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IMPACT OF CRYPTO CURRENCY ON THE OPERATIONS OF DEPOSIT MONEY BANKS (DMB) IN NIGERIA

[1]Tukura, T.P., [2]Agbaji, J.S., [3]Adejo, M. I., [4]Odaudu, A.,

[5]Michael, F., and [6]Ocheja, P. I.

[1]First Bank PLC, Lokoja branch, Nigeria
[2]Department of Banking and Finance, Prince Abubakar Audu University, Anyigba, Nigeria
[3]Department of Business Administration, Salem University, Lokoja, Nigeria
[4]Department of Political Science , Kogi State College of Education, Ankpa, Nigeria
[5]Department of Business Education, Federal College of Education (Technical), Gombe, Nigeria.
[6]Department of Economics and Development Studies , Federal University, Dutse, Nigeria

(Corresponding Author : petertukura23@gmail.com).

ABSTRACT

The Digital currency in Nigeria has experienced turbulent times following the acquisition of deposit money banks (DMBs) in Nigeria since 2007 till date. In order to minimize their operational costs, commercial banks have adopted digital banking including bit-coin, crypto-currency and other internet banking and internet banking system where customer can access their accounts on their personal computers. Mobile applications as it offers millions of people a potential solution in emerging markets in Nigeria, yet remain excluded from the financial mainstream. It can make basic financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the bank's own overheads and transaction- related costs. The objective of this study was to determine The Impact of Crypto Currency on the activities of Deposit Money Banks (DMB) in Nigeria. The study applied descriptive research design. The target population included all the 14 deposit money banks (DMB) in Nigeria who provide digital banking system to all the commercial banks operating in Nigeria as at December 2021. The total transactions made during the period of study were collected and the number of bit-coin users was regressed against bank performance as measured by the return on assets. The study used secondary data from the Central bank of Nigeria and Nigeria National Bureau of Statistics. During the study period, the amount of money transacted through the digital banking system increased steadily from 0.06 billion in 2012 on its launch to 118.08 billion by the last month of the analysis. The growth was motivated by the convenience offered by the service. The study however found that there exist a weak positive relationship between digital banking and the financial performance of commercial banks in Nigeria. The study recommends that the policy makers take digital banking awareness creation into consideration when drafting policies on the operations of banks in Nigeria. This was because of the indirect relationship of digital banking and financial performance especially as the industry moves into a technologically competitive environment. The study also recommends that policy makers keep a keen eye on the developments of digital banking as it is a new platform for competition among commercial banks as the world moves into a digital age to ensure it does not lose its regulatory role.

Key Words: Crypto-Currency, Returns on Asset, Commercial Banks, Deposit Money Banks and Digital Currency

1.0 INTRODUCTION

Historically, the Nigerian monetary system has witnessed divergent shifts in time and space as a meansof national and transnational political economy formation of demand and supply among states. Thus, the crystalline gold of 15th century, 16 century BCE persiandaric, the17th-18th century coinage, and 19th century and 20th century Spanish real, and the21thcenturydollarhegemony.Block-chaintechnologyanddigitalcurrencyisoneofthedisruptions of this age that is transforming the payment system and method of fund transfer that Nigeria and Nigeria shouldn't neglect because of its rapid development and soon at the national economy it will receive wide-range acceptance and economic drive which will be; from each according to his coins (Crypto currency) and distribution will be to each according to codes (block-chain technology), (Uzodigwe, 2019).

Decryptionary.com further defined crypto currency as "electronic money created with technology controlling its creation and protecting transactions, while hiding the identities of its users.

. Crypto currency can also be traded in national currencies through several informal Internet-based exchanges. Monnet; *et al.,* (2021), believed that block chain is just an entrepreneurial discovery in market economics and in banking application were old patterns give way for the new ones. In other words the essence of block-chain- crypto currency is a means of shortchanging the basic default of centrally planned payment and transaction system such as banking industry in Nigeria and Nigeria. Baris, (2019) addressed block chain transaction fee from the standpoint of political economy dimension because to him, it is an institutional governance that it is the mercy of agents of the state to allow it remain as structures of the market hierarchies occupied by centralized financial systems like banks or secedes tone institutions of centralization.

The crypto currency market has grown over the years and it keeps expanding as new crypto currencies emerge more frequently. As at August 2018, records revealed the existence of over 1,600 crypto currencies available on the internet. Currently, there are over 2000 crypto currency and virtual currencies, this goes to show the speed at which it grows. Some major types of crypto currencies include Bit coins, Lite coin, Z cash, Dash, Ripple, Ethereum, NEO, Altcoins and Tether. Bitcoin is widely seen as a pioneer and the most successfully used in the world of crypto currencies. Bitcoin was first made available to the public in 2009, and has ever since expanded by maintaining the highest market capitalization.

