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DIGITAL CURRENCY AND NIGERIAN ECONOMIC GROWTH

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Abstract

There are several issues and solutions regarding the theoretical connection between digital money and economic growth. There are issues with digital currency's distribution, stability, and compatibility with fiat money. Although this structure theoretically allows stability of price, however, sensible monetary regulation and its effective distribution continue to be more pressing concerns. The study examined how digital currency affects Nigeria's economic growth. The average annual value of bitcoin (BTC) and Binance coin (BNB) were used to analyze digital currency, while the gross domestic product was used to gauge economic growth. Ex-post facto method was adopted by the study. Data from secondary sources spanning a decade (2014–2023) was used in the study. However, data on the gross domestic product was taken from the CBN Statistical Bulletin, while the metrics of digital currency (BTC and BNB) were taken from Coinmarketcap online platform. Descriptive statistics, correlation and panel regression analysis were used to examine the collected data. According to the results, there was no discernible impact of either Bitcoin or Binance on the GDP of Nigeria between 2014 and 2023. The analysis concludes that the average value of bitcoin and binance coins has no significant effect on Nigeria's GDP. As a result of this, when thinking about regulating cryptocurrencies, the Nigerian government was advised to implement safeguards against the currency's extreme volatility and susceptibility to illicit activity in the country.

Keywords: *Binance Coin, Bitcoin, Digital Currency, Economic Growth and Gross Domestic Product.*

INTRODUCTION

Digital currency has been a difficult topic across the world; while the twenty-first century has seen several improvements and changes, notably in financial technology, the block chain that gave rise to several cryptocurrencies remains the most contentious subject (Sakiz & Gencer, 2019). Oil has virtually lost its status as a vital commodity in both developed and developing countries, while data has taken its place. Indeed, cellphones and world-wide-web have improved data availability, ubiquity and identification (Obisesan et al., 2024).

Hayek (1976) argued that an autonomous monetary system having a low cost of production is essential for restoring price stability. At the time, most Western countries were suffering severe price instability, which was politically driven and was challenging for the monetary authority to resolve. The revived interest in other forms of currency began in the 1990s as a result of technical advancements, resulting in the creation of digital monies such as Flooz, Digi Cash, and Beenz (Fernández-Villaverde and Sanches, 2018).

According to Utomo (2018), digital currency is one that uses cryptography for security; it is a method of exchange designed to facilitate the exchange of electronic information through a

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series of steps that utilize the idea of crypto currency; in other words, it is a digital currency created using the technology of block chain. Block chain technology is used to create digital currencies, which makes them impossible to counterfeit due to their robust security measures. Since they have the same functions as money, these currencies can potentially be utilized as an asset, a store of value, and a medium of exchange. However, unlike money, cryptocurrency has no tangible evidence because it is only stored in data. Because of its applicability, especially as a means of transferring physical goods, businesses like Citibank have introduced their own cryptocurrencies, increasing their global popularity (Mazikana, 2019).

Regarding the theoretical connection between digital money and economic growth, there are several issues and solutions. In particular, there are issues with digital currency's distribution, stability, and compatibility with fiat money. Although this structure theoretically allows stability of price, sensible monetary regulation and its effective distribution continue to be more pressing concerns. Some people with dubious intentions can easily use digital currency for their own gain, despite the fact that technological advancements have made it relatively easy to create and eliminate the possibility of third-party transaction costs (Fernández-Villaverde & Sanches, 2018).

Furthermore, even though the recent surge in the value of some cryptocurrencies, such as Bitcoin, Ethereum, and Binance token, further increased the relevance of digital money and, particularly, blockchain in countries across the globe, if there is no availability of alternate copy of data, the control of digital currency might not be found on the device where the specific coin is being stored. This is because the price of the currency is still very volatile and is dependent on supply and demand (Obisesan et al., 2024).

Bitcoin, in particular, has remained volatile over time. Only 50 bitcoin units were reported in 2009; by 2017, that figure had climbed to almost 17 million. At the same time, it has received increasing recognition from other businesses and now has over ten million owners (Salisu et al., 2023). Its price has also changed. Bitcoin's price has lately climbed, growing from 26600 USD in June 2022 to about 42265 USD in December 2023 (Obisesan et al., 2024). Ethereum, Litecoin, and Binance Token all adhere to this pattern. As a result, it is critical to assess their capitalization, volume, and volatility in connection to economic efficiency.

Despite the paucity of research in both rich and developing nations, digital money is clearly a contributing element to economic growth. Among these studies are those by Yunusa (2021), Ahannaya et al. (2021), Ademosu & Ayodele (2023), Obisesan et al. (2024), Idisi et al. (2024), Salawu & Moloi (2018), Utomo (2018), Naboulsi & Neubert (2018), Enitan & Akadiri (2020), and Agbo & Nwadialor (2020). Nonetheless, it was noted that the vast majority of these research included descriptive analysis, including frequency counts and percentages, as well as content analysis. Content analysis and descriptive analysis, which employ frequency counts and percentages, have the primary flaw of not being able to be extrapolated in most situations, which gives potential consumers little confidence in the assessment. Based on this assumption, the study aimed to evaluate how digital money affects Nigeria's economic growth, thereby answering the following research questions:

i. To what extent does bitcoin affect gross domestic product in Nigeria?
ii. What is the effect of Binance coin on gross domestic product in Nigeria?

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LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Economic Growth

Economic growth, according to Dwivedi (2024), is a steady rise in net national product or per capita national production. This means that overall productivity must be growing at a greater rate than the population. Additionally, the foundation of a nation's economy is the idea that the manufacturing of goods and provision of services in such country should be those that satisfy the wants of the largest numbers of citizens and non-citizens of the country. Therefore, the quantitative rise in the monetary value of products and services produced in an economy during a specific year is known as economic growth. A percentage change in the Gross National Product or Gross Domestic Product is used to represent economic growth (Dwivedi, 2024).

