Adoption of Digital currency in Nigeria and the Effects on the Economy

MSc Research Project

Fintech

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Adoption of digital currency in Nigeria and the effect on the economy

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Abstract

The swift development of digital currency has attracted attention in the contemporary financial environment and has important ramifications for economies all over the world. The adoption of digital currency in Nigeria and its subsequent consequences on the economy are examined in this thesis. Nigeria serves as an engaging case study in digital financial transformation because it is the largest economy in Africa and a center of technical innovation. This paper explores the many facets of adopting digital currency through a thorough literature review. The study draws attention to the development of digital payment systems, cryptocurrencies, and Nigeria's establishment of a Central Bank Digital Currency (CBDC). We examine the technology infrastructure, legal frameworks, and financial literacy as driving forces for its adoption. The researcher collected primary data from respondents using a questionnaire on google forms. The data collected from respondents was examined using descriptive analysis and statistics, normality tests were carried out using the Shapiro-Wilk and Kolmogorov-Smirnov statistics. Economic growth can be stimulated by effective government policies, but context and unexplained variables have an impact on importance. Data-driven, flexible policies are essential. Economic growth in Nigeria is driven by human behavior and digital currency education. Further research into the effects of blockchain on policy is required. Based on research, policymakers must design plans for sustainable development.

Keywords: Economy, Blockchain technology, Digital currency education, Government policy, Human behavior.

Introduction

1.1 Background of study

In recent years there has been a rapid growth in the use of the internet and mobile services which has given an opportunity to the introduction and adoption of various digital currencies around the world. Nigeria as a country has made use of this opportunity to adopt her own digital currency (ILO, 2019). As it always goes with every invention there has been challenges which includes economic challenges, limited financial inclusion, unavailable information to the public, inefficiencies in the traditional banking systems, poor technological infrastructure, and government policies (CBN, 2018). Nigeria introduced e-Naira in 2021, the first digital currency endorsed by an African and global government. The use of cryptocurrencies was boosted by COVID-19, which prompted the CBN to take action to stop the depreciation of the naira. President Muhammadu Buhari supported the e-Naira, which sought to expand financial inclusion and

promote economic growth. President Buhari forecast a $29 billion GDP rise in ten years thanks to the e-Naira's blockchain backing.

The e-Naira was introduced as part of CBN's policy to improve cross-border trades, create more options in the financial services sector and welcome huge remittance from various diaspora, trying to succeed in areas where the traditional banking sectors has failed. To increase the use of Nigeria's digital currency, a ban was placed on the purchase and trading of cryptocurrencies through the traditional banks. This work would investigate the various factors behind the adoption of Nigeria's digital currency, subsequent implementation, and the effects it has had on the economy so far. Existing literature would be analyzed, various policies that have been put in place and empirical data would be investigated to come up with a comprehensive understanding of the subject matter.

There was certainly positive thinking behind the creation of Nigeria's own digital currency, I would investigate both the risk and rewards the country and economy stands to gain from the adoption of her own digital currency. Financial inclusion and economic growth were the two main talking points behind the adoption of this digital currency, I would explore how it could possibly bring about financial inclusion, economic growth, reduced transaction costs compared to traditional banks, and how it would help reduce financial fraud and make financial services available to everyone.

Several countries have adopted the Central Bank Digital Currency (CBDC) movement, including the Bahamas, El Salvador, China, the USA, and the UAE. Interest from other nations has been sparked by El Salvador's September 2021 acceptance of CBDC as legal money. Given how quickly CBDC is being implemented across the globe, it is obvious that it may stimulate economic growth. I plan to research the CBDC's performance, effects on economies, prospects, problems already experienced, and possible obstacles. This study intends to provide information that financial institutions, regulators, legislators, companies, and the public may use. Understanding the nuances of CBDC implementation is essential as Nigeria navigates this process. Regulators can promote effective integration by fostering financial inclusion, awareness, and a stable economic environment for increased monetary value if they are well-informed.

1.2 Statement of research problem

Understanding the effects of blockchain technology, government policy, human behavior, and digital currency education on Nigeria's economic growth dynamics is the main research question this study attempts to answer.

1.3 Research question

What impact has blockchain technology and government policies had on the adoption of Nigeria's digital currency and the economy.

1.4 Research Objectives

1. Carry out an investigation into the role various government policies has had to play in shaping blockchain technology adoption and implementation in Nigeria.
2. Investigate the potential benefits blockchain technology adoption would have on the Nigerian economy.
3. Help provide recommendations to policy makers and governing bodies on possible steps and measures to be taken to bring about an effective and nationwide adoption and acceptance of blockchain technology in the form of Nigeria's digital currency.
4. Investigate the level of knowledge and trust people in Nigeria and users of the Central Bank Digital Currency (CBDC) has on the digital currency.

1.5 Research hypothesis

Hi: Digital currency education, human behavior, Blockchain technology and Government policies has significant effect on the economy in Nigeria.

H0: Digital currency education, human behavior, Blockchain technology and Government policies has no significant effect on the economy in Nigeria.

1.6 Significance of the study

The study's value rests in shedding light on how government policy, human behavior, blockchain technology, and digital currency education interact, providing knowledge that is essential for well-informed policymaking and promoting sustainable economic development in Nigeria.

2. LITERATURE REVIEW

The study seeks to examine the effects of blockchain technology, government policies and human behaviors has had on the adoption of digital currency and how it has affected the economy. I will review past papers on this topic.

2.1 Blockchain technology:

Numerous industries are paying close attention to blockchain. It has a broad range of applications, from social services to finance, and has had a significant impact on the developing business world. Due to its decentralized and peer-to-peer nature, blockchain is highly regarded and advised. However, many blockchain-related studies were only concerned with Bitcoin. However, many applications outside the scope of Bitcoin might use blockchain technology (Ghosh, A. *et al.* 2020).

Applications for blockchain are numerous and cut across industries including commerce, government, and consumers. It's crucial to keep up with its constant evolution. A distributed ledger is used by each blockchain node to preserve a transaction history. This new trend outperforms centralized systems and offers decentralized, secure, real-time capabilities. (Aggarwal, S. *et al.* 2019).