Recent studies show that 63% of people in the banking industry view crypto currency as a risk. They see no opportunity in it. Their reasons are: Crypto's are becoming an adored asset worldwide and are expanding exponentially. Perhaps it is because many countries worldwide look towards digitizing their economies. Some countries like China have even created the Yuan digital coin towards this goal. In fact, in China, the coin has a sole distributor in the bitcoin-buyer.io, spearheading its trade. Traditional banks, on the other hand, also adopting the use of these digital assets. In fact, they believe that the risks that crypto's carry outweigh their potential benefits. A lot needs to be done to change this narrative and perception. The Nigerian Securities and Exchange Commission also made a statement in 2017 warning Bitcoin traders to exercise extreme caution. Again in March, 2018, the Central Bank of Nigeria (CBN) reiterated its stance on crypto currencies warning traders that digital assets are a mere gamble. The trade in crypto currency is not extinguished despite the series of warnings, the CBN however took decisive steps by having an organized committee to review and articulate a road map for block-chain and crypto currency regulation as well as the possible safety when used as an asset of value and in line with global practices. Like most countries, Nigeria is yet to introduce a legal framework or legislation for crypto currencies or crypto exchanges; however there is a great interest to develop one very soon. Following the moves taken by the CBN and SEC, Nigerian lawmakers have also urged the regulatory authorities to speed up efforts in introducing a legal frame work for crypto currencies in the country. This lead us to a research question, objective of the study and the research hypothesis which is stated below: ie Does emergency of crypto currency in Nigeria affect the growth of deposit money bank (DMB) in Nigeria? ii. Does a Block chain transaction charge undermine banking activities in Nigeria? iii. Has the Emergence of Digital currency facilitate illegal funds transferring Nigeria banking system? While the study objective is to examine the impact of crypto-currency on the operations of deposit money banks in Nigeria and the general objective are [1]to examine the Impact of crypto-currencies in Nigeria [2]determine if block-chain transaction charges undermines the activities of deposit money bank (DMB) in Nigeria and [3]to evaluate whether a digital currency will increase bankruptcy in Nigeria. The study further analyzes the research hypothesis in a null form as follows

H_{01} Crypto currency has no significance effects on deposit money bank in Nigeria

H_{02} Block-chain transaction has no significance effects on deposit money bank in Nigeria

H_{03} Emergence of Digital currency has no significance effects on deposit money bank in Nigeria

Thus; the study of Crypto currency on the activities of deposit money banks in Nigeria is significant for both theoretical and practical reasons. Theoretically, studies on the usability of Crypto

currency as replacement to paper money (fiat currency) have gained momentum in recent times. Some economists and social scientist outlined the basic advantages accrued to Crypto currency through the block-chain technology, example; ease money usage, fast delivery transfers and privacy. However, others looked at the challenges of this new technology towards the growth of Nigerian banking system. However, no researcher has examined the possibility of regulating unanimous transaction (decentralized Crypto currencies) in Nigeria . Against this backdrop, the study therefore adds to the existing literature on the Impact of crypto currency on the activities of deposit money banks in Nigeria. This shows that there is a need for the adoption of new currency-crypto currency in Nigeria's deposit money banks as a means of monetary transfers and transaction in her business activities. The study is equally found, a theoretically significant gap emanating from paucity of write ups in regards to the need for Nigeria to key into the integrated global financial economies in terms of market strategy, trade and exchange rates.

2.0 LITERATURE REVIEW

The main goals of establishing deposit money Bank (DMB) is to serve the purpose of intermediaries between individuals and corporate organization. This accounts for the spread of this financial institution across Nigeria and Nigeria. In Nigeria the rate of underdevelopment is at its rise. This has led to low infrastructural deficit, ineptness of crimes and wide spread diseases are at its peak. This accounts for the low economic output or activities in Nigeria. Many Nigerian states are mainly mono-economic-variant, basically rooted in Agricultural products and raw material. The large shares of the banking sector operatives are held by the government inform of securities and liquid assets. Uzodigwe, (2019), also argued that the existence of banking system especially in sub-Saharan Nigerian is generally underdeveloped and this is because it is not in tune with the economic or commercial activities of the locales. In affirmation to the statement above, Asogwa, (2017), made a very strong assertion which he linked to the recent World Bank study on sub-Saharan Nigeria on the development of its financial sector in the region scores lowest efficiency of the financial instructions.

2.1 Conceptual Review

2.1.1 Permissioned Block-chains: It has a set of trusted parties to carryout verification and in most cases an additional verifiers can be added with the agreement of a centralized authority. This looks like a traditional banking system that makes use of (KYB) Know Your Business or (KYC) Know Your Customer in other to permit tasks in a particular manner.

2.1.2PermissionlessBlock-chains:

Thismeansthatthereisnopriorauthorizationoftransactions.Anybodycandulyparticipate in the verification process. Good examples of the crypto currencies block-chain that runs in such a manner are; Bitcoin, Litecoin, ethereum among others. They operate by receiving an amount for verifying transactions, including publishing a block of transactions**.**

2.1.3 Decentralized Crypto currencies and illegal Transfer of funds in Nigeria

There plethora of Digital currencies as indicated by coin-cap market website. There are basically two major types of digital currencies, centralized and decentralized crypto-currency.Hereourconcentrationisondecentralizedcryptocurrencies.Thefollowingareexampleofdecentralized crypto currencies among others, Bitcoin, ethereum, Dash coin, elecroneum, Bitcoin cash, cash, litecoin etc. Decentralized crypto currencies are not controlled by any central entity and often not under any jurisdiction and as it transacts freely across borderline. It appears to be unanimous in nature and in character. Nigerian E- commerce is fast growing as merchants who are unbanked prefer the use of crypto currencies as a mode of payment system. On the other hand, illegal transfers of fund have constituted a lot of harm to Nigerian states through the use of internet. This includes, terror financing, cyber crime related activities, transfer of stolen money to major advanced western states e.t.c. With the rise of this internet crime related activities around the globe especially a sit concerns Nigerian state peace and stability, scholars are of the opinion that measures are set in place to curb the menaced. On the three major analysis of the nature of Bitcoin anonymity. Eze, (2017)stated that immense pressure to traditional banking and money transmission services dues to emergence of crypto currencies. They further noted crypto currencies can be a perfect alternative to cash or fiat money. Therefore it is of great essence to have an open crypto currencies standard. They optimized that fiat currencies are problematic in nature due to fact that they are not efferent. They are prone to theft counterfeit and open to political caprices.