Economic growth, as defined by Appah et al. (2023), is the increase in the volume of a nation's goods and services over time; this may be used to calculate the size of a nation. Over a lengthy period of time, the net national product or per capita national production has grown steadily. It indicates that the rate of increase in overall output must outpace the rate of population expansion, improving or elevating the standard of life for inhabitants.

Munyeka (2021) pointed out that economic growth is the most important indicator of an economy's performance and cannot be exaggerated. In contrast to previous output levels, he explains, economic development is the expansion of a nation's capacity to produce products and services. As a result, the comparison might lead to either better or worse outcomes. It is frequently measured as the real gross domestic product growth rate, or real gross domestic product. In order to reduce the impact of inflation on the price of an economy's total production, growth is typically assessed in real terms, such as inflation adjusted terms (Munyeka, 2021).

2.1.2 Gross Domestic Product (GDP)

Ahmed and Mohammed (2019) expressed that a nation's GDP is the total value of its goods and services produced. It is regarded as part of national accounts, a thorough collection of data that enables decision-makers to assess whether the economy is expanding or contracting. In addition, it may be used to estimate the size of the macroeconomy and evaluate economic activity and efficiency.

The entire quantity of output that occurs in the economy, regardless of the nationality of those who generate the commodities and services, is known as the gross domestic product (Appah & Zibaghafa, 2018). GDP is the total quantity of output that both Nigerians and foreigners create in Nigeria. The GDP excludes Nigerians' income and foreign real estate profits. Additionally, international earnings and foreign property profits in Nigeria are not excluded. By adding up the worth of products and services produced in a country during a specific time frame, GDP calculates the size of an economy. Using the expenditure technique, GDP may be computed by summing the expenditures made by the three user groups (Ahmed & Mohammed, 2019).

Ironkwe and Agu (2019) believed that the contributions of each industry or economic sector may be separated apart from the overall GDP. Per capita GDP, sometimes referred to as Mean Standard of Living, is the ratio of GDP to the entire population of a region. The "world's most powerful statistical indicator of national development and progress" is the GDP. The GDP is a

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crucial metric for assessing the state of a nation's economy.

2.1.3 Digital Currency

In addition to ensuring user anonymity, digital currency is a decentralized digital payment system that uses encryption for security and anti-counterfeiting measures (Abdullateef, 2021). In order to raise money for prospective projects or asset capitalization, companies or organizations frequently issue this digital currency (Prasad, 2022). The use of digital currencies can be used to confirm the legitimacy of their owners and make sure that issuers fulfill their commitments to holders (Perkins 2020).

Mandeng (2018) viwed digital currencies as private, de-nationalized, unrestricted, floatable, and transferable money, according to Mandeng (2018). Bitcoin was the first cryptocurrency to go into circulation in 2009. It was created by an unidentified developer under the pseudonym (Nakamoto, 2018). By eliminating the need for middlemen, Bitcoin introduced a decentralized digital currency based on peer-to-peer transactions enabled by blockchain technology (Hameed & Farooq, 2016).

The emergence of Ethereum, Ripple, Dash, Monero, Classic, and Litecoin was facilitated by Bitcoin, the first and most popular digital currency. Digital money, often referred to as cryptocurrency, digital cash, virtual currency, or electronic currency, is used as a store of value as well as a medium of exchange. Peer-to-peer transactions over the blockchain network are possible without the need for middlemen since digital currencies, in contrast to traditional currencies, lack a central bank or administration (Beningo et al., 2022).

2.1.4 Bitcoin

Eucharia et al. (2023) described Bitcoin as a peer-to-peer virtual currency that enables payments to be made electronically between individuals or organizations without the need for financial institutions. The first digital currency was Bitcoin, which was developed in 2009. It is an open-source, standards-based system that uses protocols in a cryptographic manner to record and validate online transactions, ensuring their safety and secrecy. Users generate and save bitcoin addresses (private keys), in digital wallets with their corresponding public keys in order to trade bitcoin.

The bitcoin address comprises of public key and private key addresses. The private key is generated at random, without conscious decision, using a reliable and secure source of randomization, similar to hand-flipping a coin. On the other hand, the public key is a derivative of the private key and has values ranging from 1 to n − 1. The public key is then encrypted using a Secure Hash Algorithm to transform it into a logical bitcoin address. It generates a unique, fixed-size 256-bit address (Eucharia et al., 2023).

Bitcoin transaction logs are kept on a network of computers and include a system for rewarding truthful individuals who figure out a puzzle. Spending more time online will be necessary to solve this issue, and this will raise the quantity of cyberspace required to manage and operate this new business. Thus, a new market indicates more economic growth (Ashimbayev & Tashenova, 2018).

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2.1.5 Binance Coin (BNB)

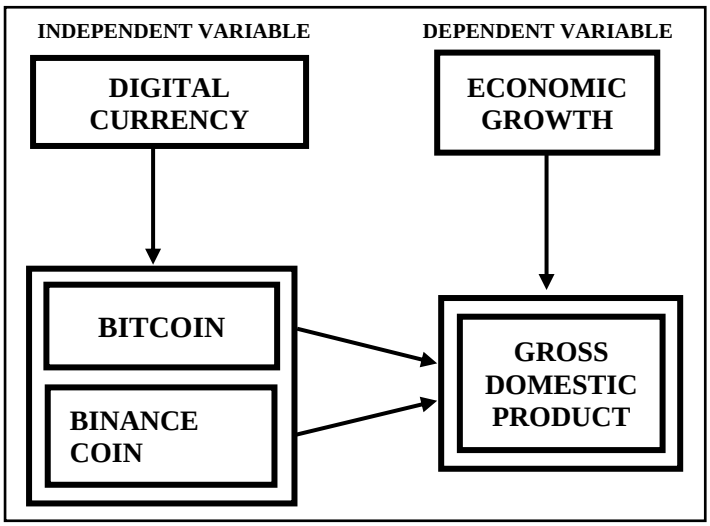
The cryptocurrency that the Binance exchange issues is called Binance Coin, and it is denoted by the sign BNB. BNB, the cryptocurrency issued by Binance, is used for on-chain transactions. Additionally, it may be used to purchase goods and services from participating vendors. With a daily trading volume of $11.8 billion, Binance Exchange was the second-largest cryptocurrency exchange in the world as of May 2024, according to Coinmarketcap.1 The 24-hour trading volume of Binance Coin (BNB) was $1.45 billion (De Filippi, 2019).