The Internet of Things (IoT) has the potential to significantly improve the quality of human life and the economy. However, the existing IoT's lack of data security and trust is severely restricting its adoption (Alam, T. 2021). Cryptography and other traditional security measures fall short in ensuring the broad data integrity of the Internet of Things. Continuous patches and human intervention show that the Internet of Things is built on an unprotected network without a security vision. While cloud computing provides distributed storage for IoT, blockchain gives integrity and anti-theft assurance. Enhancing capacity, security, and scalability through Blockchain-based Distributed Cloud research will make it possible to merge Blockchain-IoT technologies. (Wang, X. *et al.* (2021).

US bankers report a 35% increase in internet banking usage. Transactions prompted by the pandemic increased by more than 40%. A crucial component of an interconnected, immutable technology stack is blockchain. It upholds open, provenance-traced user ledgers, supporting cryptocurrencies, and promoting the evolution of the digital economy. Blockchain enables smooth, safe financial asset movement in the face of epidemic, digitization, and structural changes. (A.K. 2022).

2.2 Digital payment platforms

Digital payments are becoming essential for contemporary economies due to globalization and technology. Financial inclusion, crime reduction, market efficiency, trade facilitation, and cost savings are some of its advantages, driven by speed, security, and transparency. (Marafa, A. 2022).

A global objective is reducing COVID-19's economic impact. According to World Bank research, the digital payment boom and fundamental economic transformation were caused by the epidemic. Digital payments provide financial inclusion, financial control, and investment prospects for sustainable development, all of which are associated with economic growth. (Al-Own, B. *et al.* 2023).

2.3 Central Bank Digital Currency (CBDC)

The use of central bank digital currencies (CBDCs) may improve cross-border payments. Conceptually and technically, nine out of ten central banks are investigating CBDCs, whether in retail, wholesale, or both forms. Work on wholesale CBDCs is increasingly motivated by factors relating to the effectiveness of cross-border payments (Bech, M. *et al.* 2022).

Digital currencies fall into two categories: privately issued digital tokens or cryptocurrencies (PDCs) with their own denomination that are operated through the internet and accepted by agreeing parties, and the digital version of a legal tender (digital fiat currency, or DFC), which is managed by financial intermediaries by storing or linking monetary values to an electronic/digital device like a smartphone for payment (Ricardo C. S, S. 2023).

When retail CBDC eNaira was introduced in Nigeria in October 2021, it marked the continent of Africa's first introduction of a digital currency. Its intended advantages include a quicker and more equitable distribution of cash assistance to households and communities taking part in social welfare programs, lower transaction costs and quicker settlement, effective cross-border transaction capabilities, traceability, and security to reduce fraud, and lower transaction costs (Denecker, O. *et al.* 2023).

The low initial adoption of e-Naira has been linked to a lack of understanding of the CBDC's operations, concern over security breaches, and spotty internet connectivity in some areas. The Nigerian government recently announced that e-Naira will be made available on feature phones via unstructured supplementary service data (USSD), which will increase the potential market by 100 million citizens in addition to the current 25 to 40 million smartphone owners. This move is in response to these challenges (Denecker, O. *et al.* 2023).

2.4 Factors affecting the adoption of Digital currency in Nigeria.

2.4.1 Technological infrastructure

To handle the eNaira, the Central Bank of Nigeria must make sure a reliable IT infrastructure is in place. Before the launch, this doesn't seem to have been carefully considered. A new system to operate and maintain the eNaira is being developed by Nigeria in consultation with a fresh technology vendor, it was revealed in February 2023 (Salami, I. 2023). Two years into the project, the technology provider was changed, indicating that the nation's program for implementing a reliable system is insufficient, which does not give Nigerians any reason to trust the CBN that they know what they are doing.

Initially when the e-Naira was launched it was only available to those with access to internet but that has been addressed now as there is a USSD code available now for it. By just dialing *997 from their phones, Nigerians of various financial backgrounds would be able to open an eNaira wallet and complete transactions (Abdullahi, I. 2022). The CBN upon the release of the CBDC stated that they planned to increase financial inclusion for both the banked and unbanked and ended up taking a while to realize that a major fraction of the Nigerian population does not have mobile phones and stable internet at their disposal to be able to make use of the mobile app. After then, both businesses and customers with bank accounts can send and receive eNaira to any bank account via the NIBSS Instant Payment (NIP), this would be done with the mindset to further help with the adoption of the eNaira (Abdullahi, I. 2022). The convenience of using digital payment platforms and cryptocurrencies is influenced by the availability of reliable internet connectivity, cellphones, and other digital devices, and this is an area in which Nigeria, though a developing still fall behind.

2.4.2 Financial Awareness and Literacy

Making informed financial decisions requires a combination of abilities, knowledge, attitudes, and behaviors. It improves service utilization and is hugely advantageous for business sectors. It has a significant impact on actual financial decisions and consists of information, skills, talents, attitudes, and behaviors related to finances. (Mulyono,2022).

In a study by (Tay, L.-Y., Tai, H.-T. and Tan, G.-S. 2022), it says Uncertainty about cashless policies exists in developing countries. The SDGs and poverty reduction can benefit from integrating financial technology into government plans. With the help of education and awareness campaigns, institutional FinTech investments can increase income and encourage secure cashless transactions.

2.4.3 Government policies and regulations

The requirement for bank accounts will be abolished by Central Bank Digital Currency (CBDC) as of August 2022. To increase CBDC usage, October saw decreased cab fares. However, due to disappointing results, cash withdrawal limits and a currency makeover were introduced in December. These initiatives increased CBDC's visibility and supported Governor Godwin Emefiele's vision of a fully cashless Nigerian economy. (Anthony, N. 2023).

Akodu, B. (2019) believes that cryptocurrency is here to stay and that its benefits far outweigh its drawbacks. The CBN and SEC must each decide for themselves how to regulate this product so that it can eventually become a part of our financial system. Though the Nigerian government have seen the benefits that investment in cryptocurrencies has to offer they are going about it the wrong way with the tough policies and economic environment they are putting Nigerians through to ensure the adoption and usage of her own digital currency.

