



2021 INTERNATIONAL CONFERENCE ON ACCOUNTING AND FINANCE (ICAF)

ACCOUNTING AND FINANCE PROGRAMME  
COLLEGE OF MANAGEMENT AND SOCIAL SCIENCES (COMSS)

BOWEN UNIVERSITY, IWO, OSUN STATE, NIGERIA

29 NOVEMBER – 1 DECEMBER 2021

## THEME

ACCOUNTING AND FINANCE PROFESSION – FOSTERING SUSTAINABILITY INITIATIVES

PUBLISHED IN THE

INTERNATIONAL CONFERENCE ON ACCOUNTING AND FINANCE PROCEEDING

(ISSN: 2814-0257)

VOLUME 2

## DIGITAL CURRENCIES AND SUSTAINABILITY OF THE NIGERIAN FINANCIAL SECTOR

Oyekola Oluwakemi, John Ajayi, & Olabode Ogunsuji

*Ogun State Institute of Technology, Igbesa, Ogun State.*

### ABSTRACT

This paper seeks to examine the impact of digital currencies and the sustainability of the Nigerian financial sector. The research was carried out with the use of primary data (questionnaire) administered among five banks in Lagos State. Two hundred copies of questionnaire were randomly administered on the staffs of these banks based on probability, convenience, and accessibility to staffs of each bank surveyed. However, one hundred and forty-seven (147) were returned by the respondents. Regression analysis, ANOVA was used for data analysis. Findings revealed that the use of digital currencies such as Bitcoin, Ethereum for the value and security of online transactions is gradually taking over Nigeria's financial landscape. The study, therefore, concluded that digital currencies should be allowed to thrive in the Nigerian financial space, more so, it will mitigate the escalating rate of financial fraud and other economic crimes bedeviling the system. The paper recommends that the Federal Government through the Central Bank of Nigeria should legalised digital currencies because these currencies are gaining proclivities in this modern era as a vital medium of business transactions and advocate public orientation for a better understanding of how the currencies work and for subsequence advance in Nigerian economic prosperity.

Keywords: Digital Currencies, Financial Sector, Sustainability

### INTRODUCTION

The use of technology has introduced humanity globally into a new age of digital communication where electronic business transactions are now made possible. It is an era of upsurge increase in knowledge, an internet age where vast and mind-boggling discoveries are made possible, which has changed the phase of human affairs economically, socially, and business-wise (Oladipupo. & Ajayi, 2017). This has also re-defined the pattern of transacting businesses worldwide. The Nigerian financial sector is no exception in the technological changes that has permeated all its financial system (Akhiero, 2013). The rapid advancement of computers and communication technologies has reached a point where technology is omnipresent in virtually all the facet of our lives. This gives an opportunity for interplay between an individual and the society in an unimaginable way.

The sustainability of the financial sector is sacrosanct because is the pillar of any economy. When the financial sector is in distress, the economy is also in danger. This appears to have informed the inclusiveness in the United Nations 17 Sustainable Development Goals, Goal 8 and Goal 9 which dwell more on economic growth and innovations. Technology can be seen as the main driver of these goals particularly to boost and sustain the financial sector and the economy at large. According to Gary (2015), ICT is a catalytic enabler for all the pillars of sustainable development goals. Thus, it is exemplified through ICT innovations in mobile banking development across Africa. Furthermore, the systematic migration from physical currency to digital currency via the platform of technology is what financial systems across the universe have been embracing absolutely (Bartoletti, Carta, Cimoli, & Saia, 2017). The advent of bitcoin in early 2009 by a group of programmers led to a new watershed in the financial system of the world and Nigeria is not left out. This has redefined the world financial system. Ebelogu, Oriakhi, Ojo, and Agu (2019), averred that before the 20<sup>th</sup>- century economy scene, digital currencies were virtually not in existence. But its advent to the financial system and usage is at the discretion of individual and countries involve because is a global currency. For instance, China has technically outlawed the use of bitcoin, Ethereum, and any other digital currencies in their financial system, while some governments of other nations literarily adopted a few 'wait and see' attitude, however, a country like Switzerland is making every effort to attract digital currency to its financial systems. According to Ojo (2019), Venezuela appears to have adopted digital currency into their financial system. This shows that the global financial system is gradually gravitating towards a digital economy. Therefore, it is important to put into

consideration the future economic outlook of African countries as the world is moving to full digitalization of its economy. Therefore, the cost of ignoring the usability of virtual currencies may outweigh the perceived inherent risks of not legalizing them in the long run. People now have more confidence in the use of these virtual currencies, though Digital currencies may pose a lot of new challenges to the law enforcement agencies because of the way of operation which cybercriminals are also all out to find a loophole to take advantage of it. Nevertheless, the adoption of digital currencies among nations, businesses, and individuals as a medium of payment is increasing day by day.