Olorundare et al. (2023) opined that Binance coin is one of the largest cryptocurrency exchanges in the world, according to. The Binance application allows users to trade and pay fees. Binance coin was introduced in 2017 and is now used for e-commerce, travel booking, and payment processing, in addition to enabling trading on the exchange network. The value of the Binance coin has also grown over time, rising from about $0.10 in 2017 to over $383 in May 2022—a near 350,000% rise (Olorundare et al., 2023).

In order to provide reduced trading fees, BNB was developed in 2017 as a utility token. Its applications have grown to include many different platforms and platforms since then. On Binance.com, Binance DEX, and Binance Chain, it is utilized to cover transaction costs (Beningo et al., 2022). It can also be used to pay (at places like HTC and Monetha), book lodging (at TravelbyBit, Trip.io, and Travala.com), purchase music or game rewards, pay for online services, such as BitTorrent, Canva, and Storm, and even finance through applying for a loan at ETHL end or investing at Moeda.

2.1.6 Conceptual Model

The figure below shows the diagrammatical representation of the variables and proxies employed by the study. From the figure below, digital currency is the independent variable measured with by values of bitcoin and binance coin, while economic growth which serves as the dependent variable was quantified using gross domestic product.



Source: Researchers' Design, 2024

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2.2 Theoretical Framework

2.2.1 The Innovation-Growth Theory

The innovation-growth concept was developed by Paul Romer in 1994 (Romer, 1994). The theory states that economic forces affect the inclination of organizations, particularly academics and entrepreneurs, to produce novel concepts and inventions. According to Rivera-Batiz (2019), when the economy is doing well, businesses, researchers, and entrepreneurs will come up with inventions that boost economic activity and increase economic productivity.

To put it another way, the theory contends that entrepreneurs and researchers react to financial incentives and that their creative ideas lead to technological breakthroughs that positively impact the economic growth of society. According to this theory, innovation and economic growth are strongly correlated (Ebelogu et al., 2019).

The requirement to sustain a desirable rate of economic growth may encourage inventors to produce new digital inventions, like bitcoin and Binance coin, that help achieve the targeted rate of economic growth, which is why this theory supports the development of digital currencies. As a result, the theory promotes the creation of digital currencies since they have the potential to boost economic growth by making it easier for money to move between investment, commerce, production, and consumption.

2.2.2 Technology Acceptance Model (TAM)

In 1989, Davis revised the paradigm of technological adoption. This information system theory explains how technology consumers come to embrace and utilize new systems. Davis (1989) explained the key factors influencing people's readiness to accept and use new technology using the technology acceptance model. According to the study, people's intentions to adopt and use new technologies are mostly influenced by perceived usefulness and ease of use.

Perceived utility is a component that affects user acceptance since it establishes how well the new technology may enhance work performance (Ailemen et al., 2018). In addition to producing a positive performance, the technology must be able to provide a beneficial outcome. People's perceived ease of use refers to how easy it is for them to accept new technology. It suggests that it should be easy to use the new technology (Iwedi et al., 2023).

Anane and Nie (2022) asserted that in order to link the acceptance of digital financial services, service providers need to measure the likelihood of success for innovative technology introductions and understand the factors that influence acceptance in order to develop proactive interventions aimed at groups of users that are less likely to adopt and use new systems.

According to Lai (2016), there is typically a tension between the quick evolution of technology and the natural barriers to the uptake of new goods or services, which drives the development of payment systems. This theory is pertinent to the study, though, because digital technology adoption—which has risen sharply with blockchain technologies like bitcoin, Ethereum, Binance, and others—has been greatly facilitated by information and communication technology (ICT), which has improved and stimulated economic growth.

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2.3 Empirical Review

Yunusa (2021) looks at cryptocurrencies and the Nigerian economy. This study included both primary and secondary data collection methods. Questionnaires were sent to get critical data from public and private management of financial institutions and organizations. The data was analyzed using tables and percentages; correlation was used to measure the relationship between the variables; and the Z-test was used to test the hypotheses. The study discovered, among other things, that there are risks and benefits to utilizing bitcoin, as well as that it will aid in economic growth.

Chris et al. (2021) carried out another study in which they assessed Nigerian economy is affected by cryptocurrencies. According to the study, which used primary data sources, online transactions were greatly improving even though bitcoin and other digital currencies were growing in popularity across the country. People all throughout the world now believe that using it is safe, legal, economical, and has a positive influence on the nation's economy.

Ahannaya et al. (2021) examined the impact of cryptocurrency on Nigeria's economic development. The study gathered quantitative data, through the use of a structured questionnaire. It was found that that the Nigerian economy benefits from the usage of digital currency. Of the changes in the nation's economy, changes in bitcoin were responsible for around 52%, with other factors accounting for the remaining 48%. It also confirmed that more and more people believe that digital currencies like Ethereum, Litecoin, and Bitcoin are respectable and safe. The connection between Nigerian exchange rates and cryptocurrencies has been further demonstrated.

The contribution of digital currency to financial inclusion for growth and development of Nigeria was examined by Ekong and Ekong (2022). Quarterly data from 2006 to 2020 were utilized in the analysis. According to the report, adopting digital currency greatly boosted both the level of growth in the nation and the number of individuals participating in financial operations. The analysis concluded that the total impact of bitcoin transactions on the nation's financial services was 7%.