2.5 Effects on the economy

Due to globalization and technological advancements, the digital payment system is regarded as a modern payment phenomenon and as being essential to the modern economy. In addition to being simple to use, transparent, convenient, quick, and secure, digital payment systems have a wide range of economic advantages. These advantages include promoting financial inclusion; deterring robberies and cash-related crimes; enhancing the efficiency of the financial markets and system at large; enhancing consumer confidence; and facilitating trade, which results in operational competence, increased revenue, and lower business operating costs (Marafa, A. 2022).

CBDC could boost the effectiveness and security of large-value and retail payment systems alike. The emphasis on the retail side is on how a digital currency may increase the effectiveness of making payments, such as at the point of sale (POS), online, and peer-to-peer (P2P).An acceptable response from policy to payment technologies like Privately, it has been proposed that switching from physical bank notes to a CBDC would eliminate the effective lower bound on policy interest

rates for e-money and digital currency, which might hinder the central bank's ability to implement policies that promote financial stability and achieve its monetary policy goals (Halaburda, H. 2016).

Digital currency empowers people and businesses, promoting entrepreneurship and overall economic development by lowering transaction costs and boosting accessibility to financial services.

3. METHODOLOGY

3.1.   Introduction

To lay a solid foundation for evaluating study findings, this chapter discusses research methodologies in detail, covering population size, data collection methods, variable selection, statistical models, and assessment approaches.

3.2.   Research Design

The descriptive research methodology was selected for this study because it is a popular method for examining how different variables and phenomena interact. Examining the economic effects of Nigeria's adoption of digital money is the goal of this study. Therefore, the chosen design is ideal for examining the link between these variables. With the help of this specific design, the researcher may assess each participant directly, making it easier to pinpoint their unique traits. Additionally, by using a descriptive design, researchers can better understand the phenomenon they are studying because it enables them to explain the predominant relationships between variables.

3.4.   Sources of Data Collection

The main tool chosen for this study is a properly designed questionnaire. Researchers have access to a variety of approaches for data collecting in their investigations. Given the nature of the study issue and the established survey methodology, the researcher decided that a questionnaire was the best method for gathering data. The questionnaire's design tries to do away with lead-ins and complicated open-ended questions that can make it challenging for responders to provide accurate replies.

3.5.   Population of Study

The population of this study consists of Nigerians from various works of life. They were randomly selected as the target population for the questionnaire.

3.6.   Sample Size Determination and Sampling Technique

There were 63 total responses collected for this survey and all 63 valid responses were examined.

3.7.   Description of the research instrument

The questionnaire used in this study is a research tool, and it is intended to elicit replies from the participants. There are two unique sections in the questionnaire. In Section A of the study, participants' demographic information was gathered, and in Section B, a series of statements were created specifically to respond to the research questions about the variables of interest. These statements were intended to elicit the appropriate responses from the respondents. To gauge participants' perceptions of accelerated digital transformation and financial growth, the study tool used a modified Likert scale. The scale consisted of five response options, ranging from "strongly agree" (SA - 5) to "strongly disagree" (SD - 1), with "agree" (A - 4), "undecided" (UD - 3), and "disagree" (D - 2) as intermediate options. Participants were provided with instructions on how to indicate their level of agreement with the statements presented in the survey.

3.8.   Validity and Reliability of the Research Instruments

To ensure the alignment of the measurements conducted by the research instrument with the intended objective, an evaluation would be conducted. The reliability of the instrument was assessed using the Cronbach's Alpha method, where a reliability coefficient of 0.70 or higher is considered satisfactory. Consequently, the instrument's reliability can be assessed through a Cronbach's Alpha score of 70% or higher, signifying the questionnaire's trustworthiness and adherence to the predetermined criterion.

3.9.   Data Analysis Techniques

Both descriptive and empirical statistics are used in this investigation. It is anticipated that the use of descriptive statistics will give a view of the responses produced by targeted respondents. The compiled responses are measured using the straightforward frequency count (percentage analysis). The researcher would decide which response should be approved based on the mean and standard deviation. The Pearson correlation technique would then be used to determine whether there is a correlation between employee loyalty and work-life balance. The effect of work-life balance on employee loyalty would be investigated using the ordinary least squares approach. All statistical and empirical procedures would be employed in SPSS 25.0, the statistical software for social science.

3.10   The model specification for regression analysis

Attempting to capture the relationship between adoption of digital currency and the Nigerian economy, this study would use a simple multiple regression technique to achieve this.

Hence, the functional form of the model is specified below.

ECO = (BLK, HUM, DIG, GOV)⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯(1)

Where:

ECO = Economy

BLK = Blockchain technology

HUM = Human behavior

DIG = Digital currency education

GOV = Government policy

Equation (1) cannot be empirically tested; thus, we re-specify equation (1) in its empirical form, and we then have:

$$\text{ECO}_t = \alpha_0 + \beta_1 \text{BLK}_t + \beta_2 \text{HUM} + \beta_3 \text{DIG}_t + \beta_4 \text{GOV}_t + \varepsilon_t -------(2)$$

α_0=Intercept

β_1-β_4=Regression coefficients

ε_t=Error term.

A prior expectation is given mathematically as:

$\beta_1 - \beta_4 > 0$

3.9 Operationalization of Variables

Table 3.1. Identification of Variables and their Measurements

Variables	Types	Measure
ECO = Economy	Dependent variable	Respondent answers will be used to determine the outcome.
BLK = Blockchain technology	Independent variable	Respondent answers will be used to determine the outcome.
HUM = Human behavior	Independent variable	Respondent answers will be used to determine the outcome.
DIG = Digital currency education	Independent variable	Respondent answers will be used to determine the outcome.
GOV = Government policy	Independent variable	Respondent answers will be used to determine the outcome.

Source: Researchers Compilation, 2023

3.10. Method of Data Analysis

The Ordinary Least Square (OLS) regression method was used in the study's data analysis. Due to the data's ordinal nature, this technique was used. The Statistical Package for Social Sciences (SPSS) software was used to do a descriptive analysis of the data. Additionally, diagnostic tests like the normality test were carried out using the Shapiro-Wilk and Kolmogorov-Smirnov statistics. The probability (p)-value of both statistics must be statistically insignificant, more precisely larger than 0.05, to establish normalcy based on the statistics.