One of the core advantages of digital currencies is the ability to protect and secure grouping of sensitive data and information with little or no external threats, this gives it global acceptability. There are strong tendencies that this global influence of this new technology will be sustained and become well established with time. Also, despite the acceptability of digital currencies like bitcoin, ethereum among others by individuals and countries as part of their legal tender, the government of some other countries is still issuing warnings to their citizens of the risks associated with the usage of this new technology. However, there seems to be an upsurge in the number of individuals and countries subscribing to digital currencies for business transactions day by day. The use of digital currencies for transactions are generally believed to be safe and consider the time value of money. That is the reason more individuals and government institutions are accepting its usage despite all the cautions surrounding its usage. While some believe it is a legitimate currency, others do not. Furthermore, the use of Bitcoin and Ethereum in performing online business transactions is rising and almost globally accepted. Africa as a continent seems not to be left out in this, though, they are still reluctant in the adoption process (Johnson, Akande & Akinsanya 2019). Bitcoin digital currency surfaced in 2009 as open-source software, and since then, over 6,000 alternative variants of bitcoin have been created. According to Garrick and Michel (2017), only 1% of the world population are using digital currencies powered by blockchain technology, which is a special form of a distributed ledger database, that exists across various places on a peer-to-peer note. The allotted ledger system permits companies of any chain to transact business without any intermediaries. Gaudamuz, and Marden, (2015), posited that currency is a legal tender that is accepted as a unit of account, and it stores value.

Digital technology appears to be gaining acceptability around the world, Nigeria inclusive. More countries and financial institutions are gradually embracing virtual currencies in their financial systems in addition to their existing physical currencies. To a large extent, this has brought more convenience and comfort to the way we transact businesses and improve the pace of the modern reality of economic developments. The question of whether digital money can actually become a useful and secure part of the Nigerian economy is a serious discussion in the public domain. No doubt, the financial sector is a major player in the overall economic growth and development process of any nation. Therefore, any major challenge facing the financial sector sustainability will invariably have a ripple effect on other sectors of the economy. For instance, when banks are distress and encumbered with huge fraud, the economy may suffer depression, no access to credit facility for production expansion for firms, factories closed, workers lay off, foreign investment dropped, return on investment nosedive. Also, it appears that the operational activities of digital currencies seem to be challenging because is difficult to monitor or regulate, hence, it provides a platform for individuals, corporate organisations, and investors to technically evade tax payment, thereby resulting in a low revenue generation by government and reduces the rate of economic growth and development. The perceived risk of decentralization and lack of regulatory framework by the government through the apex bank has been a challenge. This made the Central Bank of Nigeria to outlaw the use of any cryptocurrencies in Nigeria for financial transaction. However, the recent introduction of e-naira as an alternative to the controversial cryptocurrencies appear to be an alternative. This is regulated by the apex bank but is limited to transactions within Nigeria as against the global use of the likes of Bitcoin for financial transaction anywhere around the world.

Digital currencies help banks to move funds from one bank or establishment to another more quickly and securely way. Stock trading, settlement, and clearing processes can be more efficient. Some Nigerians have express concerns that Bitcoin is synonymous with Ponzi schemes which appear to be a fraudulent scheme with three months period of

recouping three times of what you have invested. This scheme gained acceptance among Nigerians before it crashed, and people lost a huge sum of investment in the scheme.

A vibrant financial sector is critical to the growth and development of any economy. Today, the Nigerian banking sector, despite its internal control mechanisms, is still wangling in incessant cases fraud and other financial crimes. Therefore, the use of digital currencies may seem to be a rescue now that the world economy is gravitating towards digitalisation. It is imperative, that the process of performing financial transactions needed to be fully digitalized, hence, the quick adoption and usage of digital currencies by some countries. Therefore, this paper seeks to investigate the impact of digital currencies on the sustainability of the Nigerian financial sector.

#### Research Questions

1. What is the effect of digital currencies on the sustainability of the Nigerian financial sector?
2. Do decentralized digital currencies affect the sustainability of the Nigerian financial sector?