2.1.4 Block-chain Transaction Fee and Banking Revenue in Nigeria

This aspect discuss block-chain low transaction fees and the decrease in banking accrued remittance charges in Africa. We will also look at the non existence of intermediaries in transaction process and centrally financial inclusion. Finally we will examine peer top transmission and the use of credit card as a payment method in African commercial activities. This is to explain how block-chain transaction fee has reduced banking revenue in Africa. The block-chain is the emerging technology that has gained fame in the world of ICT within few years of its innovation.

Crypto-currency cannot work without the use of Block-chain. They are one and the same thing. It is possible to build applications on top of that technology but not to take Bitcoin and other crypto currencies away, although venture investors are increasingly talking about the value of this type of distributed ledger system as a basis for all kinds of applications, not just currency. Many financial institution and individuals have invested heavily on Block-chain-Cryptocurrencysince2012.

Total investment in Block-chain, 2016 -2020

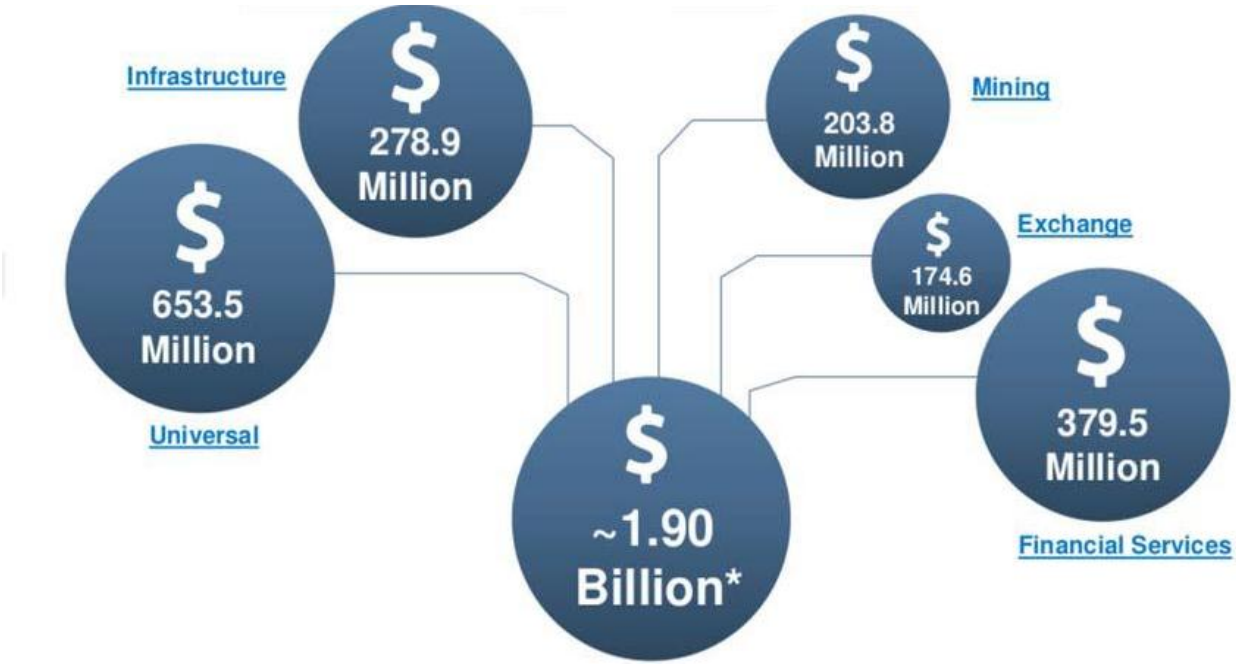


Fig.1:Total Investments by sector in Block-chain,2016-2020

Source: https: //www. statista.com/statistics/

The block-chain, whose performance and efficiency are enforced with cryptography to ensure validation of transactions, allows Bitcoin wallets to know what their balance are and to make new transactions by the spender (Bitcoin Project, 2015) .Bitcoin is advantageous because of its transaction speed, which is claimed to be much faster than that of traditional transfer instruments (banks): a few minutes for a transaction to clear using Bitcoin, according to Michael Kimani, African Digital Currency Association's head, versus up to 6 days or more remitting through consolidated instruments, such as

bank accounts, cash, Money Gram, Western Union and prepaid cards. According to the World Bank's RPW database, no two users are able to claim the same digital dollar, as in the case of fraud. Thus, he stated that, Block-chain has certain innovative characteristics which made them a highly important tool instructuring the global economy in relation to Africa, which includes: [1]Distributed consensus [2]Transaction transparency and Party identity abstraction

2.1.5 Types of Block-chain

Basically, the block-chain is referred to as a publicly distributed ledger following a consensus mechanism. The block-chain can be Permissioned (private), Permissionless (public). Private Block-chain– The block-chain that can be accessed by the known and approved parties or entities. These block-chains facilitate users to perform cheaper and faster transactions that are restored permanently in a shared ledger. Only authorized financial operators can approve the transactions being executed in the private block-chains. Features of the private, Permissioned block-chain includes

- Fast and highly efficient
- Highly secured
- Easy to upgrade
- Designed for private network
- They have high enterprise support
- Inadequate critical enterprise features

Private Block-chain features are represented diagrammatically as shown below;

2.1.6 Private Block-Chain

Source:http://www.ijmsbr.com/Volume%206%20Issue%204%20Paper%2019.