4.0 Results

This section focuses on the analysis of the data collected for this study, which is based on the research objectives outlined in the previous chapter. The analysis starts by presenting and discussing the responses obtained from various items in the survey instrument. The findings are presented in a clear and concise manner, allowing for easy understanding and interpretation.

4.1.   Descriptive Statistics

Table 4.1.   Descriptive Statistics

		DIG	HUM	BLK	GOV	ECO
N	Valid	63	63	63	63	63
	Missing	0	0	0	0	0
Mean		3.73	3.53	3.10	3.78	4.14
Median		4.00	3.67	3.00	3.67	4.00
Mode		4	4	3	4	4
Std. Deviation		.558	.624	.707	.508	.737
Variance		.311	.389	.500	.258	.544
Range		3	3	3	3	4
Minimum		2	2	2	2	2
Maximum		5	5	5	5	5

Source: Field Survey, 2023

The descriptive statistics provided give insights into five variables: Digital Currency, Human Behavior, Blockchain Technology, Government Policy, and Economy. The mean values show that the Economy variable has the highest average score (4.14), indicating positive perceptions of digital currency's impact on the Nigerian economy. The Human Behavior variable has a mean of 3.53, indicating overall positive attitudes towards digital currency adoption. The median values are close to the means for Digital Currency, Human Behavior, and Economy, suggesting symmetrical distributions. However, the median for Blockchain Technology (3.00) suggests a skewed distribution towards lower scores. The mode values show that 4 is the most frequent score for Digital Currency, Human Behavior, and Government Policy, while 3 is the mode for Blockchain Technology. The Economy variable has the highest standard deviation (0.737), indicating diverse opinions, while the Digital Currency variable has the lowest standard deviation (0.558), suggesting more consensus.

4.2 Analysis of Responses

The research instrument includes many elements that are described in the following tables along with associated responses. Assessing and comparing responses throughout a spectrum of highly agree, agree, uncertain, disagree, and strongly disagree helps researchers draw conclusions. Decisions are based on the weighted average or grand mean, with the latter being calculated by averaging the item means. Scores below average point to worse perception, whilst above average points to better perception. Economic, Blockchain, behavioral, educational, and governmental variables were all isolated for examination. (SDV stands for Standard Deviation.)

4.2.1 Economy

Table 4.2.   Economy

| S/N | Economy | | | | | | | | |
---	Item	SA (%)	A (%)	UD (%)	D (%)	SD (%)	Mean	SDV	Decision
1	Digital currencies can promote cross-border payments and remittances in Nigeria.	34.9	46.0	17.5	-	1.6	4.13	0.81	Low perception
2	Digital currency adoption will reduce the use of physical cash in Nigeria.	41.3	44.4	3.2	11.1	-	4.16	0.94	High perception
	Weighted average						**4.15**		

Source: Field Survey, 2023

Analysis of the economic effects of the introduction of digital currencies in Nigeria reveals favorable perceptions. With 34.9% Strongly Agree, 46.0% Agree, 17.5% Undecided, and 1.6% Strongly Disagree responses, item one demonstrates optimism towards cross-border payments and remittances. Concerning belief in less frequent use of cash, 41.3% Strongly Agree, 44.4% Agree, 3.2% Undecided, and 11.1% Disagree are the results. A mean score of 4.16 indicates a solid consensus. This positive opinion is supported by a weighted average of 4.15, which suggests potential advantages for the Nigerian economy.

4.2.2 Blockchain technology

Table 4.3   Blockchain technology

S/N	Blockchain technology Item	SA (%)	A (%)	UD (%)	D (%)	SD (%)	Mean	SDV	Decision
3	I am aware of the existence of the Nigerian digital currency (eNaira)	36.5	47.6	6.3	3.2	6.3	4.05	1.07	High perception
4	I feel I lack sufficient knowledge about how Nigeria's digital currency works.	17.5	33.3	22.2	25.4	1.6	3.40	1.10	Low perception
5	Blockchain technology is important for the future of Nigeria's economy.	17.5	42.9	36.5	3.2	-	3.75	0.78	High perception
Weighted average							3.73		

Source: Field Survey, 2023

Digital currency (DIG), human behavior (HUM), blockchain technology (BLK), government policy (GOV), and economy (ECO) are just a few of the factors that descriptive statistics shed light on. The greatest mean in the economy indicates a favorable opinion of its effects. High Human Behavior scores suggest favorable views towards digital money. Median values suggest symmetry since they match means for human behavior, digital currency, and the economy. The skewed median of Blockchain Technology points to poorer ratings. Mode values display the most typical scores. The economy's high standard deviation suggests a range of responses, but digital currency demonstrates unanimity.

e-Naira awareness and blockchain technology are noteworthy, notwithstanding some skepticism or doubts. Mean hints at a favorable awareness perception with variation.

Respondents felt largely misinformed about e-Naira. Many people express doubt or disagreement, which suggests hazy comprehension. Mean represents a wide range of self-evaluations and a relatively poor comprehension perspective.

There is a lot of belief and doubt about how important blockchain is for the Nigerian economy, but there isn't much dissent or significant opposition. Despite uncertainty, Mean conveys a strong sense of importance.

4.2.3 Human behavior

Table 4.4   Human behavior

	Human behavior								
S/N	Item	SA (%)	A %)	UD (%)	D (%)	SD (%)	Mean	SDV	Decision
6	I worry about losing my funds when using Nigeria's digital currency	14.3	34.9	33.3	14.3	3.2	3.43	1.01	Low perception
7	I believe that wider acceptance of Nigeria's digital currency by merchants and businesses would increase its adoption rate	28.6	54.0	12.7	1.6	3.2	4.03	0.88	High perception
8	I feel comfortable recommending digital currency to my friends and family members.	11.1	28.6	30.2	22.2	7.9	3.13	1.13	Low perception
Weighted average							3.53		

Source: Field Survey, 2023

The analysis of human behavior towards the adoption of digital currency in Nigeria reveals several key findings. Firstly, a significant number of respondents express concerns about the safety of their funds when using Nigeria's digital currency, eNaira. This indicates a lack of confidence and clarity regarding the security of their funds, with some respondents even worrying about potential loss. The low mean score and diverse range of feelings among respondents further highlight these concerns.

