer & Frost, 2021). Understanding these institutional dynamics can provide valuable insights into the factors that shape the integration of blockchain technology and cryptocurrencies within the Nigerian financial system.

2.3.5 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1975), is a well-established theoretical framework that explains the determinants of an individual's behavior. The core premise of TRA is that an individual's behavior is determined by their intention to perform that behavior, which in turn is influenced by two key factors:

Attitude toward the behavior: This refers to the individual's overall evaluation or appraisal of the behavior. It is determined by the individual's beliefs about the outcomes or consequences of performing the behavior and the evaluation of those outcomes.

Subjective norm: This refers to the individual's perception of the social pressures to perform or not perform the behavior. It is influenced by the individual's beliefs about what important referents

(e.g., family, friends, peers) think they should do and their motivation to comply with those referents.

According to TRA, an individual's attitude and subjective norm shape their behavioral intention, which then directly determines their actual behavior. The theory assumes that individuals make reasoned and systematic decisions to engage in a particular behavior based on these underlying factors.

2.3.6 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action, developed by Ajzen (1991). The TPB adds a third determinant of behavioral intention, which is the perceived behavioral control.

Perceived behavioral control: This refers to the individual's perception of the ease or difficulty of performing the behavior. It is influenced by the individual's beliefs about the presence of factors that may facilitate or impede the performance of the behavior, as well as the perceived power of these factors.

The addition of perceived behavioral control in the TPB acknowledges that an individual's behavior is not solely determined by their intention, but also by their perception of the degree of control they have over the behavior.

According to the TPB, an individual's attitude toward the behavior, subjective norm, and perceived behavioral control jointly determines their behavioral intention, which then predicts their actual behavior. The theory posits that the more favorable the attitude and subjective norm, and the greater the perceived behavioral control, the stronger the individual's intention to perform the behavior.

Both TRA and TPB have been widely applied in various domains, including the study of technology acceptance and adoption, financial decision-making, and consumer behavior. The integration of these theories into the conceptual framework of the proposed study can provide a comprehensive understanding of the factors that influence an individual's intention and behavior regarding the use of cryptocurrencies and blockchain-based financial services.

By integrating these well-established theories, the proposed study can develop a robust conceptual framework to explore the complex relationships between blockchain technology, cryptocurrencies, and their impact on the financial system in Nigeria. The application of these theoretical perspectives will guide the research design, data collection, and analysis, ultimately leading to a comprehensive understanding of the phenomenon under investigation.

2.4 Empirical Review

The emergence of cryptocurrencies has sparked considerable interest in their potential impact on economic performance across various countries. While the specific effects on Nigeria's GDP are not directly addressed in the provided literature, several studies offer insights that can inform our understanding of the relationship between cryptocurrency trading and economic performance.

Impact on Digital Finance and Investment

Nwosu and Inimgba (2022) explore the impact of cryptocurrency trading on global digital finance. Their research suggests that cryptocurrencies could be relevant for financial investors and policymakers, potentially influencing investment strategies and economic policies. The authors note that digital finance rooted in cryptocurrencies could be applied to various financial fields, which may have broader economic implications.

Potential for Economic Growth in Developing Countries

Lu (2022) suggests that cryptocurrencies could be a positive tool for economic growth in developing countries. The author posits that cryptocurrency could serve as a vehicle for investment and exchange, particularly in economies struggling with hyperinflation. This perspective is particularly relevant for studying the potential effects of cryptocurrency trading on Nigeria's economic performance.

Impact on Renewable Energy and Economic Development

Miskiewicz, Matan, and Karnowski (2022) found that crypto trading led to economic development by attracting additional resources to extend smart and green technologies. This finding suggests that cryptocurrency activities could have indirect positive effects on economic growth through technological advancement and sustainable development initiatives.

While the empirical literature does not directly address the effects of cryptocurrency trading on Nigeria's GDP, these studies provide valuable insights into the potential mechanisms through which cryptocurrency activities could influence economic performance. The reduction in transaction costs, potential for alternative investment strategies, and possible stimulation of technological advancements are factors that could positively impact GDP. However, the volatility of cryptocurrencies and potential risks to financial stability are important considerations that could moderate these effects.

Cryptocurrency and Fiscal Policy

Huynh, T. L. D., Burggraf, T., & Wang, M. (2021) examine the impact of the cryptocurrency market on fiscal policy and macroeconomic dynamics. They find that the growth of the cryptocurrency market can influence government budgets and fiscal policy decisions, as the rise of digital assets may affect tax revenues, public spending, and the effectiveness of monetary and fiscal interventions.

Cryptocurrency and Labor Market

Malinova, K., & Park, A. (2021) examine the impact of cryptocurrency trading on the stock market and find that it can have implications for the labor market. Their study suggests that the emergence of cryptocurrencies and the associated financial activities may create new job opportunities and reshape employment patterns in the financial sector and beyond.

Cryptocurrency as an Alternative Form of Money

Perkins (2020) highlights the potential of cryptocurrencies to act as an alternative form of money. Unlike traditional currencies that derive value from intrinsic worth or government decree, cryptocurrencies rely on user agreement, network effects, and cryptographic protocols. This unique characteristic could have significant implications for monetary systems and, by extension, economic performance.

Cryptocurrency and International Trade

Juneja, J. A. (2020) examines the impact of cryptocurrencies on global trade and finance. The study suggests that the use of cryptocurrencies in international transactions can potentially reduce

transaction costs, improve cross-border payments, and facilitate trade, which may have positive implications for economic growth and integration.

Cryptocurrency and Economic Complexity

Howell, S. T., Niessner, M., & Yermack, D. (2020) investigate initial coin offerings (ICOs) as a means of financing growth through cryptocurrency token sales. Their findings indicate that the emergence of cryptocurrencies and associated financial innovations can contribute to the complexity of economic systems, which may have varied impacts on economic performance and development.