Public Block-chain – The block-chain that can be accessed by any of the parties of entities of the peer to peer network either approved or not, is known as public and Permissionless block-chain. These block-chains facilitate users to perform transactions in a simple manner. Being Permissionless, these transactions can be somehow slow, less efficient and inflexible due to heavy load of transactions. The important features of the public, Permissionless block-chain are–

- Slow and less efficient

- Built-in virtual currency
- Simple and inflexible
- Have high community support
- Forked heavily
- Complete and tested

Investment in block-chain is gaining momentum, with approximately $1billion of venture capital investment over the last 24 months ($500 million in 50 venture capital deals in 2016 alone) and the trend is expected to grow rapidly. A 2016 McKinsey survey found out that the global banking industry is expected to spend $400 million on block-chain related projects by 2019 globally. Some 70 percent of financial organizations are in the early stages of experimentation with the technology and most executives expect to see\ material impact in mainstreaming it in the next five years.

2.2 Empirical Review

Few studies have been conducted on the impact of crypto-currency in Nigeria. Tchouassi (2012) sought to find out whether Deposit money Banks really practice digital banking system to the unbanked using empirical studies. This study sought to discuss how crypto currencies could be used to extend banking services to other financial institutions. The study noted that poor, vulnerable and low-income households in Nigeria and other Nigerian countries often lacked access to bank accounts and faced high costs for conducting basic financial transactions.

The digitalization of economies has far-reaching implications for many areas of economic inquiry, not least for monetary economics and the concept of money itself. With the massive volumes of data that digital activities generate come new opportunities and challenges for societies and the monetary system. A tradition in monetary economics is to view money as a coordination device that serves as a substitute for the complete list of economic transactions within a given society's "memory" of all economic transactions (Kocherlakota (1998). Yet this explanation of money leaves open its institutional underpinnings, upon which the welfare consequences of the institution of money may crucially depend. In particular, due to the inherent network effects in payments (Rochet and Tirole (2006)) and the potential for the proprietary use of data, digital forms of money pose substantial challenges for competition, privacy and integrity. It is in this context that an important public debate has arisen on the issuance of new, digital forms of central bank money and how they will affect the architecture of the monetary system.

Auer and Rapheal, (2021), opine that, Central bank digital currencies (CBDCs) promise to provide cash-like safety and convenience for peer-to-peer payments. To do so, they must be resilient and accessible. They should also safeguard the user's privacy, while allowing for effective law enforcement. Different technical designs satisfy these attributes to varying degrees, depending on whether they feature intermediaries, a conventional or distributed infrastructure, account- or token-based access, and retail interlink-ages across borders. We set out the underlying trade-offs and the related hierarchy of design choices. Matua, (2019), examine the effects of digital banking system on the financial performance of deposit money banks in Nigeria. The study applied descriptive research design. The target population included six mobile phone service providers who provide mobile phone services and 43 deposit money banks operating in Kenya as at December 2021. Satoshi, (2019), examine Bitcoin: A Peer-to-Peer Electronic Cash System, A purely peer-to-peer version of electronic cash which allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending.

2.3 Theoretical Framework

2.3.1 Neoliberal Theory

The study adopted the neoliberal theory. Neoliberal theory and its foundational core elements can be traced back to the classical liberalism advocated by Adam Smith, and to his specific conception of man and society on which he founds his economic theories (Clarke 2005).It first appeared in an article by the prominent French economist and central ideologue of the cooperative movement, Charles Gide. In his article, which is mainly a polemic against the so-called "liberal" Italian economist Maffeo Pantaleoni of 1898, Gide foreshadows later usage of term, where it is generally thought that neo-liberalism is a return to the classical liberal economic theories of Adam Smith and his attendants. Neo-liberalism is the thought of an entirely new "paradigm" which is for economic theory and policy-making – the ideology behind the most recent stage in the development of capitalist society. Jacques Cross employed the term "neo-liberalism" in his doctoral thesis entitled, (Cros 1950). To Cros, neo-liberalism is the political and economic ideology which resulted from a few efforts at reintroducing classical liberalism in the period immediately before and during World War II. Cros's main argument is basically, that these "neoliberals" have sought to redefine liberalism.

Neo-liberalism prominently and prototypically include all the conviction that the only legitimate purpose of the state is to safeguard individual, especially commercial, liberty, as well as strong private

property or individual rights. It is an indication that state power of intervention in market system is lose, free trade and innovational works not be limited in scope and size. Thispositionofneoliberalismcanbeinternationalizedwherebytheonlyacceptablereasonforregulating international trade is to safeguard the same kind of commercial liberty and the same kinds of strong property rights which ought to be realized on a national level (Norberg 2001;Friedman2006).

The theory is significant for the study on the Crypto-currency and The Political Economy of The deposit money banks in Nigeria for many reasons. Some of the reasons includes, the identification of the units of analysis like the block-chain technology, transaction of funds, terrorism financing, Nigerian state, Bit-coins, banking generated remittances, decentralized crypto-currency, money laundering and cyber criminal activities etc. It emphasizes the complexion the nature of world economic system most especially after the economic meltdown of 2008 that greatly affected the banking system globally. While revealing the challenging character of different Nigerian Banking system, the theory also gives way for understanding the role of innovativeness of crypto-currency as occasioned by the disruptiveness of block-chain technology as use for payment method beyond the traditional central approach of money transfer across and within the state.

3.0 METHODOLOGY

3.1 Research Design

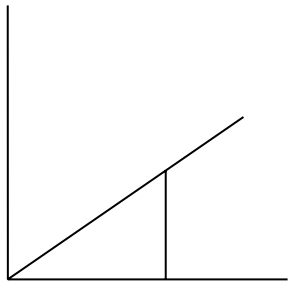
The study adopted the time series research design. In this research design, numerous measures of the dependent variable are taken both before and after the introduction of the independent variable for one or more groups (Johnson and Joslyn, 1995). The pre-measurement sallow a researcher to establish trends in the dependent variable that are presumably unaffected by the independent variable so that appropriate conclusions can be drawn about post-treatment measures. According to Johnson and Joslyn (1995, p. 139), 'these trends may be linear (either increasing or decreasing) or curvilinear'.