Secondly, there is a positive perception regarding the impact of wider acceptance of eNaira by merchants and businesses on its adoption rate. Many respondents believe that if more businesses accept eNaira, it will drive greater adoption. The high mean score and relatively consistent agreement among respondents suggest a strong belief in the potential of merchant acceptance to boost eNaira adoption.

However, when it comes to recommending digital currency to friends and family, the perception is more mixed. A minority of respondents' express comfort in making such recommendations, while a significant percentage remains undecided or feels uncomfortable recommending eNaira. This indicates a hesitancy or lack of conviction in promoting digital currency to their social circles. The low mean score and wide range of comfort levels among respondents further emphasize this mixed perception.

Overall, the analysis provides valuable insights into the perceptions and attitudes of individuals towards the adoption of digital currency in Nigeria.

4.2.4 Digital currency education

Table 4.5   Digital currency education

S/N	Digital currency education Item	SA (%)	A (%)	UD (%)	D (%)	SD (%)	Mean	SDV	Decision
9	I have confidence in the technology and system behind Nigeria's digital currency.	7.9	22.2	31.7	22.2	15.9	2.84	1.18	Low perception
10	I believe that the Nigeria's traditional fiat currency is more convenient than adopting Nigeria's digital currency.	12.7	30.2	25.4	23.8	7.9	3.16	1.17	High perception
11	I have a basic understanding about how blockchain technology works.	11.1	44.4	17.5	15.9	11.1	3.29	1.20	High perception
	Weighted average						**3.10**		

Source: Field Survey, 2023

Examining digital currency education reveals attitudes and levels of knowledge regarding the blockchain and Nigeria's eNaira. Only 7.9% strongly agree with eNaira's technology, while 22.2% agree and 31.7% are undecided, indicating uncertainty. Low confidence is shown by a significant 15.9% Strongly Disagree vote. For convenience, traditional fiat currency receives 12.7% Strongly Agree and 30.2% Agree, however 25.4% Undecided and 23.8% Disagree show conflicting opinions. There are several levels of understanding for blockchain understanding, including 11.1% Strongly Agree and 44.4% Agree, 17.5% Undecided, 15.9% Disagree, and 11.1% Strongly Disagree. Mean scores of 2.84, 3.16, and 3.29 highlight views of comfort, understanding, and confidence, respectively. Response variety is revealed by standard deviations of 1.18, 1.17, and 1.20.

4.2.5 Government policy

Table 4.6   Government policy

	Government policy								
S/N	Item	SA (%)	A (%)	UD (%)	D (%)	SD (%)	Mean	SDV	Decision
12	I am satisfied with the level of support and assistance available for digital currency-related matters.	4.8	25.4	27.0	31.7	11.1	2.81	1.09	Low perception
13	I am concerned about the potential risk associated with the use of Nigeria's digital currency.	31.7	36.5	23.8	6.3	1.6	3.90	0.98	High perception
14	I often use digital payments (e.g., mobile money, internet banking, POS, ATM) to make transactions.	68.3	27.0	3.2	1.6	-	4.62	0.63	High perception
	Weighted average						3.78		

Source: Field Survey, 2023

Limited satisfaction with support for digital currencies is indicated by the results (4.8% Strongly Agree, 25.4% Agree). A sizable portion lacks confidence (27.0% Undecided, 31.7% Disagree), and 11.1% Strongly Disagree. The median score of 2.81 denotes low happiness, while the standard deviation of 1.09 highlights a range of contentment levels.

Many people are concerned about the risks associated with using e-Naira (31.7% Strongly Agree, 36.5% Agree), whereas 23.8% are undecided, 6.3% disagree, and 1.6% strongly disagree. The average score of 3.90 denotes a significant perception of risk, and the standard deviation of 0.98 indicates consistent agreement.

The use of digital payments is widespread (68.3% Strongly Agree, 27.0% Agree), with little disagreement (3.2% Undecided, 1.6% Disagree). Strong digital payment perception is indicated by a mean score of 4.62; a standard deviation of 0.63 shows high agreement.

4.3 Regression Analysis

Multiple ordinary regressions were used to capture the linear relationship between the dependent and independent variables. Before analyzing the specific associations, a Cronbach's Alpha reliability test and a diagnostic test were conducted to assess the overall quality of the model. This was achieved by examining the Model summary and regression results.

Regression

Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.501[a]	.251	.199	.660	.251	4.855	4	58	.002	2.253

a. Predictors: (Constant), GOV, DIG, HUM, BLK
b. Dependent Variable: ECO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.457	4	2.114	4.855	.002[b]
	Residual	25.257	58	.435		
	Total	33.714	62			

a. Dependent Variable: ECO
b. Predictors: (Constant), GOV, DIG, HUM, BLK

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.49	5.35	4.14	.369	63
Residual	-2.376	1.506	.000	.638	63
Std. Predicted Value	-1.757	3.265	.000	1.000	63
Std. Residual	-3.601	2.282	.000	.967	63

a. Dependent Variable: ECO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.587	.853		.688	.494	-1.121	2.295		
	DIG	.389	.154	.295	2.524	.014	.081	.698	.948	1.055
	HUM	.325	.152	.275	2.136	.037	.021	.630	.778	1.285
	BLK	.094	.137	.090	.687	.495	-.180	.368	.749	1.335
	GOV	.176	.185	.121	.950	.346	-.195	.547	.794	1.260

a. Dependent Variable: ECO

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	DIG	HUM	BLK	GOV
1	1	4.919	1.000	.00	.00	.00	.00	.00
	2	.042	10.872	.01	.17	.01	.51	.00
	3	.019	16.053	.01	.10	.90	.30	.00
	4	.013	19.554	.02	.37	.08	.18	.69
	5	.007	26.469	.97	.36	.01	.01	.31