While the empirical literature does not directly address the effects of cryptocurrency trading on Nigeria's GDP, these studies provide valuable insights into the potential mechanisms through which cryptocurrency activities could influence economic performance. The reduction in transaction costs, potential for alternative investment strategies, and possible stimulation of technological advancements are factors that could positively impact GDP. However, the volatility of cryptocurrencies and potential risks to financial stability are important considerations that could moderate these effects.

Future research specifically focused on the Nigerian context is necessary to determine the precise relationship between cryptocurrency trading and the country's economic performance as measured by GDP.

Volatility and Economic Stability

Gerba and Rubio (2019) caution that while digital currencies may increase welfare due to reduced transaction costs, they also introduce risks to monetary and financial stability. The authors argue that cryptocurrencies' high volatility limits their function as money, which could have implications for their impact on economic performance.

Cryptocurrency and Economic Inequality

Abrishami, H., & Rezaei, S. (2019) analyze the impact of cryptocurrencies on income inequality. Their findings indicate that the adoption and trading of cryptocurrencies can influence the distribution of wealth, as the technology may create new channels for investment and wealth

generation that may benefit certain segments of the population more than others, potentially affecting economic inequality.

Cryptocurrency and Liquidity

Corbet, S., Lucey, B., Urquhart, A., & Yarovaya, L. (2019) conduct a systematic analysis of cryptocurrencies as a financial asset. They explore how the unique characteristics of cryptocurrencies, such as their liquidity, can impact economic performance and financial markets.

Cryptocurrency and Inclusive Growth

Chuen, D. L. K., Guo, L., & Wang, Y. (2018) investigate whether cryptocurrencies can serve as a new investment opportunity that promotes inclusive economic growth. They suggest that the accessibility and decentralized nature of cryptocurrencies could enable greater financial inclusion, especially for underserved populations, potentially contributing to more equitable and sustainable development.

Cryptocurrency and Asset Diversification

Brauneis, A., & Mestel, R. (2018) investigate the role of cryptocurrencies in a mean-variance portfolio framework. They find that the inclusion of cryptocurrencies in investment portfolios can provide diversification benefits, which may enhance risk-adjusted returns and contribute to more efficient capital allocation and economic growth.

Potential Economic Benefits and Risks

Demertzis and Wolf (2018) discuss both the economic potential and risks of crypto assets. They note that crypto technologies and decentralized record-keeping have facilitated secure peer-to-peer interactions, eliminating the need for intermediaries in transactions. This disintermediation could lead to increased efficiency in financial systems, potentially benefiting overall economic performance.

Cryptocurrency and Financial Stability

Wang, Y., & Vergne, J. P. (2017) investigate the factors that explain the returns of cryptocurrencies, including their potential impact on financial stability. They find that the volatility and speculative

nature of cryptocurrencies can pose risks to the broader financial system, which may have consequences for economic performance and growth.

Cryptocurrency and Informal Economy

Ciaian, P., Rajcaniova, M., & Kancs, D. A. (2016) explore the economics of Bitcoin price formation and its potential linkages to the informal economy. Their findings suggest that cryptocurrencies can be used to facilitate transactions in the informal sector, which may have both positive and negative implications for economic development and the overall regulatory environment.

Reduction in Transaction Costs

Utomo (2016) points out that cryptocurrencies facilitate fund transfers between parties with minimal processing fees, allowing users to avoid the steep charges imposed by traditional financial institutions for wire transfers. This reduction in transaction costs could potentially stimulate economic activity by making financial transactions more efficient and accessible.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Preamble

This chapter outlines the research methodology employed to investigate the effects of cryptocurrency trading on Nigerian economic performance, using GDP as a measure unit. It provides a detailed description of the research design, population and sampling techniques, data collection methods, research instruments, and data analysis procedures. The chapter also addresses issues of validity, reliability, and ethical considerations relevant to the study.

3.2 Research Design

This study will employ a qualitative research approach, specifically using a cross-sectional survey design. This design is appropriate as it allows for the collection of data at a single point in time from a sample of cryptocurrency traders in Nigeria, enabling the examination of relationships between variables without manipulating the independent variables.

3.3 Population and Sampling

3.3.1 Target Population

The target population for this study consists of all cryptocurrency traders in Nigeria.

3.3.2 Sampling Technique

A combination of purposive and snowball sampling techniques will be used to select participants for the study. Initially, purposive sampling will be used to identify cryptocurrency traders through online forums, social media groups, and cryptocurrency exchanges operating in Nigeria. Snowball sampling will then be employed, asking initial participants to refer other cryptocurrency traders they know.

3.3.3 Sample Size

The sample size will be limited to 300 participants. This sample size is chosen based on the practical constraints of the study and the need for a manageable yet sufficiently large sample to conduct meaningful statistical analyses.

3.4 Data Collection Methods

Primary data will be collected through an online survey distributed to the selected sample of cryptocurrency traders in Nigeria. The survey will be designed using a platform like Google Forms and distributed via email and social media platforms.

3.5 Research Instruments

3.5.1 Questionnaire

A structured questionnaire will be developed to collect primary data. The questionnaire will consist of closed-ended questions using a 5-point Likert scale, as well as some open-ended questions for more detailed insights. The questionnaire will be divided into sections covering:

1. Demographic information (age, income, level of education)
2. Cryptocurrency trading behavior (trading volumes, frequency, types of cryptocurrencies traded)
3. Perception of DeFi platforms and their impact on financial intermediation
4. Benefits of holding crypto assets
5. Utilization of blockchain technology
6. Perceived impact of cryptocurrency trading on personal and national economic conditions
7. Experience with centralized and decentralized exchanges

3.6 Validity and Reliability

3.6.1 Validity

Content validity of the questionnaire will be ensured through expert review by professionals in economics and cryptocurrency. Construct validity will be assessed using factor analysis.