The effect of the implementation of digital money on the Nigerian economy was examined by Adegbite and Aremu (2022). Bank workers, economists, and other Nigerians were randomly selected to provide the data for the study using Google Forms questionnaires that were sent to respondents via email and WhatsApp. The respondents were from all six (6) of Nigeria's geopolitical zones. The Google forms were sent continuously until 2,583 responses were received. To test the hypothesis, the collected data was analyzed using ANOVA, Chi-square, MANOVA, and correlation. According to the MANOVA results, the main drivers of eNaira implementation in Nigeria include education, the block chain, legislation from the government, human behavior, and personnel. It was also discovered that the Nigerian economy benefits greatly from the adoption of eNaira.

From 2013 Q1 to 2020 Q4, Aminu et al. (2022) evaluated the connection between digital currency, monetary policy, and Nigerian economic development. The basic vector autoregressive approach was used in the study, and early preliminary statistics were run to ensure that the model specification was sufficient. The study discovered that digital currency has a minor effect on Nigeria's economic development, but monetary policy indicators have little effect on GDP. In particular, the variance decomposition showed that while digital currencies technically contribute zero percent to economic development, the money supply is

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responsible for 41 percent.

Between the fourth quarter of 2010 and the third quarter of 2022, Ademosu and Ayodele (2023) conducted research on virtual currencies and the Nigerian economy, concentrating on bitcoin, Ethereum, and Litecoin. The Granger causality test and the ARDL model were used to analyze the gathered data. The trend analysis of the data indicates that the exchange rate of the country fluctuates in tandem with the activities of digital currencies, which may have some consequences for the rate of economic growth in Nigeria. Growth rate is boosted by lower earnings for Bitcoin and Litecoin, whereas Ethereum returns typically follow the growth rate. The study also found that low fluctuations in markets will accelerate economic growth, especially for Ethereum. This finding has causal implications for growth and exchange rates as well as the returns and volatility of these currencies.

Olorundare et al. (2023) looked at the cryptocurrency industry's potential for growth in Nigeria. Qualitative data obtained via a validated online questionnaire was used in the study. The findings revealed that 48.6% of participants were in the 25–34 age range, while 69% of participants were men. In addition, 46.8% of participants favor government regulation of cryptocurrencies over a complete prohibition. Seventy-three percent of those surveyed are against the Nigerian government's ban on commercial banks using cryptocurrency. Furthermore, 91 percent of the participants had heard of bitcoin.

In Nigeria, Eucharia et al. (2023) looked at the viability and adoption of blockchain technology and Bitcoin. In order to collect 320 responses from an online survey, a purposive sampling strategy was employed. Statistics for correlation and description were used to analyze the collected data. Bitcoin has 97.5% acceptability, making it the most widely used cryptocurrency. It is expected to be the most popular virtual money for the next five years.

Obisesan et al. (2024) looked into how cryptocurrencies affected economic growth in African nations. The study gathered secondary panel data for five African countries from all around the continent for the years 2016–2021. Descriptive statistics, correlation analysis, fixed and random effect analysis, and pooled OLS estimation were used to evaluate the data. The study's conclusions showed that, as indicated by the GDP growth rate, Bitcoin significantly hinders the economic development of developing African nations; Ethereum significantly and favorably influences the economic development of developing African nations; and Binance coin significantly hinders the economic development of Africa.

Given the lack of agreement on digital currency and Nigerian economic growth as determined by the results of the aforementioned empirical review, this study aimed to add to the body of knowledge through testing of the following null hypotheses:

Ho_1: Bitcoin has no significant effect on gross domestic product in Nigeria
Ho_2: Binance coin does not affect gross domestic product in Nigeria

METHODOLOGY

3.1 Research Design and Methods

In this study, an ex post facto research design was used. The study is to collect significant data on the condition of a certain phenomenon after a course of naturally occurring therapy without altering the circumstances, which is why this research design was selected. Additionally, this

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design allows the researcher to provide a detailed understanding of the study's goals and factors by describing and summarizing the data gathered for the study (Fleetwood, 2023).

The Central Bank of Nigeria 2023 Statistical Bulletin and the Coin-market-cap online portal was used as secondary sources of data for this study. The Coin-market-cap online site was used to extract the properties of digital currency (Value of Bitcoin and Binance Coin), while the CBN Statistical Bulletin was used to collect data on GDP. Ten (10) years, from 2014 to 2023, are covered by the data that was retrieved and calculated.

To examine the cumulative effect of digital currency proxies on Nigeria's economic growth, a model was employed. Economic growth was evaluated as a function of digital currency, which the study measured using the Bitcoin and Binance coin. Gross domestic product, on the other hand, is a measure of economic growth. Ordinary least square (OLS) regression, was employed by the study, so as to estimate the relationship between the independent and dependent variables, as specified below:

GDP = f(BTC, BNB) ……. i

The model has been formulated to suit the study as follows:

$GDP = \alpha + \beta_{1BTC} + \beta_{2BNB} + e$……..ii
Where;
GDP = Gross Domestic Product
BTC = Bitcoin
BNB = Binance Coin
β_1, β_2 = Coefficient of Regression
e = error term

RESULTS AND DISCUSSIONS

The analysis to evaluate digital currency and Nigeria's economic growth is presented in this section. Descriptive, correlation, and regression analyses were conducted, and a variety of robustness checks were discussed, in order to improve the validity of the findings.