In application of the design in context of this study which is the reduction of banking revenue generation by block-chain low transaction fee and the facilitation of decentralization of illegal funds transfer in Nigeria. The dependent variable of the study is political economy of the deposit money banks in Nigeria and the independent variable is Crypto-currency. However, a change in the direction of the measures of corporate performance inclusion of block-chain technology globally away from the existing trend may indicate that the deposit money banks in Nigeria has an effect on corporate

performance, (this is presumably present in diagram B and C but not in A). However, the essence of the time-series research design in a research work is the presence of a periodic measurement process onsomegroupsorindividualsandtheintroductionofanexperimentalchangeintothistime-seriesof measurements, the result of which are indicated by a discontinuity in the measurements recorded in the time-series. This can be represented diagrammatically as follows:

B

A



Independent Variable

Dependent Variable

Time

Time

C

Dependent Variable

Time

O1O2 O3 O4X O5O6O7 O8

Where:

O1-O8 = series of observations of the dependent variable over time; which in the context of this study is the Impact of Crypto Currency on the activities of Deposit Money Banks (DMB) in Nigeria. In this sense, many aspects of banking sector in Nigeria has resulted into the reduction in its revenue remittance charges in Nigerian commercial activities such has encouraged the spread of digital currencies which constitutes this series of observation(O1-O8).

X=.TheapplicationoftheindependentvariablemanifestsintheformsdecentralizedCrypto-currency, unanimous transaction and block-chain technology, in relation to the different aspects of banking industry in Africa.

However, time-series research design is significant for the following reasons:

It establishes a baseline measure

- It describes the changes overtime

- It keeps track of trends
- It forecasts future short-term trends

It makes for easy collection of data, presentation of results in tables and graphs and finally, it facilitates easy interpretation of results.

This research design helped us to investigate the trend in the impact of Crypto-currency since 2014 given the application and use of block-chain technology. However, the study measures the operations of deposit money banks in Nigeria through the cost of transactions and security threats in limelight of the advancement of block-chain and crypto-currency towards providing a better financial inclusion for Nigeria state. With the help of this design, the study has divided the trending application of various aspects of block-chain and crypto-currency in providing a workable payment system. These include the phase of the crypto-currency emergency (2008-2010); the phase of after spreads Bit-coins in Nigeria (2010-2014); and the phase of digital currency regulation and sustainability (2015 ongoing). These phases correspond with various aspects of deposit money banks in Nigeria and African security challenges.

LOGICAL DATA FRAMEWORK(LDF):CRYPTOCURRENCY AND ACTIVITIES OF MONEY DEPOSIT BANKS IN NIGERIA.

Research questions	**Hypothesis**	**Major variables of the hypotheses: Independent(X) Dependent(Y)**	**Empirical indictors of variables**	**Source of data**	**Methods of data collections**	**Method of data analysis**
Q1 Does block-chain transaction fee undermine deposit money banks in Nigeria	Block-chain transaction fee undermines deposit money banks in Nigeria	**X** Block-chain transaction fee **Y** Bankingre venues in Africa	**Indicators of X** • Removal of checkpoint and intermediaries in transaction of funds • Every ledger entry is verifiable and traceable across the transaction history(accountability) • Peer to peer transmission that enhances communication without central nodes • Theexistenceofalgorithm'sandrulesthathelpstransactionbetweennodes • Low transfer fees in transactions processes **Y** • Decreased accrued remittance transaction charges • The risky nature of the use of ATM machine by adults	Secondary sources of data	Documentary method of data collection were used for the study	Content analysis based on qualitative description, as well as tables, pictures and diagrams were adopted in analyzing the data

			• Disadvantageous nature Credit cards or other cards by users • Central financial inclusion			
Q2 Has decentralized digital currencies facilitate illegal funds transfer in Nigeria ?	Decentralized Digital currency encourages fraudulent money transfers in Nigeria	**X** Decentralized Digital currency **Y** Illegal funds transfer movement among Nigeria states	**Indicators of X** • It operates in Permissionless block-chain • Its transaction is aided by mobile or computer banking(network) • Bitcoin or Ethereum **Indicators of Y** • Increases cyber related criminal activities • It helps in financing terrorism in Nigeria • Aiding money laundering activities in Nigeria			

3.2 Population and Sample

The population of interest in this study consisted of all 14 deposit money banks operating in Nigeria. In pursuance of the objective of the study; attention focused on all commercial banks. The managers of ICT department, card centre and operations at head office of these banks were target respondents. There was no need to sample since the study population comprises only (14 deposit money banks in Nigeria).

3.3 Methods of Data Collection

Thestudyalsoadopteddocumentarymethodofdatacollection.Documentary method offers the access to records that have existed long enough to permit analyses of political phenomena over time. Another advantage is that, using a written record often enables the researcher to increase sample size above what would be possible through either interviews, questionnaires or other forms of direct observation. Lastly but most importantly, documentary method of data collection often saves theresearcherconsiderabletimeandresources,itisusuallyquickertoconsultprintedgovernment documents, reference materials, computerized data, and research institute reports than it is to accumulate data ourselves through the survey methods. This method was used in collecting data from books, journal articles, conference papers and official documents from.

In analyzing the data, the study adopted content analysis method based on logical induction. It , the study equally employed the use of tables, pictures and other diagrams in summarizing, illuminating and representing the data generated.