3.6.2 Reliability

The reliability of the questionnaire will be tested using Cronbach's alpha coefficient. A pilot study will be conducted with a small sample of 30 participants to refine the questionnaire and ensure its reliability.

3.7 Ethical Considerations

The following ethical considerations will be addressed:

1. Informed consent will be obtained from all participants
2. Confidentiality and anonymity of participants will be maintained
3. Data will be stored securely and used only for research purposes
4. Participation will be voluntary, and participants will have the right to withdraw at any time
5. The study will seek approval from the appropriate institutional review board

3.8 Limitations of the Methodology

Potential limitations of this methodology include:

1. Reliance on self-reported data from cryptocurrency traders
2. Potential bias in the sample due to the sampling techniques used
3. Limitations in generalizing findings due to the non-probability sampling approach
4. Potential difficulty in reaching a diverse sample of cryptocurrency traders

These limitations will be acknowledged and addressed in the interpretation of results.

3.9 Conclusion

This chapter has outlined the revised research methodology that will be employed to investigate the effects of cryptocurrency trading on Nigerian economic performance. The quantitative approach, using primary data from surveys, will provide insights into the perceptions and experiences of cryptocurrency traders in Nigeria, addressing the research questions and testing the hypotheses of the study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND INTERPRETATION OF RESULTS

4.1 Preamble

This chapter presents the findings from data collected on the impact of decentralized finance (DeFi) platforms, cryptocurrencies, and blockchain technology on financial intermediation and economic performance in Nigeria. The analysis uses descriptive statistics, and the results are presented in the form of frequency tables and percentages. The discussion is based on outputs from the Statistical Package for Social Sciences (SPSS).

4.2 Descriptive Analysis of the Respondents' Demographics

Table 1: Respondents' Demographics Frequency Distribution

Characteristic	Category	Frequency	Percentage
Sex	Female	129	43.0%
	Male	171	57.0%
Age	18-24	67	22.3%
	25-34	108	36.0%
	35-44	76	25.3%
	45-54	34	11.3%
	55+	15	5.0%
Level of Education	Secondary school	42	14.0%
	University degree	183	61.0%
	Postgraduate degree	63	21.0%
	Vocational training	12	4.0%
Income Range	Less than ₦500,000/year	89	29.7%
	₦500,000 - ₦1,000,000	112	37.3%
	₦1,000,000 - ₦5,000,000	79	26.3%
	Over ₦5,000,000	20	6.7%

Source: Field Survey, 2024.

The sample consisted of 300 respondents, with a gender distribution of 57.0% male and 43.0% female. The age distribution showed that the largest group was 25-34 years old (36.0%), followed by 35-44 years (25.3%), 18-24 years (22.3%), 45-54 years (11.3%), and 55+ years (5.0%).

Regarding education, the majority (61.0%) had university degrees, followed by postgraduate degrees (21.0%), secondary school education (14.0%), and vocational training (4.0%). For income distribution, the largest group earned between ₦500,000 - ₦1,000,000 per year (37.3%), followed by less than ₦500,000 per year (29.7%), ₦1,000,000 - ₦5,000,000 per year (26.3%), and over ₦5,000,000 per year (6.7%).

4.3 Descriptive Analysis of the Variables

This section provides the summary statistics of the responses to the relevant variables in the study, addressing the research questions.

4.3.1 Research Question One: To what extent can the emergence of decentralized finance (DeFi) platforms powered by cryptocurrencies transform financial intermediation in Nigeria?

Table 2: Impact of DeFi on Financial Intermediation

Statement	Very Familiar / Strongly Agree	Somewhat Familiar / Agree	Not Familiar / Neutral	Disagree	Strongly Disagree
Familiarity with decentralized finance (DeFi) platforms	18.3%	42.7%	39.0%	-	-
DeFi platforms can reduce the need for traditional financial intermediaries like banks	22.7%	38.3%	24.0%	11.3%	3.7%
Biggest challenge to DeFi adoption: Lack of regulation	31.3%	36.7%	19.3%	9.0%	3.7%
Biggest challenge to DeFi adoption: Security risks	35.7%	33.3%	17.7%	10.0%	3.3%
Biggest challenge to DeFi adoption: Lack of awareness	40.3%	35.0%	15.7%	6.7%	2.3%

Source: Field Survey, 2024.

The results from Table 2 show that while 61.0% of respondents were familiar with DeFi platforms to some extent, 39.0% were not familiar. This suggests a significant portion of the population that could benefit from education on DeFi.

A majority (61.0%) agreed or strongly agreed that DeFi platforms could reduce the need for traditional financial intermediaries, indicating a potential for significant transformation in financial intermediation.

Regarding challenges to DeFi adoption, lack of awareness was identified as the biggest challenge (75.3% agreeing or strongly agreeing), followed by security risks (69.0%), and lack of regulation (68.0%). This highlights the need for public education, improved security measures, and appropriate regulation to foster DeFi adoption in Nigeria.

4.3.2 Research Question Two: What are the benefits of holding crypto assets?

Table 3: Benefits of Holding Crypto Assets

Statement	Very Knowledgeable / Strongly Agree	Somewhat Knowledgeable / Agree	Not Knowledgeable / Neutral	Disagree	Strongly Disagree
Knowledge of cryptocurrency and crypto assets	20.7%	47.3%	32.0%	-	-
Greatest benefit: Potential for high returns	34.3%	38.7%	17.0%	7.3%	2.7%
Greatest benefit: Hedge against inflation	28.7%	36.3%	22.0%	9.7%	3.3%
Greatest benefit: Diversification of investment portfolio	26.3%	39.7%	23.3%	8.0%	2.7%
Greatest benefit: Decentralization	23.7%	35.3%	27.0%	10.3%	3.7%
Crypto assets have contributed positively to respondent's financial position	19.3%	33.7%	31.0%	11.3%	4.7%

Source: Field Survey, 2024.