4.1 Presentation of Results

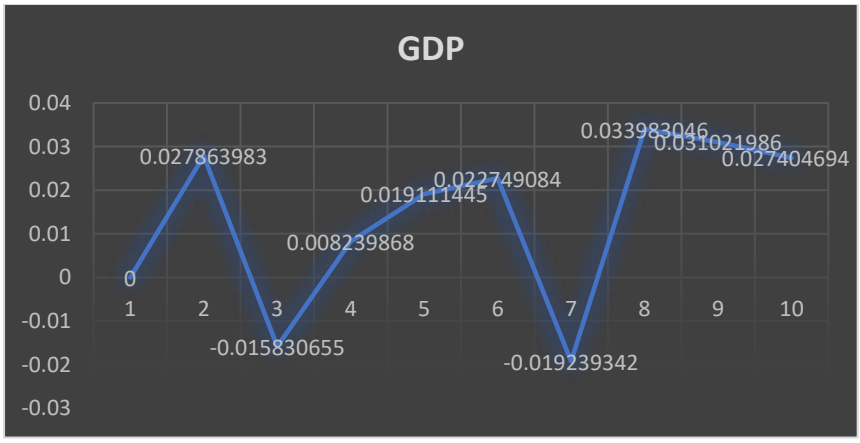

Figure 1 : The analysis of the trend and variation in Nigerian gross domestic product from 2014-2023.
Source: 2016 Ms-Excel, 2024

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Figure 1 above shows the analysis of the trend and variation in Nigerian gross domestic product from 2014-2023. It was observed from the above figure that Nigerian GDP has positive variations in the year 2015, 2017, 2018, 2019 and 2021 with percentage change value of 2.79%, 0.82%, 1.91%, 2.27% and 3.40% respectively. However, a very sharp, positive and significant variation in the Nigerian GDP was observed in the year 2021 among other years covered by the study. Nonetheless, an inverse variation in the Nigerian GDP was observed in the year 2016 and 2020 with percentage change value of -1.58% and -1.92% respectively.

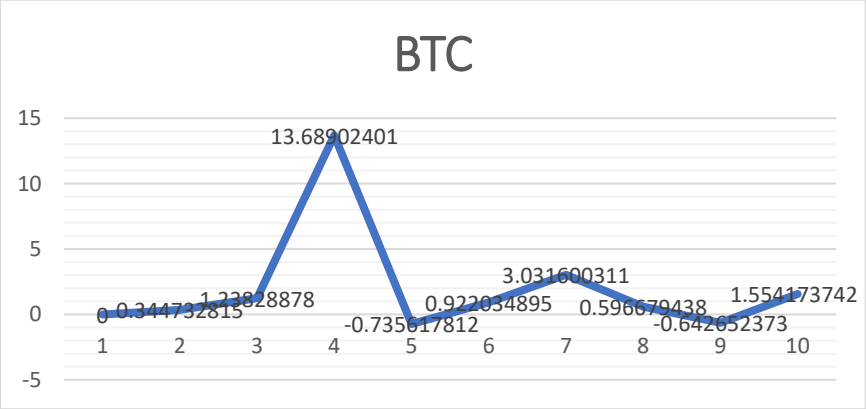

Figure 2: The trend analysis and variation in the average annual value of Bitcoin from 2014-2023.
Source: 2016 Ms-Excel, 2024

Figure 2 above revealed the trend analysis and variation in the average annual value of Bitcoin from 2014-2023. It was observed from the above figure that the average price of Bitcoin has positive and sharp variations in the year 2016, 2017, 2020 and 2023 with annual percentage change value of 123.83%. 1368.90%, 303.16% and 155.42% respectively. However, a very sharp, positive and significant variation in the average price of BTC was observed in the year 2017 (1368.90%) among other years covered by the study. Nonetheless, an inverse variation in the average annual price of BTC was observed in the year 2018 and 2022 with annual percentage change in value revealed as -73.56% and -64.27% respectively.

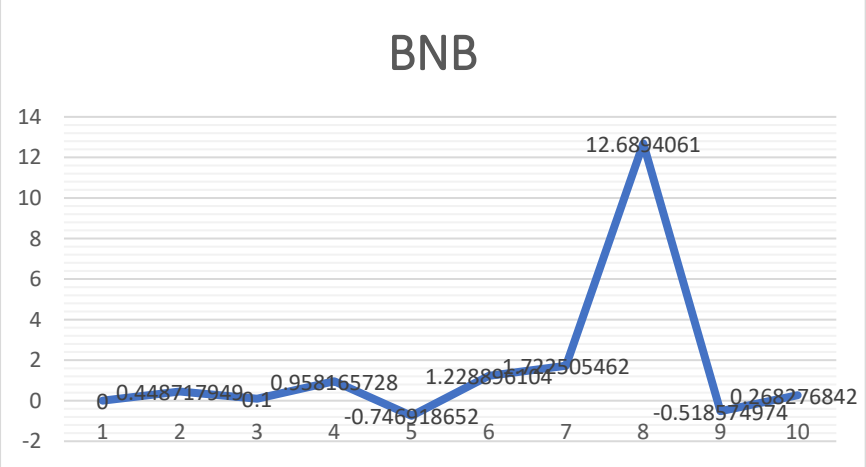

Figure 3: the trend analysis and variation in the average annual value of BNB from 2014-2023
Source: 2016 Ms-Excel, 2024

Figure 3 above revealed the trend analysis and variation in the average annual value of BNB

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from 2014-2023. It was observed from the above figure that the average price of Bitcoin has positive and sharp variations in the year 2015, 2017, 2019, 2020 and 2021 with annual percentage change value of 44.87%, 95.82%, 122.89%, 172.25% and 1268.94% respectively. However, a very sharp, positive and significant variation in the average price of BNB was observed in the year 2021 (1268.94%) among other years covered by the study. Nonetheless, an inverse variation in the average annual price of BTC was observed in the year 2018 and 2022 with annual percentage change in value revealed as -74.69% and -51.85% respectively.

