

Crypto-Currency and the Nigerian Economy

Yunusa Acho (ACA)
Department of Accountancy, Federal Polytechnic Idah
Kogi State, Nigeria

Abstract

Though the use of crypto currency as a means of exchange has been facing some constraintss due to its inherent risk and non acceptability by Nigeria government. This study was designed to examine the effects of legalizing the use of crypto-currency as a medium of exchange on the Nigerian economy. Therefore, primary and secondary methods of data collection were used to carry out this research. Questionnaires were administered to obtain relevant data from public and private management of financial institutions and businesses. Tables and percentages were adopted to analyze the information obtained, the Pearson product moment correlation coefficient was used to evaluate the relationship between the variables while Z-test was used to test the hypothesis formulated. The study discovered among others that there are risks and benefits with the use of crypto-currency and also the use of crypto-currency will contribute to the economic growth. It is therefore recommended that government should review her regulatory framework for legalizing crypto-currency and also ensure that the relevant agencies of government be proactive regarding crypto-currency by building the necessary regulatory architectures around the new financial technology so that Nigeria and Nigerians are not left out of this interesting shift in monetary paradigm.

Keywords: crypto currency, exchange, Nigerian economy.

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Introduction

The recent and most promising digital system of payment and investment especially in this COVID 19 pandemic period is the crypto currency. Its usage or adoption as a medium of exchange is gaining momentum around the world of which Nigeria is not an exception. Crypto-currency is an electronic or digital money that uses real time through peer-to-peer computer networks or on mobile phones installed with the relevant apps. Crypto currency can also be described as a digital asset designed to work as a medium of exchange that uses cryptography to secure financial transactions control through the creation of units and verifying the transfer of assets. Crypto currency is like any other normal currency designed to serve as a medium of exchange but it's mainly for the purpose of exchanging digital information. It uses decentralized technology which enables users to secure payments and store money without using their names or bank. According to Dierksmeier & Seele as cited in Salawu and Moloi (2018), parties do not need to know each other; in other words, it is an anonymous transaction. Units of crypto currencies are created through a process called mining which involves the use of computer power to solve complicated problems (Wikipedia 2018). Crypto-currencies are not supported or backed by any central bank. Unlike fiat currencies crypto-currencies do not have a central bank that implements monetary policy to keep purchasing power stable, meaning that changes in demand can induce massive fluctuations in price. If users cannot be sure that the purchasing power of other accounts will remain stable, they will never adopt a crypto-currency as a medium of exchange over a price stable alternative. The price volatility is one of the biggest barriers to widespread adoption of the crypto-currencies. According to Senator Thomas

Caper of the US, virtual currencies have captured the imaginations of some, create fear among others and confuse the heck out of the rest of most people.

The rising nature of crypto-currencies and its prospect is causing some concern to stakeholders such as banks, the government and its agencies, companies, practicing accountants, and some individuals. The emergence of crypto-currencies presents some moments of thought in Nigerians and the government. This made the Central Bank of Nigeria (CBN) to cautioned Nigerian citizens against embracing privately issued crypto-currencies in Nigeria. Though there are some potential benefits for the use of crypto-currencies for the Nigerian economy.

There are various types of crypto-currencies circulating in the world but the three (3) largest and widely used crypto-currencies are: Bitcoin, Ethereum and Ripple. Bitcoin is the main focus of this study because it is the most widely used and accepted crypto-currency. The Bitcoin scheme carries attributes of a payment system in that it facilitates the transfer of value between parties. Unlike traditional payment system which typically involves the transfer of value denominated in sovereign currency such as the Naira, bitcoin has its own metric for value called a bitcoin. In essence a bitcoin is an electronic token without reference to any underlying commodity or sovereign currency.

The use of crypto currency (Bitcoin) has an implication and a threat to central banks historical exclusive right to issue money and control the money supply which ability has the benefit of ensuring an efficient monetary policy transmission mechanism. If the demand for crypto-currencies increases significantly, it would lead to the creation of a parallel and ultimately fragmented monetary system which would not be good for the CBN. Also the crypto-currency's environment is exposed to potential financial and consumer risks, hence the need for government to develop a policy and regulatory response to crypto assets activities. However, bitcoin and other crypto currencies perform similar financial sector activities without the need for third-party intermediary and with adequate safety mechanism with the aid of the cryptography technology.

The objective of this study is to examine the likely potential benefits and challenges of legalizing the use of crypto-currency as a medium of exchange on the Nigerian economy using bitcoin as a study.

Statement of hypotheses

H1: There are no potential benefits associated with the use of crypto-currency in Nigeria.