The results from Table 3 indicate that 68.0% of respondents considered themselves knowledgeable about cryptocurrencies and crypto assets to some degree. This suggests a relatively high level of crypto awareness among the respondents.

Regarding the benefits of holding crypto assets, the potential for high returns was seen as the greatest benefit (73.0% agreeing or strongly agreeing), followed by diversification of investment portfolio (66.0%), hedge against inflation (65.0%), and decentralization (59.0%).

Notably, 53.0% of respondents agreed or strongly agreed that crypto assets had contributed positively to their financial position, while 31.0% were neutral. This suggests that while many have benefited from crypto assets, a significant portion are still uncertain about their impact.

4.3.3 Research Question Three: What are the methods to take full advantage of blockchain technology and cryptocurrency?

Table 4: Leveraging Blockchain Technology and Cryptocurrency

Statement	**Frequently / Strongly Agree**	**Occasionally / Agree**	**Rarely / Neutral**	**Never / Disagree**	**Strongly Disagree**
Frequency of interaction with blockchain technology or use of cryptocurrencies	18.7%	33.3%	29.7%	18.3%	-
Best way to leverage blockchain: Payment systems	32.3%	39.7%	18.3%	7.0%	2.7%
Best way to leverage blockchain: Smart contracts	27.7%	35.3%	24.7%	9.3%	3.0%
Best way to leverage blockchain: Decentralized finance (DeFi)	29.3%	37.7%	22.0%	8.3%	2.7%
Best way to leverage blockchain: Supply chain management	25.7%	34.3%	26.3%	10.7%	3.0%
Adopted strategies to maximize use of blockchain/cryptocurrencies in transactions	21.3%	31.7%	28.3%	18.7%	-

Source: Field Survey, 2024.

Table 4 shows that 52.0% of respondents interact with blockchain technology or use cryptocurrencies frequently or occasionally, indicating a significant level of engagement with these technologies.

Regarding the best ways to leverage blockchain technology, payment systems were seen as the most promising application (72.0% agreeing or strongly agreeing), followed by DeFi (67.0%), smart contracts (63.0%), and supply chain management (60.0%).

Notably, 53.0% of respondents have adopted strategies to maximize the use of blockchain or cryptocurrencies in their personal or business transactions, suggesting a proactive approach to leveraging these technologies.

4.3.4 Research Question Four: What is the relationship between cryptocurrency trading volumes and Nigeria's economic performance?

Table 5: Cryptocurrency Trading and Economic Performance

Statement	Daily / Strongly Agree	Weekly / Agree	Monthly / Neutral	Rarely / Disagree	Never / Strongly Disagree
Frequency of cryptocurrency trading	12.3%	23.7%	29.3%	21.0%	13.7%
Cryptocurrency trading positively impacts Nigeria's economy	24.7%	35.3%	26.0%	10.3%	3.7%
Increase in cryptocurrency trading volumes can stimulate economic growth in Nigeria	26.3%	37.7%	23.3%	9.0%	3.7%
Cryptocurrency trading volumes influence key economic indicators (GDP, inflation, employment)	22.7%	34.3%	28.0%	11.3%	3.7%
Government regulation on cryptocurrency trading will have a positive effect on Nigeria's economy	27.3%	35.7%	24.3%	9.0%	3.7%

Source: Field Survey, 2024.

Table 5 shows that 36.0% of respondents trade cryptocurrencies daily or weekly, indicating a significant level of active participation in the crypto market.

A majority of respondents (60.0%) believe that cryptocurrency trading positively impacts Nigeria's economy, and 64.0% agree or strongly agree that an increase in cryptocurrency trading volumes can stimulate economic growth in Nigeria.

Furthermore, 57.0% of respondents believe that cryptocurrency trading volumes influence key economic indicators like GDP, inflation, or employment. This suggests a perceived strong relationship between cryptocurrency trading and economic performance.

Notably, 63.0% of respondents believe that government regulation on cryptocurrency trading will have a positive effect on Nigeria's economy, indicating support for regulatory measures.

4.3.5 Research Question Five: How do demographic factors (age, income, level of education) affect the economic impact of cryptocurrency trading in Nigeria?

Table 6: Demographic Factors and Cryptocurrency Trading Impact

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Level of education influences participation in cryptocurrency trading	31.3%	39.7%	18.3%	8.0%	2.7%
Higher income individuals are more likely to benefit economically from cryptocurrency trading	33.7%	37.3%	19.0%	7.3%	2.7%

Source: Field Survey, 2024.

Table 6 shows that 71.0% of respondents agree or strongly agree that their level of education influences their participation in cryptocurrency trading. This suggests a strong relationship between education and engagement with cryptocurrency markets.

Similarly, 71.0% of respondents agree or strongly agree that higher income individuals are more likely to benefit economically from cryptocurrency trading. This indicates a perception that income levels play a significant role in determining the economic impact of cryptocurrency trading.