#### Research Hypothesis

1. Digital currencies do not have significant effect on the sustainability of the Nigerian financial sector
2. Decentralized digital currencies as no significant effect on the sustainability of the Nigerian financial sector

## LITERATURE REVIEW

### Digital Currencies

Blockchain technology forms the bedrock for any digital currencies like Bitcoin, Ethereum, and other variant digital currencies. Digital currencies can be seen as a more secure way of storing diverse forms of business transactions records. Deloitte (a professional service network) in recent times surveyed the opinion of almost a thousand agencies in more than seven countries on integrating digital currencies into their business operations and the survey revealed that 34% already integrated is, 41% have the plan to install the software application within a duration of 12 months. Also, almost 40% of the surveyed businesses reported their wiliness to invest over \$5 million into the integration of digital currencies into their business in the coming year (Ebelogu, *et al.* 2019). Integrating digital currencies into the Nigerian banking system will change the overall operational efficiency of the entire banking system. Both local and international transactions will be processed faster, they will be more secured and have the minimal threat of fraud.

The advent of digital currencies like bitcoin into the Nigerian financial industry appears to be a new revolution in the sustainability of the economy. Digital currencies involve the online distribution of ledgers using peer-to-peer encryption techniques. It performs simultaneously central bank functions, accounting functions, manages the supply of virtual currency as well as the record of financial transactions (Zheng, Xie, Dai, Chen, & Wang, 2017). Digital currency financial inclusion driven by mobile money initiatives may support price stability, employment opportunities, eradicate poverty and sustain fiscal balances in the economy. Especially among the Small and Medium Enterprises which are the major lubricant for economy sustainability. According to Ebelogu, *et al.*, (2019), cryptocurrency as a cybernetic currency has been generating reactions in the global economy, Nigeria is not an exception. A lot of its merits and demerits to the economy are being discussed among financial analysts and businessmen. However, the Central Bank of Nigeria and Securities and Exchange Commission in recent times has placed a ban on the use of these digital currencies such as Bitcoin, Ethereum among others as a medium of exchange for any financial transaction. Some African countries like Algeria, Morocco also ban the use of these digital currencies in their domain, in fact, hefty fines were placed on any violators of this order (Dierksmeier & Seele, 2016).

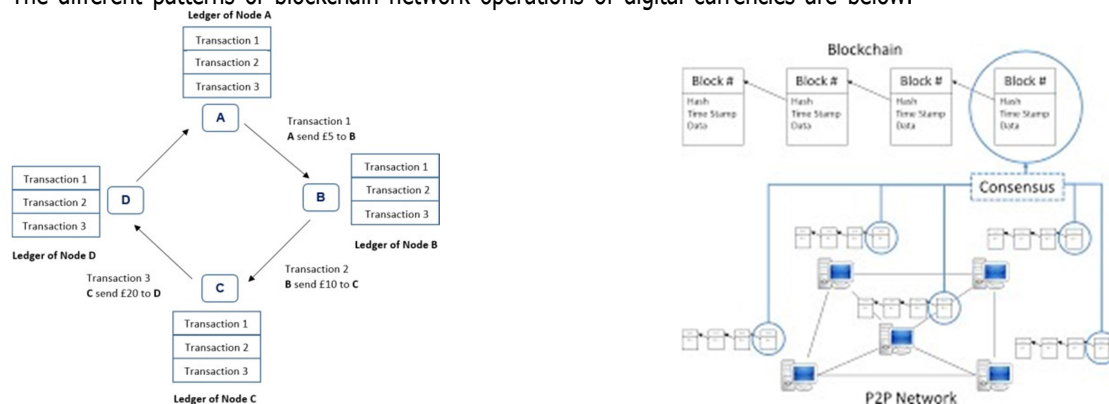
Many have invested a huge amount in digital currencies, especially the bitcoins to recoup their interests in the nearest future because its works with global demand and supply of the coins. Despite the huge investment in this digital currency, investors are still concerned with the risk of independent operations of cryptocurrencies without any government or financial institution regulations. Furthermore, bitcoin operates alongside official legal tender in the Nigerian economy. Though, the current volume of bitcoin trade seems to be low, hence, it has yet to pose any

serious threat to the purchasing power of the official currency. However, cryptocurrencies' acceptability as a means of investment and doing online financial transactions tend to be growing fast and the Nigeria government cannot stand aloof at the implications of adopting these digital currencies for a sustainable financial sector. (Ahannaya, et al, 2021).