From the outcome of the charts (Figure 1, 2 & 3) presented above, it was observed that both BTC and BNB has no significant effect on the Nigerian GDP. This is because in the year 2017 and 2021 where BTC and BNB has positive and significant variations (1368.90% and 1268.94%), Nigerian GDP also had positive variations (0.82% and 3.40%) but was not significant ones, compared to that of BTC and BNB. Also, BTC and BNB had inverse variations in the year 2018 and 2022, while Nigerian GDP had positive variations in those years.

Table 1 Descriptive Results

	GDP	BTC	BNB
Mean	4.849381	3.767728	1.552120
Median	4.844521	4.003950	1.261996
Maximum	4.884710	4.665641	2.709024
Minimum	4.827064	2.505408	0.789581
Std. Dev.	0.018474	0.810659	0.715458
Skewness	0.708290	-0.465461	0.623862
Kurtosis	2.401153	1.731846	1.762897
Jarque-Bera	0.985549	1.031180	1.286350
Probability	0.610929	0.597148	0.525621
Sum	48.49381	37.67728	15.52120
Sum Sq. Dev.	0.003072	5.914510	4.606920
Observations	10	10	10

Source: E-view v.12 Output, 2024

The descriptive findings are displayed in the above table together with the variables' minimum, maximum, average, standard deviation, and Jarque-Bera. The average GDP, BTC, and BNB values were found to be 4.849381, 3.767728, and 1.552120 respectively, during a period of 10years from 2014-2023. Consequently, it is clear that BTC is an excellent predictor of GDP because it has the highest average value when compared to BNB. Additionally, the variables' maximum values were found to be 4.884710, 4.665641, and 2.709024, respectively. Conversely, the variables' lowest values are shown as 4.827064, 2.505408, and 0.789581, respectively. Additionally, because the Jarque-Bera p-values (0.610929, 0.597148, and 0.525621) are higher than 0.05 significant threshold, this means that data obtained for GDP, BTC and BNB did not violate normality assumption. Additionally displayed were the standard deviation values, which were 0.018474, 0.810659, and 0.715458, respectively.

Table 2 Correlation Analysis

	GDP	BTC	BNB
GDP	1.000000	0.719702	0.819819
BTC	0.719702	1.000000	0.775128
BNB	0.819819	0.775128	1.000000

Source: E-view v.12 Output, 2024

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The correlation results between GDP, BTC, and BNB—the adopted variables—are shown in Table 2 above. Correlation values of 0.719702 and 0.819819, respectively, indicated that both Bitcoin and BNB had a substantial positive association with GDP.

Table 3 Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BTC	0.048479	0.028385	1.707875	0.1484
BNB	0.023759	0.020007	1.187548	0.2883
C	4.753592	0.042982	110.5953	0.0000
R-squared	0.795972	Mean dependent var		4.849381
Adjusted R-squared	0.632750	S.D. dependent var		0.018474
S.E. of regression	0.011196	Akaike info criterion		-5.839750
Sum squared resid	0.000627	Schwarz criterion		-5.688458
Log likelihood	34.19875	Hannan-Quinn criter.		-6.005718
F-statistic	4.876618	Durbin-Watson stat		2.013075
Prob(F-statistic)	0.044219			

Source: E-view v.12 Output, 2024

The table above contains the previously defined regression model coefficient, as indicated below:

$$GDP = 4.753592 + 0.048479BTC + 0.023759BNB + \mu$$

With coefficient values of 0.048479 and 0.023759, respectively, the above equation demonstrates that Bitcoin and BNB have a positive impact on GDP. This implies that Nigeria's GDP will grow by 0.048479 and 0.023759 respectively, if each of BTC and BNB rises by one unit.

Additionally, the regression's R-squared statistic was 0.795972, indicating that BTC and BNB account for 79.60% of the overall GDP fluctuations, with additional factors not included in this study accounting for the remaining 20.40%. The table above also displayed the regression's variance analysis, with the F-statistic which was observed as 4.876618 and a p-value of 0.044219. The model used in the study appears to be statistically significant because the p-value is below the 0.05 threshold. However, the Durbin-Watson statistic outcome was 2.013075, indicating the absence of auto-correlation because the number is higher than 1.5. This further implies that the indicators are in good shape.

Additionally displayed were the t-calculated values for BTC and BNB, which were 1.707875 and 1.187548, respectively. These figures are below the t-tab of 2. Also disclosed were their corresponding p-values of 0.1484 and 0.2883. These p-values for BTC and BNB can be classified as statistically insignificant because they are greater than the 0.05 significant threshold.

4.2 Test of Hypotheses

Ho_1: Bitcoin has no significant effect on gross domestic product in Nigeria

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According to the previously provided regression table, the bitcoin's p-value in relation to GDP was observed to be 0.1484. Since this value is above 0.05 significant threshold, it was considered statistically insignificant. With this, the analysis agrees with the null hypothesis that bitcoin has no significant effect on Nigeria's GDP. The basic factor that might have contributed to this result is as a result of lack of adoption of BTC by individuals and Nigerian companies as payment of goods and services, due to the fear that some people with dubious intentions can easily use digital currency for their own gain.

Ho_2: Binance coin does not affect gross domestic product in Nigeria

The regression table also showed that BNB had a p-value of 0.2883, which was considered statistically insignificant because it was higher than the 0.05 significant threshold. Consequently, the research affirms that Binance coin does not affect gross domestic product in Nigeria, thereby accepting the second hypothesis previously assumed. Binance coin not having significant effect on Nigerian GDP might be as a result of inadequate sensitization of the relevance of BNB for transaction, which leads to lack of adoption by individual citizens as well as companies as payment of goods and services.

4.3 Discussion of Findings

The study examined how Nigerian economy is affected by digital currency. Nevertheless, it was observed that some of the results of earlier research that was evaluated had conflicting results with the current study, while other results were connected to the results of this study, as detailed below:

The analysis concludes that digital currency, as measured by bitcoin, has no discernible effect on Nigeria's gross domestic product at the 0.05 threshold of statistical significance. This result is in consistent with research conducted by Jimoh and Oluwasegun (2020), Yunusa (2021), Aminu et al. (2022) and Ademosu & Ayodele (2023), but does not go in line with Chris, et al. (2021) findings.