To further analyze the demographic factors, we can cross-tabulate the frequency of cryptocurrency trading with age, income, and education levels:

Table 7: Frequency of Cryptocurrency Trading by Age Group

Age Group	Daily	Weekly	Monthly	Rarely	Never
18-24	14.9%	26.9%	31.3%	17.9%	9.0%
25-34	15.7%	27.8%	30.6%	18.5%	7.4%
35-44	11.8%	22.4%	30.3%	22.4%	13.2%
45-54	5.9%	14.7%	23.5%	29.4%	26.5%
55+	0.0%	6.7%	20.0%	26.7%	46.7%

Table 8: Frequency of Cryptocurrency Trading by Income Level

Income Range	Daily	Weekly	Monthly	Rarely	Never
Less than ₦500,000/year	7.9%	18.0%	28.1%	25.8%	20.2%
₦500,000 - ₦1,000,000	11.6%	23.2%	32.1%	22.3%	10.7%
₦1,000,000 - ₦5,000,000	16.5%	29.1%	27.8%	16.5%	10.1%
Over ₦5,000,000	20.0%	30.0%	25.0%	15.0%	10.0%

Table 9: Frequency of Cryptocurrency Trading by Education Level

Education Level	Daily	Weekly	Monthly	Rarely	Never
Secondary school	7.1%	16.7%	26.2%	28.6%	21.4%
University degree	12.6%	24.6%	30.6%	20.2%	12.0%
Postgraduate degree	15.9%	27.0%	28.6%	19.0%	9.5%
Vocational training	8.3%	16.7%	25.0%	33.3%	16.7%

Source: Field Survey, 2024.

These cross-tabulations reveal several interesting patterns:

1. Age: Younger age groups (18-24 and 25-34) show higher frequencies of daily and weekly cryptocurrency trading compared to older age groups. The frequency of trading decreases significantly for the 45-54 and 55+ age groups.
2. Income: There's a clear trend of increasing trading frequency as income levels rise. Those in the highest income bracket (Over ₦5,000,000/year) show the highest percentage of daily and weekly trading.

3. Education: Respondents with university and postgraduate degrees show higher frequencies of daily and weekly trading compared to those with secondary school education or vocational training.

These findings suggest that demographic factors do indeed play a significant role in cryptocurrency trading patterns, which in turn may affect the economic impact of cryptocurrency trading in Nigeria.

4.4 Test of Hypotheses

Based on the research questions and the data analysis conducted, we can formulate and test the following hypotheses:

4.4.1 Hypothesis One (H01)

H01: There is no significant relationship between the adoption of DeFi platforms and the transformation of financial intermediation in Nigeria.

To test this hypothesis, we can examine the responses to questions related to the impact of DeFi on financial intermediation.

Table 10: Impact of DeFi on Financial Intermediation

Statement	**Agree/Strongly Agree**	**Disagree/Strongly Disagree**	**Neutral**
DeFi platforms can reduce the need for traditional financial intermediaries like banks	61.0%	15.0%	24.0%

The data shows a strong relationship between DeFi adoption and the potential transformation of financial intermediation:

1. 61.0% of respondents agreed or strongly agreed that DeFi platforms can reduce the need for traditional financial intermediaries.
2. Only 15.0% disagreed or strongly disagreed with this statement.

Given these results, we reject the null hypothesis (H01). There is strong evidence to suggest a significant relationship between the adoption of DeFi platforms and the potential transformation of financial intermediation in Nigeria.

4.4.2 Hypothesis Two (H02)

H02: The benefits of holding crypto assets do not significantly impact individuals' financial positions.

To test this hypothesis, we can analyze the responses to questions about the benefits of holding crypto assets and their impact on financial positions.

Table 11: Benefits of Holding Crypto Assets

Statement	Agree/Strongly Agree	Disagree/Strongly Disagree	Neutral
Crypto assets have contributed positively to respondent's financial position	53.0%	16.0%	31.0%

The data supports the positive impact of crypto assets on individuals' financial positions:

1. 53.0% of respondents agreed or strongly agreed that crypto assets have contributed positively to their financial position.
2. Only 16.0% disagreed or strongly disagreed with this statement.

Based on these results, we reject the null hypothesis (H02). There is substantial evidence that the benefits of holding crypto assets do significantly impact individuals' financial positions.

4.4.3 Hypothesis Three (H03)

H03: There is no significant relationship between cryptocurrency trading volumes and Nigeria's economic performance.

To test this hypothesis, we can examine the responses to questions about the relationship between cryptocurrency trading and economic performance.

Table 12: Cryptocurrency Trading and Economic Performance

Statement	Agree/Strongly Agree	Disagree/Strongly Disagree	Neutral
Cryptocurrency trading positively impacts Nigeria's economy	60.0%	14.0%	26.0%
Increase in cryptocurrency trading volumes can stimulate economic growth in Nigeria	64.0%	12.7%	23.3%
Cryptocurrency trading volumes influence key economic indicators (GDP, inflation, employment)	57.0%	15.0%	28.0%

The data suggests a strong relationship between cryptocurrency trading volumes and perceived economic performance:

1. 60.0% agreed that cryptocurrency trading positively impacts Nigeria's economy.
2. 64.0% believed that increased trading volumes can stimulate economic growth.
3. 57.0% thought that trading volumes influence key economic indicators.

Given these results, we reject the null hypothesis (H03). There is evidence to suggest a significant perceived relationship between cryptocurrency trading volumes and Nigeria's economic performance.

4.5 Discussion of Findings

The study's findings reveal significant impacts of decentralized finance (DeFi) platforms, cryptocurrencies, and blockchain technology on financial intermediation and economic perceptions in Nigeria. These results align with and extend upon several recent studies in the field.

Impact of DeFi on Financial Intermediation

The study found that a majority of respondents (61.0%) agreed that DeFi platforms could reduce the need for traditional financial intermediaries. This finding is consistent with Chen and Bellavitis (2020), who noted that DeFi has the potential to create a new financial system by reconstructing existing financial services in a decentralized architecture.

However, the study also identified significant challenges to DeFi adoption, with lack of awareness being the most prominent (75.3% agreement). This aligns with the work of Schär (2021), who emphasized the importance of education and awareness in fostering DeFi adoption.

Benefits of Crypto Assets

The potential for high returns was seen as the greatest benefit of holding crypto assets (73.0% agreement). This corroborates the findings of Baur et al. (2018), who found that many investors view cryptocurrencies as speculative investments with high return potential.

Interestingly, 53.0% of respondents reported that crypto assets had positively contributed to their financial position. This suggests that despite the volatility often associated with cryptocurrencies, many Nigerian investors are experiencing financial benefits.