#### Effect of Decentralized Digital Currencies on Sustainability of Nigerian Financial Sector

According to Ojo (2019) decentralized digital currency involves spreading financial transaction statistics across a network of blockchain, rather than storing it in a single database. This kind of network becomes tougher to tamper with. This is one of the distinctive features of this new digital currency technology because, it does not store and secure financial records in a centralized location but rather is in a block of chains connection network (peer-to-peer). According to Bartoletti, *et al.*, (2017), the operational process of digital currencies works such that financial records/data are copied and spread throughout a network of computers, this makes the data very difficult to alter or tampered with. When a new financial transaction is done, a new block is opened and added to the blockchain network, and every computer in the group updates its blockchain to reflect the new addition by spreading that data across the network, as against storing it in a single database, hence it becomes almost impossible to alter the financial records. Peradventure, hackers gain access to a duplicate in a blockchain, he can only have access to just the information in a single network but not the several other networks within the blockchain group would be compromised to the hackers, hence, it becomes difficult to manipulate and make it more insulated from decimating fraud risk. Despite its complexity, digital currencies decentralized approach to storing and securing financial records are almost without limit. It guaranteed individual privacy, lower the cost of transaction charges with high precision for data protection.

The different patterns of blockchain network operations of digital currencies are below:



Source: Euromoney Learning 2020

Furthermore, one of the challenges of a centralized financial system is that transactions performed on this platform sometimes takes days to process especially when it is weekend or when the network is down, but digital currency can operate efficiently 24 hours a day, seven days a week real-time and within ten minutes, the financial transactions are done and secured. Digital currencies seem to be particularly essential and advantageous for international business transactions in which the process generally takes a bit longer time to get done and secured due to time-zone differences and delay in verification processes of payment by the financial institutions involved especially weekend transactions. This exposed the transactions to the risk of fraud. Therefore, it is generally believed that cryptocurrency account operations are cheap to maintain because the services of financial institutions like banks are not required to verify financial transactions as it is required in conventional business transactions (Dierksmeier, *et al.*, 2016). Although, transactional costs seem to be minimal, however, it has been argued that this may not be sustainable in the nearest future.

Theoretical Review

Chartalism Theory

Chartalism is a theory of money that argues that money originated historically with states' attempts to direct economic activity rather than as a spontaneous solution to the problems with barter or as a means with which to tokenize debt. Georg Friedrich Knapp, a German economist propounded this theory in his book '*State Theory of Money*' which was published in 1905. Knapp posited that money is a creature of law rather than a commodity. Money (currency) as a unit of account, serves as a means of payment and a medium of exchange. The theory further stated that the source of the money does not situate within the private markets but rather among the complex web of social (debt) relations where the government plays a principal role by regulations. The implication is that government major role should be to regulate and initiate policies for the effective running of the financial sector. Only government or its agents has the power to levy taxes and to declare what will be acceptable. The essence of government as the final authority does not lie in the ability to create laws or to print money, but in the ability of the government to create an enabling environment. The theory is also apt for this study because it discussed how monetarily sovereign government operate and their impact on the economy. With the arrival of digital currencies, the Nigeria apex bank must still be actively involved in the regulations of the financial system to guarantee a secure fiscal and financial stability and the political legitimacy of this new electronic currency about the efficiency of monetary operations (Miller, Michalski, & Stevens, 2002). The financial system must be well managed by the government for the main benefit of the citizens.

#### Empirical Review

According to Ebelogu, *et al.*, (2019), financial ecosystems around the world are undergoing a huge revolution. Digital currency is gradually creeping into mainstream adoption among the world financial institutions. This new development has the potential to unlock billions of dollars in the global markets in the long run. Digital currencies can literally be defined as a digital asset intended to work as a medium of exchange that uses strong encryption techniques to secure online financial transactions. It also controls the creation of additional units/chains and verify the transfer of assets. According to Johnson, *et al* (2019), the decentralized nature of digital currencies through peer-to-peer ledger control systems makes this technology different from the conventional centralized banking systems the world financial system is used to. This is operationalised through distributed ledger technology, and this makes it more acceptable and convenient as a medium of online business transaction. Gilbert and Loi (2018), posited that cryptocurrencies are designed in such a way that they can operate without independent regulation or government control. Despite its non-centralised regulatory system, a lot of financial institutions around the world are beginning to key to the new digital technology for retailing business and large value transaction payments. Therefore, it is sufficed to say digital currencies is already changing the financial system landscapes across the world.