4.0 RESULTS AND DISCUSSION

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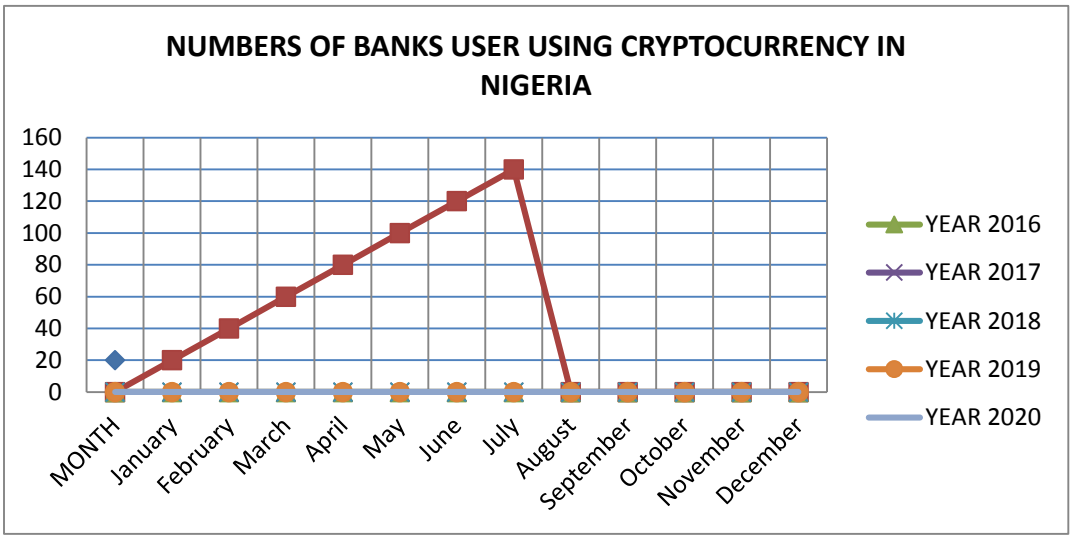
4.1 Number of Banks using digital banking system

The study sought to establish the developments in the number of bank that practicing bitcoin/digital banking system among all deposit money banks in Nigeria. The findings were as shown in the figure 4.1Belowand appendix ii:

Figure 4.1 Numbers of Bank Users using Digital Banking System



Source:(Research Findings, 2020)

From the findings presented above, the study established that from inception year 2014, the number of users in the first month was 0.02 million people. The numbers grew steadily from month to month during the year to close at 1.35 million users. As the period lapsed, the number of users increased. The average for the year stood at 0.506 million users.

For the second year, the number of users started at 1.59 millions then grew steadily from month to month to close the year at 5.08 million. The huge increase led to a huge increase in the annual average users of 3.25916 million. For the year 2015, there were 5.48 million users in January which grew again throughout the year to reach 8.88 by December. This translated into an annual average of 7.265millionusers.

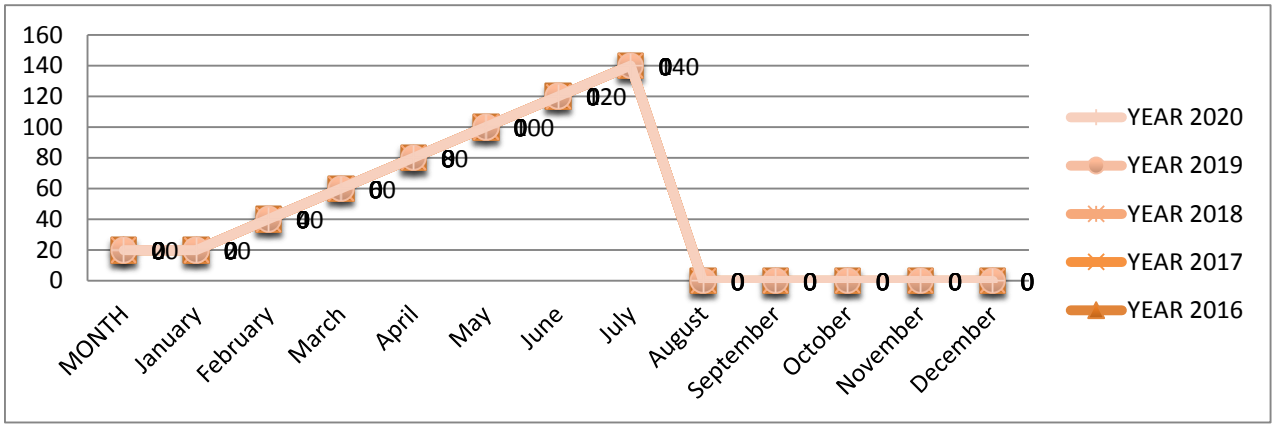
For the year 2016, the numbers of users were 9.48 million in January. The positive trendin the number of users continued in this year to close at 16.45 million users. The annual average was 12.6875 million users. The year 2018 started on 16.69 million users which again grew steadily throughout the year to close at 19.19 million users in December. This translated into an annual average of 18.2125 million users. These findings show that as time lapsed, the number of banking users increased. The deposit money banks could now start enjoying economies of scale as more and more customers adopted digital banking. This affected the banking operations especially the staff costs positively as the number

of customers visiting the banking halls to transact could tremendously reduce as more and more customers adopt digital banking. The resulting effects could be better services in the banking halls as they would be less congested. This could also lead to are duction in the headcount offering services in the banking halls. The adoption of crypto-currency in the banking system also contributes positively to the provision of standardized services.