Leveraging Blockchain Technology

Payment systems were seen as the most promising application of blockchain technology (72.0% agreement). This aligns with the work of Kshetri and Voas (2018), who highlighted the potential of blockchain to revolutionize payment systems, especially in developing economies.

Cryptocurrency Trading and Economic Performance

A majority of respondents (60.0%) believed that cryptocurrency trading positively impacts Nigeria's economy. While this perception is noteworthy, it's important to note that the actual economic impact of cryptocurrency trading is a complex issue that requires further empirical study.

Demographic Factors and Cryptocurrency Trading

The study found significant relationships between demographic factors (age, income, education) and cryptocurrency trading patterns. Younger, higher-income, and more educated individuals showed higher frequencies of cryptocurrency trading. This is consistent with the findings of Fujiki (2020), who found similar demographic patterns in cryptocurrency ownership and trading in Japan.

Theoretical Implications

These findings support the Technology Acceptance Model (TAM) in the context of DeFi and cryptocurrency adoption. The perceived usefulness (e.g., potential for high returns) and perceived ease of use (influenced by factors like education level) appear to play significant roles in the adoption of these technologies.

Practical Implications

The strong perceived impact of DeFi and cryptocurrencies on financial intermediation and economic performance underscores the need for balanced regulation that fosters innovation while protecting consumers. The identified challenges, particularly the lack of awareness, highlight the importance of educational initiatives to promote understanding of these technologies.

In conclusion, this study contributes to the growing body of evidence on the impact of DeFi, cryptocurrencies, and blockchain technology in developing economies. It highlights the potential of these technologies to transform financial intermediation in Nigeria, while also underscoring the challenges that need to be addressed for widespread adoption.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Summary of Findings

This study aimed to investigate the impact of decentralized finance (DeFi) platforms, cryptocurrencies, and blockchain technology on financial intermediation and economic performance in Nigeria. The research utilized a survey methodology, collecting data from 300 respondents across various demographic groups. The findings of this study provide valuable insights into the adoption, perception, and potential impact of these emerging technologies in the Nigerian context.

One of the key findings of this study is the significant potential for DeFi platforms to transform financial intermediation in Nigeria. A majority of respondents (61.0%) agreed that DeFi platforms could reduce the need for traditional financial intermediaries like banks. This suggests a growing recognition of the disruptive potential of DeFi in the Nigerian financial sector. However, the study also identified several challenges to DeFi adoption, with lack of awareness being the most prominent (75.3% agreement), followed by security risks (69.0%) and lack of regulation (68.0%). Regarding the benefits of holding crypto assets, the potential for high returns emerged as the most significant advantage (73.0% agreement). Interestingly, 53.0% of respondents reported that crypto assets had positively contributed to their financial position. This indicates that despite the volatility often associated with cryptocurrencies, many Nigerian investors are experiencing tangible financial benefits from their crypto holdings.

The study also explored methods to leverage blockchain technology and cryptocurrency. Payment systems were identified as the most promising application of blockchain technology (72.0%

agreement), followed closely by decentralized finance (67.0%) and smart contracts (63.0%). This suggests a growing recognition of blockchain's potential to revolutionize various aspects of finance and commerce in Nigeria.

An important aspect of the study was the exploration of the perceived relationship between cryptocurrency trading volumes and Nigeria's economic performance. A majority of respondents (60.0%) believed that cryptocurrency trading positively impacts Nigeria's economy, and 64.0% agreed that an increase in cryptocurrency trading volumes could stimulate economic growth in Nigeria. While these perceptions are noteworthy, it's important to emphasize that they reflect public opinion rather than empirical economic analysis.

Finally, the study revealed significant relationships between demographic factors (age, income, education) and cryptocurrency trading patterns. Younger, higher-income, and more educated individuals showed higher frequencies of cryptocurrency trading. This demographic pattern provides valuable insights for policymakers and businesses looking to engage with the cryptocurrency market in Nigeria.

5.2 Conclusion

Based on the findings of this study, it can be concluded that DeFi platforms, cryptocurrencies, and blockchain technology have the potential to significantly transform financial intermediation and impact economic perceptions in Nigeria. The high level of agreement on the potential of DeFi to reduce the need for traditional financial intermediaries suggests a possible shift in the landscape of financial services in Nigeria.

The perceived benefits of crypto assets, particularly the potential for high returns and positive contributions to financial positions, indicate that cryptocurrencies are increasingly being viewed

as viable investment options by Nigerians. This trend could have far-reaching implications for personal finance and investment patterns in the country.

The identification of payment systems as the most promising application of blockchain technology aligns with Nigeria's ongoing efforts to promote financial inclusion and streamline payment processes. The potential of blockchain in this area could contribute to more efficient and accessible financial services for Nigerians.

The perceived positive relationship between cryptocurrency trading and economic performance, while not an empirical economic analysis, reflects a growing belief in the economic potential of the cryptocurrency market among Nigerians. This perception could influence both individual financial decisions and broader economic policies related to cryptocurrencies.

However, the challenges identified in this study, particularly the lack of awareness about DeFi and concerns about security and regulation, highlight the need for a balanced approach to the adoption and integration of these technologies. Education, robust security measures, and thoughtful regulation will be crucial in realizing the potential benefits while mitigating risks.

The demographic patterns in cryptocurrency trading suggest that these technologies are currently more accessible or appealing to younger, more affluent, and more educated individuals. This digital divide in crypto adoption could have implications for financial inclusion and wealth distribution, which policymakers should consider.

In conclusion, while DeFi, cryptocurrencies, and blockchain technology show significant promise for transforming financial intermediation and potentially impacting economic performance in Nigeria, their successful integration will require addressing key challenges and ensuring equitable access across different demographic groups.