a. Dependent Variable: ECO

4.3.1 Normality Tests
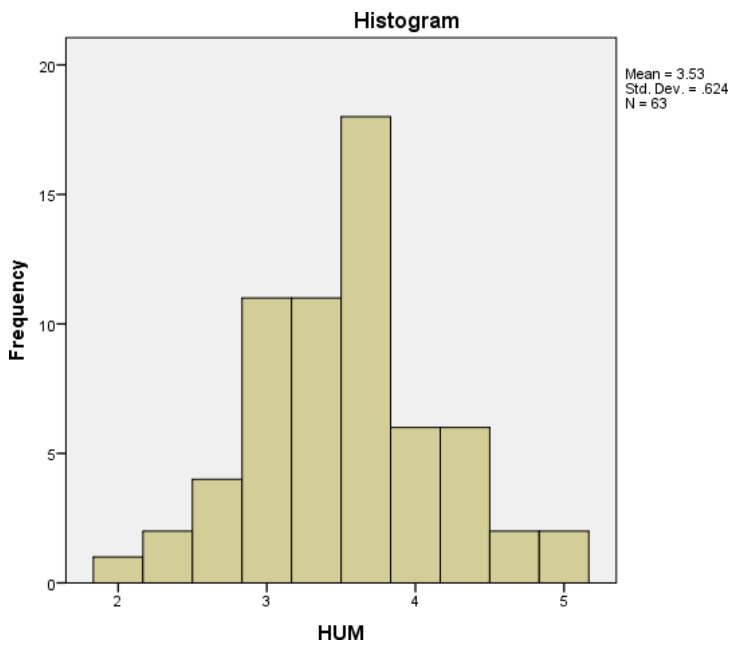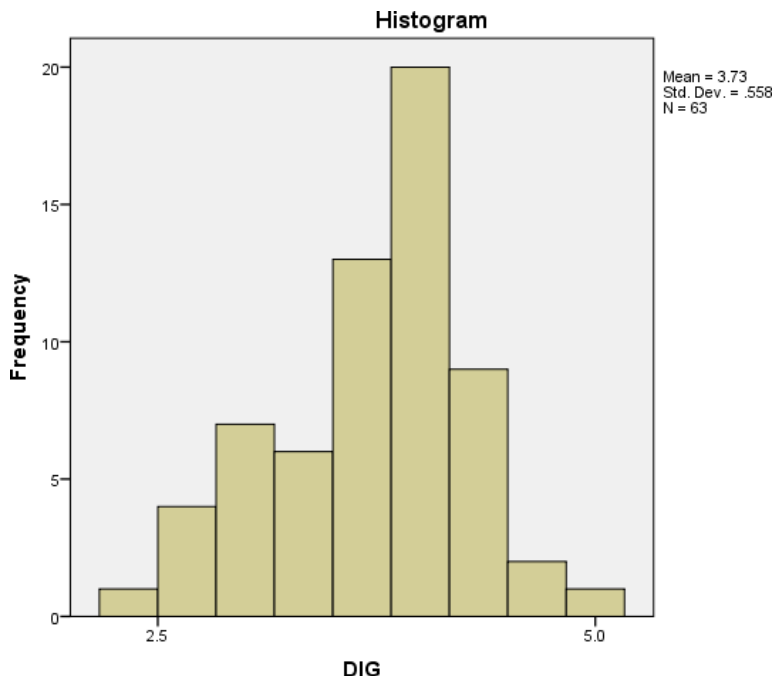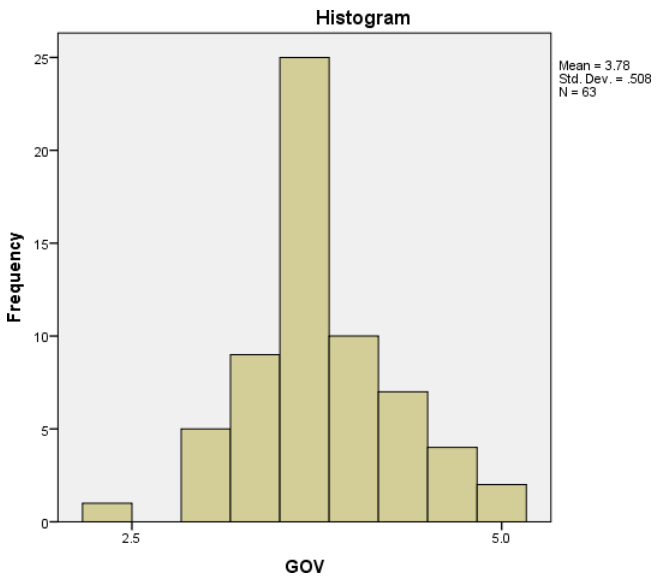The Kolmogorov-Smirnov and Shapiro-Wilk Statistics are presented below.

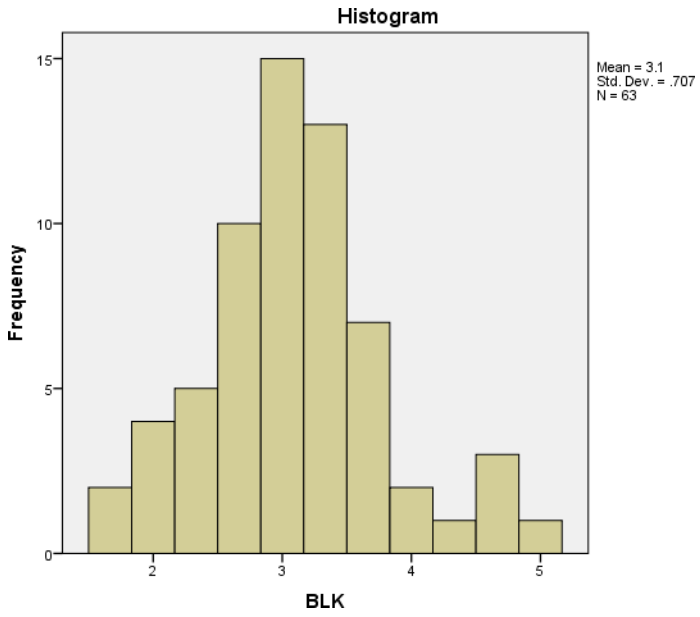**Normality test**

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DIG	.194	63	.000	.942	63	.005
HUM	.159	63	.000	.968	63	.095
BLK	.146	63	.002	.956	63	.023
GOV	.221	63	.000	.937	63	.003
ECO	.169	63	.000	.885	63	.000