Binance Coin (BNB) was also discovered to have no discernible effect on Nigeria's gross domestic product. The findings of the studies by Ahannaya et al. (2021), Ekong (2022), Ademosu and Ayodele (2023), and Olorundare et al. (2023) are supported by this result; however, neither Adegbite & Aremu (2022) nor Aminu, et al. (2022) findings supported this result.

CONCLUSION AND RECOMMENDATIONS

In consistent with the research findings, the study concludes as follows:

According to the study's results, bitcoin (BTC) has a comparable p-value of 0.1484, which is over the 0.05 significant threshold and was thus considered statistically insignificant. Consequently, the research concludes that the value of Bitcoin cannot be used to forecast Nigeria's GDP.

Furthermore, the findings from the regression table also revealed that BNB had a p-value of 0.2883, and was considered statistically insignificant, this because the value was also above 0.05 significant threshold. Due to this, the researcher comes to the conclusion that the Nigerian economy is not significantly impacted by digital currency measured by Binance coin.

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The following suggestions were made in light of the research's findings and conclusion:

When regulating Bitcoin, the Nigerian government needs to take steps to shield its users from the currency's extreme volatility and the likelihood to illegal activity in the country. This will prevent an unanticipated decline in investor wealth, which could prove detrimental to the Nigerian economy.

Furthermore, as cryptocurrencies have not shown to be a practical instrument for sustainable development in Nigeria, the government of that country, along with national regulatory organizations, should restrict their adoption. This might be achieved by creating the necessary monetary and legal frameworks or tools around the emerging technology for finance known as digital currency, making sure that Nigeria and its citizens are not left behind by this fascinating shift in the monetary paradigm.

Through the nation's parastatals, the Nigerian government should consistently warn against and prohibit people and companies from using cryptocurrency, particularly alternative coins that haven't been used frequently and thus expose users to extreme risk. This would lower investor risk and free up funds for more beneficial uses that would promote economic expansion.

REFERENCES

Abdullateef, O. A. (2021). Cryptocurrencies in Nigeria: A legal analysis. Retrieved from ssrn.com

Adegbite, T. A., & Aremu, M. A. (2022). The effects of digital currency (e-naira) adoption on Nigerian economy. *Farabi Journal of Social Sciences*, *8*(2), 53-64. **[Crossref]**

Adeleye, R. D., Asuzu, O. F., Bello, B. G., Oyeyemi, O. P., & Awonuga, K. F. (2024). Digital currency adoption in Africa: A critical review and global comparison. *World Journal of Advanced Research and Reviews, 21*(02), 130–139. **[Crossref]**

Ademosu, S. T., & Ayodele, T. D. (2023). Digital currencies and Nigerian economy: Evidence from selected coins. *International Journal of Business Management and Finance Research*, *6*(2), 31-43. **[Crossref]**

Agbo, E. I., & Nwadialor, E. O. (2020). Cryptocurrency and the African economy. *Economics and Social Sciences Academic Journal*, *2*(6), 84-100.

Ahannaya, C., Oshinowo, A., Sanni, A., Arogundade, J., & Ogunwole, O. (2021). The effect of cryptocurrencies on Nigeria economy. *International European Extended Enablement in Science, Engineering & Management*, *9*(3), 8-14.

Ahmed, J. O., & Mohammed, A. E. (2019). Inflation and economic growth in Bangladesh. *Policy Analysis*, *6*(3), 6-15.

Ailemen, I. O., Enobong, A., Osuma, G. O., Evbuomwa, G., & Ndigwe, C. (2018). Electronic banking and cashless policy in Nigeria. *International Journal of Engineering and Technology*, *9*(10), 718 – 731.

Aminu, A. W., Hayewa, S. Y. U., Mohammed, A. K., & Abubakar, B. U. (2022). Digital currency, monetary policy and economic growth in Nigeria. *Lafia Journal of Economics and Management Sciences*, *7*(2), 79-95.

Anane, I., & Nie, F. (2022). Determinants of factors of digital financial services adoption and usage level: Empirical evidence from Ghana. *International Journal of Management Technology, 9(1),* 26 – 47. **[Crossref]**

Appah, E., & Zibaghafa, S. (2018). Anatomy of public sector finance & accounting. *Vinson Printing and Publishing House.*

ISSN: 2795-3831
E-ISSN: 2795-3823

Ashimbayev, S. O. & Tashenova, G. O. (2018). Benefits of cryptocurrencies on an economy. *Journal of Accounting and Financial Studies*, *2*(3), 11-23.

Benigno, P., Schilling, L. M., & Uhlig, H. (2022). Cryptocurrencies, currency competition, and the impossible trinity. *Journal of International Economics*, *13*(6), 15-36. **[Crossref]**

Chris, I. O., Ebere, A. I., Onyeledo, I. J., & Augusta, M. E. (2021). Analysis of the effect of Cryptocurrency on Nigerian economy. *International Journal of Humanities and Social Science Research*, *7*(3), 26-30.

Coinmarketcap (2022). Global crypto market capitalisation. Retrieved from https://coinmarketcap.com/

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *3*(2), 319-340. **[Crossref]**

De Filippi, P. (2019). Bitcoin: A regulatory nightmare to a libertarian dream. *Internet Policy Review*, *6*(3), 24-31. **[Crossref]**

Dwivedi, Y. O. (2024). The role of macroeconomic factors in Economic Growth, *Journal of Monetary Economics*, *3*(2), 485-512.