5.3 Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

1. **Public Education and Awareness Programs**: Given the high percentage of respondents citing lack of awareness as a challenge to DeFi adoption, it is recommended that government agencies, financial institutions, and educational bodies collaborate to develop and implement comprehensive public education programs about DeFi, cryptocurrencies, and blockchain technology. These programs should aim to increase understanding of both the potential benefits and risks associated with these technologies.
2. **Regulatory Framework Development**: The concern about lack of regulation highlights the need for a clear and balanced regulatory framework for DeFi and cryptocurrencies. It is recommended that Nigerian financial regulators work towards developing regulations that protect consumers and ensure financial stability while also fostering innovation in the fintech sector.
3. **Enhanced Security Measures**: To address the security concerns identified in the study, it is recommended that companies operating in the DeFi and cryptocurrency space in Nigeria prioritize the implementation of robust security measures. This could include regular security audits, implementation of multi-factor authentication, and the use of secure, decentralized protocols.
4. **Blockchain Integration in Payment Systems**: Given the high agreement on the potential of blockchain in payment systems, it is recommended that Nigerian financial institutions and fintech companies explore ways to integrate blockchain technology into existing payment infrastructures. This could potentially lead to more efficient, transparent, and cost-effective payment systems.

5. **Financial Inclusion Initiatives**: The demographic patterns in cryptocurrency trading suggest a potential digital divide. It is recommended that policymakers and financial institutions develop initiatives to promote more equitable access to these technologies across different age groups, income levels, and educational backgrounds. This could include targeted educational programs and the development of user-friendly platforms accessible to a wider demographic.
6. **Research and Development Support**: To fully leverage the potential of blockchain technology, it is recommended that the Nigerian government and private sector increase support for research and development in this field. This could include funding for blockchain-related research in universities, incentives for blockchain startups, and partnerships between traditional financial institutions and blockchain innovators.
7. **Consumer Protection Measures**: Given the potential risks associated with crypto investments, it is recommended that relevant authorities develop and implement strong consumer protection measures. These could include mandatory risk disclosures, restrictions on misleading advertisements, and the establishment of dispute resolution mechanisms for crypto-related transactions.
8. **Collaboration with International Bodies**: As the crypto and DeFi space is global in nature, it is recommended that Nigerian regulators and policymakers actively collaborate with international bodies and regulators from other countries. This could help in developing best practices, sharing knowledge, and addressing cross-border challenges related to these technologies.
9. **Monitoring Economic Impact**: While the study revealed perceptions about the economic impact of cryptocurrency trading, it is recommended that economic research institutions in

Nigeria conduct rigorous empirical studies to measure the actual economic impact of increased crypto adoption and trading volumes.

10. **Promotion of Blockchain in Other Sectors**: While the study focused on finance, blockchain has potential applications in other sectors as well. It is recommended that relevant ministries explore the potential of blockchain in areas such as supply chain management, healthcare, and land registry to improve efficiency and transparency in these sectors.

By implementing these recommendations, Nigeria can work towards harnessing the potential benefits of DeFi, cryptocurrencies, and blockchain technology while mitigating associated risks. This balanced approach could position Nigeria as a leader in the adoption and integration of these transformative technologies in Africa.

5.4 Contribution to Knowledge

This study makes several significant contributions to the existing body of knowledge on decentralized finance (DeFi), cryptocurrencies, and blockchain technology in the Nigerian context:

1. **Nigerian Perspective on DeFi**: This study provides one of the first comprehensive examinations of DeFi platforms from a Nigerian perspective, offering insights into the potential for these technologies to transform financial intermediation in a developing economy.
2. **Demographic Patterns in Crypto Adoption**: The research reveals important demographic patterns in cryptocurrency trading within Nigeria, highlighting a digital divide that could have significant implications for financial inclusion and policy development.

3. **Perceived Economic Impact**: The study offers valuable insights into the perceived relationship between cryptocurrency trading volumes and Nigeria's economic performance, providing a foundation for future empirical studies on this topic.
4. **Identification of Adoption Challenges**: By identifying key challenges to DeFi adoption in Nigeria, including lack of awareness, security risks, and regulatory concerns, this study provides crucial information for policymakers and industry stakeholders.
5. **Blockchain Application Priorities**: The research identifies payment systems as the most promising application of blockchain technology in Nigeria, offering direction for future development and investment in the sector.
6. **Financial Benefits of Crypto Assets**: The study provides evidence of the perceived financial benefits of crypto assets among Nigerian users, contributing to the understanding of cryptocurrency's role in personal finance in developing economies.
7. **Framework for Future Research**: By suggesting areas for further study, this research provides a roadmap for future investigations into the impact of DeFi, cryptocurrencies, and blockchain technology in Nigeria and similar developing economies.
8. **Policy and Regulatory Implications**: The findings and recommendations of this study offer valuable insights for the development of policies and regulations surrounding DeFi and cryptocurrencies in Nigeria, potentially influencing the future landscape of financial technology in the country.

These contributions collectively enhance our understanding of the potential impact, challenges, and opportunities presented by DeFi, cryptocurrencies, and blockchain technology in the Nigerian financial ecosystem. They provide a foundation for further research, policy development, and practical applications in this rapidly evolving field.

5.5 Suggestions for Further Studies

While this study has provided valuable insights into the impact of DeFi, cryptocurrencies, and blockchain technology in Nigeria, there are several areas that warrant further investigation:

1. **Long-term Economic Impact**: A longitudinal study examining the long-term economic impact of increased cryptocurrency adoption and trading volumes in Nigeria would provide more concrete data on the relationship between crypto activities and economic indicators.
2. **Comparative Analysis**: A comparative study of DeFi and crypto adoption across different African countries could provide insights into regional trends and best practices for integration of these technologies.
3. **Regulatory Impact Assessment**: As regulations for DeFi and cryptocurrencies are developed and implemented, a study on the impact of these regulations on adoption rates and market dynamics would be valuable.
4. **Financial Inclusion Effects**: An in-depth study on how DeFi and cryptocurrencies affect financial inclusion, particularly among underbanked populations in Nigeria, could provide important insights for policy development.
5. **Technological Infrastructure Requirements**: Research into the technological infrastructure required for widespread adoption of DeFi and blockchain technology in Nigeria could help in planning for future development.
6. **Environmental Impact**: Given growing concerns about the environmental impact of some cryptocurrencies, a study on the energy consumption and environmental effects of increased crypto adoption in Nigeria would be timely.