#### METHODOLOGY

In carrying out empirical investigation on this study to measure statistically the significance of digital currencies on the sustainability of Nigerian financial system, five banks were purposively selected for survey Lagos state (Guaranty Trust bank, Access bank, Eco bank, First bank plc, Zenith bank). The survey study was carried out using primary data (questionnaire). Primary data help to elicit information from an individual on a phenomenon at a particular time. Two hundred copies of questionnaire were randomly administered on the staffs of this banks based on probability, convenience, and accessibility to staffs of each bank surveyed. However, one hundred and forty-seven (147) were returned by the respondents signifying 73.5% administrative success. In analyzing the primary data, Regression analysis, ANOVA were used. The regression analysis is used in measuring the association among the dependent variable Nigerian Financial Sector and the independent variables Digital Currencies. Liquidity was introduced as a control variable.

$$Y = f(X)$$

$$BTit = \alpha_1 + \beta_1 NFSit + \beta_2 LQ + \mu_1$$

where: Y = Digital Currencies (DC)

X = Nigeria Financial Sector (NFS)

$\alpha_1$  is the intercepts (constants)

LQ is the Liquidity which is the control variable

$\beta_1$  is the coefficient  $\mu_1$  are the stochastic variables of each model. it represents infirm "i" in year "t".

Table 1 Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.68	1.05	.86	.048	147
Residual	-.955	.319	.000	.341	147
Std. Predicted Value	-3.828	3.961	.000	1.000	147
Std. Residual	-2.779	.929	.000	.992	147

From the above table 1, the total number of observations was 147. The mean coefficient is 0.86, while the standard deviation is 0.048.

Regression Analysis

Table 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig.	
1	.32	.65	.24	.344	.019	1.228	5	147	.000	2.027

Test of Hypothesis

Ho1. Digital currencies do not have significant effect on the sustainability of the Nigerian financial sector

Table 3: ANOVA of sustainability of the Nigerian financial sector

Model	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.726	5	.145	1.228	.049
Within Groups	37.243	142	.118		
Total	37.969	147			

$\alpha = 0.5$

The table above showed F value of 1.228 and sig. value of .049 testing at an alpha level of .05. The significant value is lower than the alpha level, so the null hypothesis which stated that digital currencies does not have significantly effect on the Nigerian financial sector is rejected and alternative hypothesis is accepted. This is in line with Ahannaya, *etal.* (2021) which discussed the effect of cryptocurrencies on Nigeria economy

Ho 2: Decentralized digital currencies as no significant effect on the sustainability of the Nigerian financial sector

Table 4: ANOVA of sustainability of the Nigerian financial sector

Model	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.726	5	.145	1.631	.052
Within Groups	37.243	142	.118		
Total	37.969	147			

$\alpha = .05$

The table above showed an F value of 1.631 and significant value of .052 testing at an alpha level of .05. The significant value is higher than the alpha level, so the null hypothesis which stated that decentralized digital

currencies as no significant effect on the sustainability of the Nigerian financial sector is therefore, accepted. This view negates Ojo, (2019) which viewed digital currencies as a means of leveraging the economy.

## DISCUSSION OF FINDINGS

The regression analysis tested the effect of Digital Currencies on Nigeria's Financial Sector sustainability (NFS) and the result of the analysis revealed that the independent variable DC has a positive and significant effect on the dependent variable of NFS. This is seen from the probability of P-value of 0.0003 which is less than the acceptable 5% level of significance.  $R^2$  which is the coefficient of determination showed 65% value which is the magnitude of variations of digital currencies on sustainability of the Nigeria Financial Sector (NFS) variable by the explanatory variable digital currencies. This indicates 65% variations in NFS to a unit change in DC, while the remaining value is a function of other explanatory variables outside the analysis. Therefore, the result reveals that digital currencies has a significant effect on Nigerian Financial Sector. This also implies that digital currencies have a direct and positive relationship with the Nigerian financial sector sustainability

## CONCLUSION

Considering the gamut of literature reviewed for this study, it can be said that the adoption of digital currencies into the Nigerian financial system will change the landscape of the financial sector of the Nigerian economy. It is therefore digital currencies adoption into the Nigerian financial sector is an issue of critical importance as we all strive for a more transparent, robust, and sustainable economy. More so, the Nigerian financial system still needs an improvement in real time transactions both local and internationally without network failure or delay in transactions at any given time. There is indeed a growing recognition of digital currencies as a complement to an appropriate and strengthened financial regulatory framework of the financial sector.