Ebelogu, C. U., Oriahki, J. E. Ojo, S. D. & Agu, E. O. (2019). Cryptocurrency (Blockchain) technology as a means of leveraging the Nigerian economy. *International Journal of Advances in Scientific Research and Engineering*, *5*(12), 139-146. **[Crossref]**

Ekong, U. M., & Ekong, C. N. (2022). Digital currency and financial inclusion in Nigeria: Lessons for development. *Journal of Internet and Digital Economics, 2*(1), 46-67. **[Crossref]**

Enitan, G. P. & Akadiri, S. (2020). Cryptocurrency and the Nigerian Economy. *Journal of Economics & Management Research*. *1*(3), 1-21. **[Crossref]**

Eucharia, O., Francisca, N. O., & Martins, S. O. (2023). Adoption and sustainability of bitcoin and the blockchain technology in Nigeria. *International Journal of Information Technology*, *15*(5), 2793–2804. **[Crossref]**

Fernández-Villaverde, J., & Sanches, D. R. (2018). On the economics of digital currencies. *Federal Reserve Bank of Philadelphia*, *18*(7), 1-43. **[Crossref]**

Fernández-Villaverde, J., Sanches, D., Schilling, L., & Uhlig, H. (2021). Central bank digital currency: Central banking for all? *Review of Economic Dynamics*, *4*(1), 225-242. **[Crossref]**

Fleetwood, D., (2023). Quantitative Research: What it is, Practices & Methods. *QuestionPro Survey Software*. Retrieved from https://www.questionpro.com/blog/quantitative-research/

Hameed, S., & Farooq, S. (2016). The art of crypto-currencies: A comprehensive analysis of popular crypto-currencies. *International Journal of Advance Computer Science and Applications*, *7*(3), 12-24. https://doi.org/10.14569/IJACSA.2016.071255

Hayek, F. A. (1976). Denationalization of money. *The Institute of Economic Affairs.* October, London: IEA.

Idisi, P. O., Adeagbo, B. A., Idiege, C. J., Isah, H., Simpa, J. O., & Atteh, P. A. (2024). Evaluating the evolution, implementation, and future prospects of central bank-based digital currencies in Nigeria. *World Journal of Advanced Research and Reviews*, *22*(3), 2020–2029. https://doi.org/10.30574/wjarr.2024.22.3.1940

Ironkwe, I. O., & Agu, S. O. (2019). The effect of inflation on economic growth in Tanzania. *African Journal of Finance*, *9*(1), 33-42.

Iwedi, M., Owakah, N. F., & Wofuru-Nyenke, O. K. (2023). Effect of financial technology on financial inclusion in Nigeria. *African Journal of Accounting and Financial Services, 6*(1), 21 – 36. **[Crossref]**

Jhingan, S. J. (2022). Determinants of economic growth: An empirical Analysis. *International*

ISSN: 2795-3831
E-ISSN: 2795-3823

Journal of Humanities & Social Sciences, 11(3), 262- 271.

Jimoh, S. O., & Oluwasegun, O. B. (2020). The effect of cryptocurrency returns volatility on stock prices and exchange rate returns volatility in Nigeria. *Acta Universitatis Danubius Economica, 16*(6), 352-365.

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *Journal of Information Systems and Technology Management, 14*(1), 21-38. **[Crossref]**

Mandeng, O. J. (2018). Crypto-currencies, monetary stability and regulations. *Germany's Nineteenth Century Private Banks of Issue.*

Mazikana, A. T. (2019). The impact of cryptocurrencies in Zimbabwe: An analysis of Bitcoin. *Journal of Accounting and Financial Studies, 4*(2), 32-43.

Munyeka, D. I. (2021). Influence of real exchange rate on the finance-growth nexus in West Africa. *International Journal of Business & Social Science, 4*(2), 3-9.

Naboulsi, N., & Neubert, M. (2018). Impact of digital currencies on economic development in Kenya. *International Council of Business Schools and Programs, 8*(1), 368-387.

Nakamoto, S. (2018). Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved from bitcoin.org.

Obisesan, O. G., Dada, S. O., & Ajayi, I. E. (2024). The impact of crypto currency on economic growth of African countries. *International Journal of Novel Research and Development, 9*(5), 599-611.

Olorundare, J. K., Fagboyo, R. J., Onyijen, O. H., Oni, M., & Akinbo, A. A. (2023). Economic prospect of cryptocurrency in Nigeria. *International Journal of Research Publication and Reviews, 4*(3), 4444-4450. **[Crossref]**

Perkins, D. W. (2020). Cryptocurrency: The economics of money and selected policy issues. *Congressional Research Service, 4*(1), 1-27.

Prasad, E. (2022). A new era for money, finance and development. *International Monetary Fund (IMF).*

Rivera-Batiz, A. S. (2019). Determinants of digital currency. *International Journal of Humanities & Social Sciences, 7*(3), 62- 71.

Romer, P. M. (1994). The origins of endogenous growth. *Journal of Economic perspectives, 8*(1), 3-22. **[Crossref]**

Sakiz, B., & Gencer, A. H. (2019). Blockchain technology and its impact on the global economy. *International Conference on Eurasian Economies, 3A,* 98-105. **[Crossref]**

Salawu, K. M., & Moloi, T. (2018). Benefits of legislating cryptocurrencies: Perception of Nigerian professional accountants. *Journal of Accounting and Financial Studies, 22*(8), 1-17.

Salisu, A. A., Ndako, U. B., & Vo, X. V. (2023). Oil price and the bitcoin market. *Resources Policy, 8*(2), 10-37. **[Crossref]**

Utomo, G. O. (2018). The influences of cryptocurrency on economic growth: Case study of bitcoin in 5 Asian countries. *A Publication of the Brawijaya University, Indonesia,* 1-16.

Weber, W., Bauer, M., & Shaffer, E. (2017). Canadian bank notes and dominion notes: Lessons for digital currencies. *Bank of Canada Staff Working Paper, 2*(1), 17-25.

Yunusa, A. (2021). Crypto-currency and Nigerian economy. *Journal of International Relations Security and Economic Studies, 1*(3), 43-58.