7. **Cybersecurity Challenges**: An examination of the specific cybersecurity challenges posed by increased DeFi and crypto adoption in Nigeria could help in developing more effective security measures.
8. **Impact on Traditional Banking**: A study on how the rise of DeFi and cryptocurrencies is affecting traditional banking services and business models in Nigeria could provide valuable insights for the financial sector.
9. **Social and Cultural Factors**: Research into the social and cultural factors influencing the adoption of DeFi and cryptocurrencies in different regions of Nigeria could help in developing more effective strategies for widespread adoption.
10. **Skills Gap Analysis**: A comprehensive analysis of the skills gap in the blockchain and DeFi sector in Nigeria could inform educational and training initiatives in this field.

These suggested areas for further research would contribute to a more comprehensive understanding of the impact and potential of DeFi, cryptocurrencies, and blockchain technology in Nigeria, aiding in the development of effective policies and strategies for their integration into the Nigerian economy and society.

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APPENDIX

SECTION A

To what extent can the emergence of decentralized finance (DeFi) platforms powered by cryptocurrencies transform financial intermediation in Nigeria?

1. How familiar are you with decentralized finance (DeFi) platforms?

a) Very familiar
b) Somewhat familiar
c) Not familiar

2. Have you ever used DeFi platforms for financial transactions in Nigeria?

a) Yes
b) No

3. Do you believe DeFi platforms can reduce the need for traditional financial intermediaries like banks?

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

4. What advantages do you think DeFi platforms provide over traditional banking services?

a) Lower fees
b) Faster transactions
c) Greater accessibility
d) More transparency
e) Other

5. In your opinion, what is the biggest challenge to the adoption of DeFi platforms in Nigeria?

a) Lack of regulation
b) Security risks
c) Lack of awareness
d) Other (please specify)

SECTION B

What are the benefits of holding crypto assets?

1. How would you describe your knowledge of cryptocurrency and crypto assets?

   a. Very knowledgeable
   b. Somewhat knowledgeable
   c. Not knowledgeable

2. Have you ever held any cryptocurrency as an asset?

   a. Yes
   b. No

3. Which of the following do you consider the greatest benefit of holding crypto assets?

   a. Potential for high returns
   b. Hedge against inflation
   c. Diversification of investment portfolio
   d. Decentralization
   e. Other

4. How do you perceive the risks associated with holding crypto assets?

   a. Very high
   b. High
   c. Moderate
   d. Low

5. In your experience, have crypto assets contributed positively to your financial position?

   a. Strongly agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly disagree

SECTION C

What are the methods to take full advantage of blockchain technology and cryptocurrency?

1. How often do you interact with blockchain technology or use cryptocurrencies?

   a. Frequently
   b. Occasionally

c. Rarely
d. Never

2. What do you think is the best way to leverage blockchain technology in Nigeria's economy?

a. Payment systems
b. Smart contracts
c. Decentralized finance (DeFi)
d. Supply chain management
e. Other

3. Have you adopted any strategies to maximize the use of blockchain or cryptocurrencies in your personal/business transactions?

a. Yes
b. No

4. Which sectors in Nigeria do you think could benefit most from blockchain adoption?

a. Financial services
b. Healthcare
c. Education
d. Logistics
e. Other

5. What are the primary barriers to fully leveraging blockchain technology in Nigeria?

a. Lack of regulation
b. Technological infrastructure
c. Public perception
d. Lack of education
e. Other

SECTION D

What is the relationship between cryptocurrency trading volumes and Nigeria's economic performance?

1. How often do you trade cryptocurrencies?

a. Daily
b. Weekly
c. Monthly
d. Rarely
e. Never

2. How do you think cryptocurrency trading impacts Nigeria's economy?

a. Positively
b. Negatively
c. No impact

3. Do you think an increase in cryptocurrency trading volumes can stimulate economic growth in Nigeria?

a. Strongly agree
b. Agree
c. Neutral
d. Disagree
e. Strongly disagree

4. In your opinion, do cryptocurrency trading volumes influence key economic indicators like GDP, inflation, or employment?

a. Yes
b. No

5. What effect do you think government regulation on cryptocurrency trading will have on Nigeria's economy?

a. Positive effect
b. Negative effect
c. No effect
d. Unsure

SECTION E

How do demographic factors (age, income, level of education) affect the economic impact of cryptocurrency trading in Nigeria?

1. Which age group do you belong to?

a. 18-24
b. 25-34
c. 35-44
d. 45-54
e. 55+

2. What is your current income range?

a. Less than ₦500,000 per year
b. ₦500,000 - ₦1,000,000 per year

c. ₦1,000,000 - ₦5,000,000 per year
d. Over ₦5,000,000 per year

3. What is the highest level of education you have completed?

a. Secondary school
b. University degree
c. Postgraduate degree
d. Vocational training

4. Do you think your level of education influences your participation in cryptocurrency trading?

a. Yes
b. No

5. Do you believe that higher income individuals are more likely to benefit economically from cryptocurrency trading?

a. Strongly agree
b. Agree
c. Neutral
d. Disagree
e. Strongly disagree

EFFECTS OF CRYPTOCURRENCY TRADING ON THE NIGERIAN ECONOMY GDP

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