The study therefore recommends that action must be taken through a regulatory framework that will guide the adoption of these new digital currencies now that the world economy is gravitating towards the unification of currencies. Also, the central bank of Nigeria should as a matter of urgency constitute a high-powered delegation comprising of technocrats and professionals with years of experience in the financial services to go and understudy countries around the world that as adopted the operationalization of blockchain technology into their financial sector with the view to guide its implementation in Nigeria. The apex bank should encourage the Federal Government of Nigeria on enacting law through the National assembly to support the use of digital currencies such as bitcoin, etherem among others as part of the medium of exchange, this will greatly boost the Nigerian economy in the long run.

## REFERENCES

- Ahannaya, C. G., Oshinowo, A. D., Sanni, A. S., Arogundade, J. A., & Ogunwole, O. J. (2021). The effect of cryptocurrencies on Nigeria economy. *Journal of IEEE-SEM*, 9(3), 8-14.
- Akhihiero, P. A. (2013). Admissibility of electronic evidence in criminal trials: how practicable? Retrieved from [www.electronicvidence.com](http://www.electronicvidence.com). (Accessed: 30 June 2021)
- Bartoletti, M., Carta, S., Cimoli, T., & Saia, R. (2017). Dissecting Ponzi schemes on Ethereum: *identification, analysis, and impact*. Retrived from <https://arxiv.org>. (Accessed: 30 June 2021)
- Central Bank Cryptocurrencies', *BIS Quarterly Review September 2017*, Bank for International settlements. Retrieved from <https://www.bis.org>. (Accessed: 30 June 2021)
- Dierksmeier, C., & Seele, P. (2016). Cryptocurrencies and business ethics. *Journal of Business Ethics*, 2(3),1-14.



- Ebelogu, C.U., Oriakhi, J.E., Ojo, S.D., & Agu, E.O., (2019). Cryptocurrency (blockchain) technology as a means of leveraging the Nigeria economy. *International Journal of Advances in Scientific Research and Engineering*, 5(12), 139-146.
- Garrick, H., & Michel, R. (2017). Global Cryptocurrency Benchmarking Study. University of Cambridge Judge Business School. Retrieved from <https://www.jbs.cam.ac.uk>.
- Gary, F., (2015) How ICT support sustainable financial development Retrieved from <https://news.itu.int/can-icts-support-sustainable-financial-development/> (Accessed: July 2nd, 2021)
- Gaudamuz, A., & Marden, C. (2015). Blockchains and Bitcoin: Regulatory responses to Cryptocurrencies. *First Monday*, 20(2) 3. Retrieved from <https://firstmonday.org>. (Accessed: 1 July 2021).
- Gilbert, S., & Loi, H. (2018). Digital currency risk. *International Journal of Economics and Finance*, 10(2), 108-123.
- Johnson F, Akande A., Akinsanya P. (2019). Leveraging digital currency For National Development. Retrieved from <https://www.academia.edu/38942203/leveraging>. (Accessed:1 July 2021)
- Mary, K.S., & Tankiso, M., (2018). Benefits of legislative cryptocurrencies: perception of Nigerian professional Accountants. *Academy of Accounting and Financial Studies Journal*, 6(22). Retrieved from <https://www.abacademies.org>. (Accessed: 7 July 2021)
- Miller, R. Michalski, W., & Stevens, B. (2002). *The future of money*. Organisation for Economic Co-Operation and Development. Retrieved from <https://www.oecd.org/futures>. (Accessed: 21 June 2021)
- Ojo, S, D, (2019). Cryptocurrency (Blockchain) technology as a means of leveraging the Nigerian economy. *International Journal of Advances in Scientific Research and Engineering*, 5(12), 139-146
- Oladipupo. A. O. & Ajayi, J. O. (2017). Challenges of admissibility of forensic accounting evidence in litigation process: evidence from the court. *Federal University Otuoke Journal of Management of Science* 1(1), 1-11
- Vasek, M., & Moore T. (2015). There's no free lunch, even using Bitcoin: Tracking the popularity and profits of virtual currency scams. *International Conference on Financial Cryptography and Data Security*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?> (Accessed:1 July 2021)
- Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2017). An overview of blockchain technology: Architecture, consensus, and future trends. *IEEE 6th International Congress on Big Data*, 557-564.