a. Lilliefors Significance Correction

Histogram

Mean = 3.73
Std. Dev. = .558
N = 63

DIG

Histogram

Mean = 3.53
Std. Dev. = .624
N = 63

HUM

Histogram

Mean = 3.1
Std. Dev. = .707
N = 63

BLK

Histogram

Mean = 3.78
Std. Dev. = .508
N = 63

GOV

Histogram

Mean = 4.14
Std. Dev. = .737
N = 63

Table 4.7   Normality Test Result

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DIG	.194	63	.000	.942	63	.005
HUM	.159	63	.000	.968	63	.095
BLK	.146	63	.002	.956	63	.023
GOV	.221	63	.000	.937	63	.003
ECO	.169	63	.000	.885	63	.000

a. Lilliefors Significance Correction

Source: Extracted from SPSS 20.0

The table above presents the results of normality tests for five variables: DIG (Digital currency education), HUM (Human behavior), BLK (Blockchain technology), GOV (Government policy), and ECO (Economy). Normality tests are crucial in statistical analysis to check whether the data follows a normal (Gaussian) distribution, which is an important assumption for certain parametric tests. The results of the Shapiro-Wilk tests indicate that the data for all variables (DIG, HUM, BLK, GOV, and ECO) do not follow a normal distribution. In other words, the assumption that the data comes from a normal distribution is rejected for all variables. The results from the Kolmogorov-Smirnov were not used because our data set had less than 100 respondents. The obtained p-values for all variables are less than the conventional significance level of 0.05, indicating strong evidence against normality. These findings have important implications for further statistical analysis and interpretation of the data. The non-normality of the data suggests that traditional parametric tests may not be appropriate for analyzing these variables. Instead, non-parametric tests or techniques that do not rely on normality assumptions should be considered for robust and accurate analyses.

4.3.2. Cronbach's Alpha

Table 4.8   Cronbach's Alpha Reliability Statistics

Cronbach's Alpha	N of Items
.752	5

Source: Extracted from SPSS 20.0

In this case, the Cronbach's Alpha value is 0.752, and the scale consists of 5 items. The value of 0.752 suggests a moderate to high level of internal consistency among the items in the scale. Generally, a Cronbach's Alpha above 0.7 is considered acceptable and indicates good reliability. With Cronbach's Alpha of 0.752, it can be inferred that the items in the scale are reasonably correlated with each other, indicating that they are measuring a similar construct or concept. This suggests that the scale is likely to be reliable and consistent in measuring the intended variable or construct.

Table 4.9   Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.501^a	.251	.199	.660	2.253

Source: Extracted from SPSS 20.0

The regression model analysis reveals important insights into the relationship between the predictor variable(s) and the response variable. The correlation coefficient (R) of 0.501 indicates a moderate positive correlation between the predictor variable(s) and the response variable. The coefficient of determination (R Square) is 0.251, indicating that approximately 25.1% of the variance in the response variable can be explained by the predictor variable(s) included in the model. unexplained. The adjusted R Square of 0.199 considers the number of predictor variables and the sample size, providing a more reliable measure of how well the model fits the data. The Durbin-Watson statistic is 2.253, which helps detect the presence of autocorrelation in the residuals (errors) of the model. A value between 1.5 and 2.5 is usually considered acceptable, suggesting that there is no significant autocorrelation in the residuals. Overall, the model provides a modest fit to the data, with a moderate correlation between the predictor variable(s) and the response variable.

Table 4.10   Summary of Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		P	Std. Error	Beta		
1	(Constant)	.587	.853		.688	.494
	DIG	.389	.154	.295	2.524	.014
	HUM	.325	.152	.275	2.136	.037
	BLK	.094	.137	.090	.687	.495
	GOV	.176	.185	.121	.950	.346

a. Dependent Variable: ECO

Source: Authors computation from SPSS 20.0

Digital currency education (DIG): There is a positive correlation between an increase of one unit in Digital currency education and a corresponding 38.9% increase in the dependent variable, which in this case is the Economy. The obtained standardized coefficient of 0.295 indicates that there is a positive and moderately significant relationship between Digital currency education and the Economy, relative to other predictors. Furthermore, the obtained results exhibit statistical significance at a significance level of 0.05 ($p = 0.014$), suggesting that the provision of education on digital currency has a tangible effect on the economy.

Human behavior (HUM): A one-unit increase in Human behavior is associated with a 32.5% increase in the dependent variable. The standardized coefficient (Beta) of 0.275 suggests that the effect of Human behavior on the Economy is positive. Additionally, this result is statistically significant at a significant level of 0.05 ($p = 0.037$), indicating that Human behavior has a genuine impact on the Economy.

Blockchain technology (BLK): The economy tends to respond positively to increases in Blockchain technology at a rate of 9.4% for every one unit rise in Blockchain technology. When compared to other predictors, Blockchain technology's beneficial impact on the economy is quite small. Furthermore, at the 5% level of significance ($p = 0.495$), this result is not significant, suggesting that Blockchain technology does not significantly affect the Economy in the studied population.

Government policy (GOV): Results indicate that the economy (the dependent variable) grows by 17.6% for every one-point rise in government policy. Government policy does have an influence on the economy, however at the 0.05 level of significance, this result does not seem to be significant ($p = 0.346$), suggesting that government policy does not significantly affect the economy in the studied data set.

4.4.   Hypothesis Testing

In this section of the study, working hypotheses were examined based on the results of the estimated model of the research. Considering their relevance, the hypothesis tests were conducted using the coefficients found in Table 4.12.

Hypothesis One: *Digital currency education has no significant effect on the Economy in Nigeria.*

At a 5% level of significance, the digital currency education coefficient was shown to be significant and positive. Therefore, the null hypothesis may be rejected, and it may be concluded that digital currency education seems to have a major impact on the economy in Nigeria.

Hypothesis Two: *Human behavior has no significant effect on the Economy in Nigeria.*
The coefficient of human behavior was observed to be positive and significant at the 5% level. Therefore, we reject the null hypothesis and accept that human behavior tends to have a significant effect on the economy in Nigeria.