Monthly Value moved through digital Banking system

The study sought to establish the Monthly value moved through digital banking system during the studyperiod.Thefindingswereasindicatedinthefigure4.2belowand appendix III

Figure4.2:Monthly value moved through digital Banking system



Source:(ResearchFindings,2022)

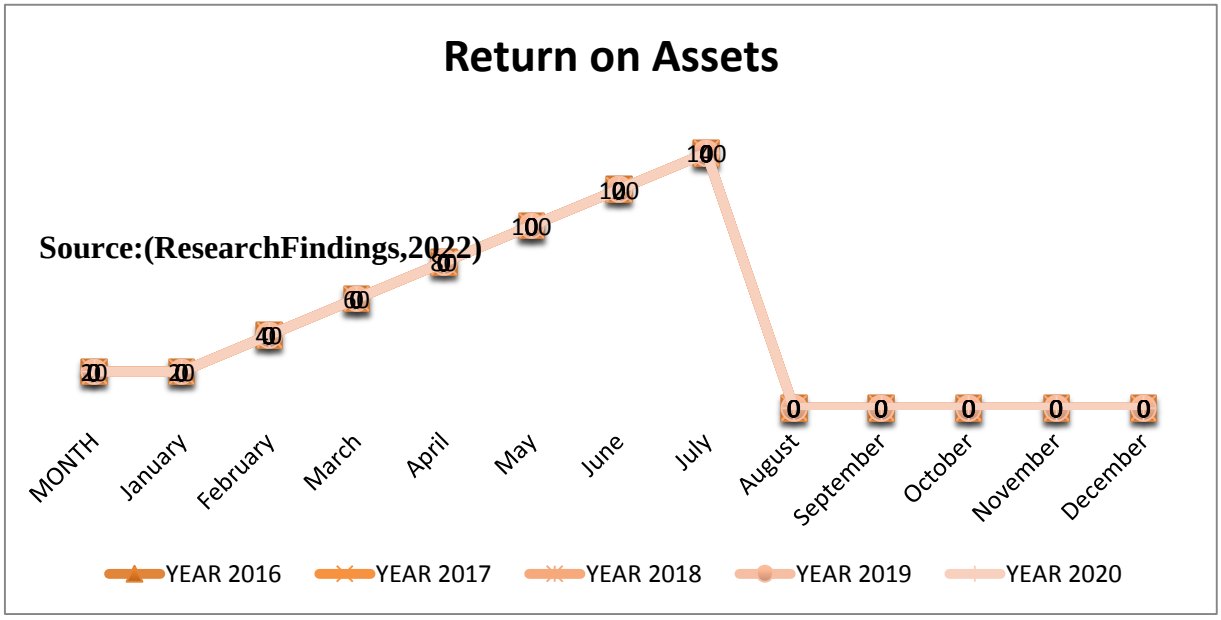
From the findings illustrated in the figure 4.2 above, the study established that from the inception beginning from the month, the total amount moved through digital banking system was Ksh. 0.06 billion which grew from month to month during the year 2014 to close the year at ₦ 3.77 billion in December. The annual average for the year 2015 was ₦1.631 billion. In the year 2016, the total amount moved through digital banking system in January was ₦ 27.07 billion which still grew rapidly during the year to close at ₦ 52.34 billion in December. The annual average stood at ₦ 39.4525. For the year 2020, the amount moved by end of January was ₦ 48.46 billion. This amount grew steadily during theyeartocloseat₦70.27billion.Theannualaveragewas ₦61.01833billion. During the year 2011, the number of banks practicing crypto-currency and digital money transfer had increased to four, namely; First Bank, Zenith Bank, United bank for Africa Guaranty Trust Bank. The amounts transacted through these services were maintained high above 75 billion. Notably, there was a characteristic fluctuation in transaction during the year. From a low figure of ₦ 0.06 billion in March 2014 to ₦. 118.08 billion by

the end of the study period.

4.2 Financial Performance Deposit Money Banks

The study analyzed the consolidated financial performance of the deposit money banks in Nigeria during the study period. The findings were as shown in the figure4.3belo

Figure4.3:Return on Assets



Source:(ResearchFindings,2022)

From the study findings in figure 4.3 above, the study established that the deposit money banks in Nigeria shows that return on assets was 28.04%.The ROA dropped slightly in the following year 2015 to 26.5%. The performance of the banking industry reached its lowest point in the study period at 24.93 in the year 2016. This could be attributed to many factors beyond this study as the performance of deposit money banks in Nigeria. A function of more variables including the macro economic variables besides the digital banking system effects being looked at in this study. The ROA picked an upward trend in the year 2017 to stand at 27.94%.The upward trend was maintained in the following year to stand at 30.72%. From the findings presented above, the findings show that the performance of the deposit money banks in Nigeria dropped slightly during the years 2015/2002016. This could largely be attributed to the post election violence that rocked the Country in this period.

Regression Analysis

In order to establish the relationship between the digital banking system and the financial performance of the deposit money banks in Nigeria, the study conducted a multiple regression analysis. The findings

were as shown in the table4.1below:

Table4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.608[a]	0.370	-0.260	2.40644
a. Predictors:(Constant), Monthly value moved, number of digital banking system users				

Source: (Research Findings, 2022)

Coefficient of determination explains the extent to which changes in the dependent variable (financial performance of deposit money banks in Nigeria) can be explained by the change in the independent variables or the percentage of variation in the dependent variable (financial performance of deposit money banks in Nigeria) that is explained by all the two independent variables (Monthly value moved, number of digital banking system users). The two independent variables that were studied, explain only 37% of the changes in the financial performance of deposit money banks in Nigeria as represented by the R^2. The study shows that there is a weak positive insignificant correlation between digital banking system and financial performance of deposit money banks in Nigeria.