Hypothesis Three: *Blockchain technology has no significant effect on the Economy in Nigeria.*
The coefficient of blockchain technology was found to be positive and insignificant at the 5% level. Therefore, we accept the null hypothesis that blockchain technology has no significant effect on the economy in Nigeria.

Hypothesis Four: *Government policy has no significant effect on the Economy in Nigeria.*
The coefficient of government policy was found to be positive and insignificant at the 5% level. Therefore, we accept the null hypothesis that government policy has no significant effect on the economy in Nigeria.

4.5 Discussion of Findings

The relationship between digital currency education and the economy is both positive and somewhat significant, which shows that awareness of and education about digital currencies are important factors in Nigeria's economic progress. People are likely to engage more actively in digital transactions and financial innovations as they become more familiar with and supportive of digital currencies. expanded financial inclusion, better access to financial services, and maybe greater investments and economic activity can all result from this expanded involvement. To enable people and companies to make wise choices in the rapidly changing digital financial world, policymakers and educational institutions should be aware of the value of fostering education about digital currencies.

The importance of behavioural economics in comprehending economic trends is underlined by the considerable and advantageous interaction between human behaviour and the economy. Economic activity, consumption habits, and investment behaviour are all directly influenced by people's actions, attitudes, and decision-making processes. To create economic policies that are in line with people's choices and motives, policymakers should take behavioural insights into account. Policymakers may develop more successful tactics that promote desirable economic behaviours and eliminate any hurdles that people may encounter while trying to participate in the market by taking into consideration human behaviour.

The conclusion that blockchain technology has a negligible and statistically insignificant impact on the economy suggests that, despite the technology's potential, it may not yet be widely adopted or used enough to have a significant impact on the economy in the sample under study. To fully realize its potential advantages, policymakers and companies should look at methods to encourage the use of blockchain technology across a range of industries. Utilizing blockchain technology to spur economic growth and improve transparency and efficiency in many sectors might benefit

from a focus on research and development, the creation of supportive regulatory regimes, and the promotion of public-private collaborations.

The beneficial effects of government policy on the economy imply that well-conceived and successful programs may promote economic expansion. The absence of statistical significance, however, suggests that the impact of government policies may be context-specific and impacted by a variety of variables that are not completely considered in the present research. Policymakers should seek focused actions that address economic concerns while continuously evaluating the efficacy of current policies. To guarantee that policies stay relevant and effective, policymaking should be data-driven and flexible enough to respond to changing economic situations.

5. Summary of Research Findings

The research findings emphasize the significance of digital currency education and humanbehavior as influential factors in driving economic growth in Nigeria. While blockchain technology shows a positive association with the economy, its impact is relatively small and statistically insignificant in the current context. Similarly, government policy has a positive effecton the economy, but its significance may require further investigation. Policymakers and stakeholders should consider the implications of these findings when formulating economic strategies and interventions to promote sustainable economic growth and development in Nigeria.Additionally, continuous research and data collection are essential to gain deeper insights into thecomplex dynamics of the economy and to develop evidence-based policies that address the country's unique economic challenges. The research findings that were made can be summarized as follows:

1. There is a positive and moderately significant correlation between digital currency education and the economy in Nigeria.
2. Human behavior exhibits a significant and positive relationship with the economy in Nigeria.
3. The impact of blockchain technology on the economy is positive but insignificant.
4. Government policy has a positive and statistically insignificant impact on the economy.

5.1 Recommendations

Based on the research findings, several recommendations can be made to foster economic growth and development in Nigeria:
1. Policymakers and educational institutions should emphasize digital literacy and digital currency education due to its beneficial link with the development of the economy. Educational initiatives, seminars, and training programs help raise awareness and comprehension of digital currencies. Nigeria can boost economic activity by educating people and companies about digital currency.
2. Policymakers should use behavioral economics since human behavior affects the economy. To match people's decision-making, economic policy should include behavioral knowledge. Policymakers can enhance economic behavior and policy interventions by understanding how people react to incentives, defaults, and nudges.

3. Although the impact of blockchain technology on the economy is currently relatively small and insignificant, its potential benefits warrant further exploration. Policymakers should create an enabling environment to encourage the adoption of blockchain technology in various sectors. This can be achieved through regulatory clarity, public-private partnerships, and support for blockchain research and development. Emphasizing the benefits of blockchain, such as enhanced transparency and efficiency, could incentivize businesses to adopt the technology and potentially drive economic growth.
4. While government policy shows a positive impact on the economy, the lack of statistical significance suggests that its effectiveness may require further investigation. Policymakers should continually assess the impact of existing policies on economic growth and consider targeted interventions to address specific economic challenges. Regular evaluation of policies and data-driven decision-making can lead to more effective policy implementation and better outcomes for the economy.

5.2 Conclusions

The intricate interactions between blockchain technology, human behavior, and government policy within Nigeria's economy are highlighted in the study's conclusion. Notably, human behavior and knowledge of digital currencies have a significant positive impact on economic development. This is demonstrated by the informed individuals and enterprises who actively engage in digital transactions to promote growth. The significance of human behavior highlights the need for behavioral economics to be incorporated into policymaking to make decisions that are consistent with people's preferences.

Although blockchain technology has the potential to be revolutionary, its effects right now are minimal and statistically negligible. This emphasizes how important it is for industry and policymakers to work together to increase its adoption across sectors. Nigeria may profit from the advantages of blockchain, fostering efficiency and transparency for economic improvement, by building an atmosphere that is friendly to innovation.

The favorable impact of government actions on the economy is evident, even though it lacks statistical significance because of contextual factors. For sustainable development in Nigeria, dynamic, data-driven policymaking is crucial, modifying measures to tackle economic difficulties.

5.3 Contributions to knowledge

Insights from this study highlight the importance of informed decision-making, the incorporation of behavioral economics, the adoption of technology, and context-sensitive policymaking for sustainable development. It sheds light on the complex relationships between digital currency education, human behavior, blockchain technology, and government policy in Nigeria's economic landscape.

5.4 Future Work

Future studies should examine the long-term effects of digital currency education on economic indicators, investigate the elements that affect blockchain adoption, evaluate the effectiveness of policies, and use behavioral economics experiments for subtle interventions.

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