Table4.2:ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.797	2	3.399	.587	.630[a]
	Residual	11.582	2	5.791		
	Total	18.379	4			
a. Predictors:(Constant), Monthly value moved, number of digital banking system users						
b. Dependent Variable: Financial Performance						

Source: Research data

The probability value of 0.630 indicates that the regression was insignificant in predicting how digital banking system impacts the financial growth of the banking sector in Kenya. The F critical at 5% level of significance was 0.587 since F calculated is less than the F critical(value = 2.371), this shows that the overall model was insignificant.

Table 4.3: Coefficients of Determination

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.123	1.947		13.414	0.006
	Number of digital banking system Users	0.012	0.394	0.213	0.030	0.979
	Monthly value moved	0.118	2.108	0.395	0.056	0.960
a. Dependent Variable: Financial Performance						

Source: Research data

The researcher conducted are gression analysis so as to determine the relationship between digital banking system and financial performance of banking industry in Kenya. The regression equation($Y= \beta 0+\beta_1 X_1+\beta_2 X_2$)was: $Y = 26.123+0.012X_1+ 0.118X_2$

Whereby Y = financial performance of deposit money banks in Nigeria; X_1= Number of digital banking system users;X_2= Monthly Value moved. According to the regression equation established, taking all factors (number of digital banking system users and total value moved through digital banking system) constant at zero, the financial performance of the banking sector will be 26.123%. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in number of users will lead to a 0.012 increase in financial performance of the banking sector. A unit increase in the amount of money moved through digital banking system will lead to a 0.118increase in the financial performance of the banking sector. This not withstanding, the study shows that there is a weak positive insignificant correlation between digital banking system and financial performance of deposit money banks in Nigeria. Therefore, it can be deduced that digital banking system has an impact on the financial performance of deposit money banks although not significant.

4.3 Discussion of Findings

From the findings presented above, it is evident that as the number of digital banking system users increased, the monthly amount moved through digital banking system increased. At the beginning in the year 2014, the users were few as many individuals must have been skeptical as regards the

security of digital banking. However, as more and more people became aware of the safety of the service, they adopted it and hence the increase in the amount of money transacted through digital banking system. These findings are consistent with the argument by Al-Jabri (2012) who studied digital banking system adoption by looking at the application of diffusion of innovation theory and established that with better digital banking system support and provision of variety of services, the more useful customers perceive digital banking system to be and to increase their level of adoption. The increase in the number of users shows confidence among digital banking system users. This shows that deposit money banks took keen interest in ensuring minimal risk exposure for their customers. As Al-Jabri (2012) suggested, banks must seek to reduce risk perceived by their customers by offering specific guarantees protecting them and taking their complaints seriously and urgently. The study indicates that there is a weak positive insignificant correlation between digital banking system and financial performance of deposit money banks in Nigeria. This was largely because the financial performance of deposit money banks is a function of many other variables not looked at in this study. However, with the increasing levels of adoption of information technology, deposit money banks that adopt the latest information technologies are likely to out perform those whom rely on brick and mortar branch. From the findings, the performance of deposit money banks as measured by return on equity started at a high of 28.04 then dropped in the year 2008 and 2009 to reach a low of 24.93.this could be largely attributed to the post election violence witnessed in Kenya which may have had negative effects on overall economic performance in the Country. As indicated earlier, financial performance of deposit money banks is a function of many other variables not looked at in this study. However, despite this, the amount of money transacted through digital banking system and number of users maintained a positive increase. There is also a directly positive relationship between number of digital banking system users and the amount of money moved through digital banking system over the study period. However, the two independent variables that were studied, explain only 37% of the changes in the financial performance of deposit money banks in Nigeria as represented by the R2. The study shows that there is a weak positive insignificant correlation between digital banking system and financial performance of deposit money banks in Nigeria.

5 0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

Deposit money banks in Nigeria have adopted crypto currency business activities to provide digital banking services to their customers in Nigeria.

There is a weak positive relationship between digital banking and the activities of deposit money banks in Nigeria. This could be attributed to the trends recorded in the two variables where the number of users and monthly transfers maintained a positive growth rate while performance of deposit money banks was affected by many variables which have major impacts compared to the adoption of crypto-currency. Deposit money banks DMB in Nigeria was majorly affected by macro-economic variables like post election violence, inflation and foreign exchange rates fluctuations among other macro-economic variables which were outside the scope of this study.

5.2 Recommendations

Policy makers should consider digital banking system in their formulation of policies because of the technological developments and the expected switch from physical branch networks to technologically supported banking system. This is because despite negligible relationship between digital banking and the activities of deposit money banks in Nigeria, which could be pronounced if much change is recorded in technological developments and more customers adopt digital banking system This is because the relationship may not be direct but an indirect one resulting from the convenience that the digital banking systems offers to commercial banks in Nigeria.

Digital banking system is being used to improve financial operations in deposit money banks. The banks have put in place measures to become more competitive by training its staff, investing in research and development of technology. In the long run, digital banking system is likely to have major impacts on the profitability of commercial banks as it smoothes business operations.

The study further recommends that commercial banks keep adopting and using digital banking system in their operations because the numbers of customers adopting digital banking keep increasing everyday. In addition, the convergence of crypto-currency and digital banking system has revolutionized the banking operations. For example, Safari com limited in conjunction with Commercial Bank of Africa launched M-Shwari services which provide registered banks an opportunity to lease money from the apex bank and repay conveniently. This has introduced another perspective that is likely to revolutionize the banking operations for increased profitability.

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