H2: There are no challenges inherent in legalizing the use of crypto-currency in Nigeria

Literature Review

Concept and Nature of Crypto-currency

Crypto currency is a decentralized cash payment system or digital money designed and secured payment system which uses cryptography for security and anti-counterfeiting measures and in most cases anonymous. Crypto currency is a digital derivative financial instrument which has all properties of financial instruments, issued by a company or a group of individuals in order to attract financial resources to implement promising projects or to acquire assets for capitalization (Ansoff 2018). The crypto-asset serves as an instrument which guarantees the identification of the crypto-asset owner with the fulfillment of obligations of the issuer to the crypto-asset holder. Mandeng (2018), described crypto-currencies as private digital, de-nationalized, unreserved, floating and convertible monies.

Crypto-currencies begins to appear in public circulation in 2009 with the success of the pioneering efforts of an unknown inventor with pseudonymous name known as Satoshi Nakamoto who in 2008 created Bitcoin as the first decentralized crypto-currency which is built on a peer-to-peer cash transaction with the aid of block chain technology. The block chain technology allows transactions to take place directly without any intermediary (Hameed & Farouq 2016; Grech & Camilleri 2017)). A block chain is the decentralization and distribution of data that represents a financial ledger entry or a record of various transactions. Each transaction is digitally signed to ensure its authenticity and that no one tempers with it, so that the ledger itself and the existing transactions within it are assumed to be of high integrity. The digital ledger is used to record transactions across many computers so that any involved records cannot be altered retroactively without the alteration of all subsequent blocks.

Bitcoin is the first privately used crypto currency to be created. Other privately issued crypto-currencies such as Ethereum, and Ripple emerged after Bitcoin. The bitcoin which is the most popular among other crypto-currencies has assumed several names such as the digital currency, digital cash, virtual currency, electronic currency. Like fiat money, privately issued crypto-currencies are used as a medium of exchange. Also, they can be used as a store of value. Finally, they can be used as a unit of account or measurement. However, before the white paper of Nakamoto was released in 2008, there had been earlier propositions by various writers regarding the efficient role that the virtual currency could play as mentioned above in the creation and control of money instead of leaving these roles in the hands of government and the banking system (Rothbard, 2010). It is a decentralized digital currency without a central bank or single administrator that can be sent from user to user on the peer-to-peer bitcoin block chain network without the need for intermediaries Ameer Rosic (2019).

Mishkin (2009) observed five characteristics of fiat money such as ease of standardizations, wide acceptability, divisibility, ease of carrying and not deteriorating quickly also to crypto currency as a medium of exchange. Generally, crypto-currencies are associated with the following characteristics as a medium of exchange:

- a. They are easy to transport or carry around. In fact, all one need is an e-wallet that contains one's endowments in crypto-currencies.
- b. They cannot be easily counterfeited or faked. Where counterfeit is possible, the level of counterfeit will be very low.
- c. Crypto currencies have high degree of safety due to its low rate of counterfeiting
- d. They are scarce and limited in supply; most crypto currencies have maximum supply ceilings. This is one of the main feature of money as a medium of exchange. According to weber et al. (2017), if crypto currencies become common, they may be counterfeited or their safety may be eroded.
- e. They are exchanged with the US dollars irrespective of lack of physical entity, location or time of transactions.
- f. They are liquid because of their exchangeability with the US dollars which acts as the world's currency for transactions. Miller et al (2002) as cited in K.S Mary & Tankiso M. (2018).

Regulation of Crypto Currency

Crypto Currency is seriously gaining popularity in many countries all over the world which Nigeria is not an exception. Presently there is no international regulatory frame work for its operations as

such each country is trying the best they can to regulate its activities. In USA for instance, crypto currency is being regulated by five different Federal Agencies with each agency having a different viewing points of perspectives. United Kingdom accept the use of the currency but subject it to further security measures including anti-money laundering laws. Spain on the other hand acknowledge Bitcoin but under barter laws (Bech and Garratt, 2017).

China for instance in other to protect its citizens against financial risk/loss has banned the use of crypto currency within its country and termed it as an illegal currency. According to Scott 2016, Netherlands do not have regulation on the use of crypto currencies but its technology of block chain is under assessment to be used in implementing its local banking to reduce cost. The government of South Korea do not regulate the use of crypto currency but some analyst from bank of Korea are of the opinion that Bitcoin should be investigated for future importance (Wikipedia, 2017). Denmark declared that crypto currency or bitcoin is not a real currency & that it cannot regulate its usage in the country but the financial Regulatory Authority suggest that since bitcoin is an electronic service the earning from it can be subjected to tax. According to Belomytseva, (2015) Some European countries such as Austria, Ukraine, Croatia, Hungary, Czech Republic, Germany acknowledge Bitcoin as a legal tender while others like Finland, Norway and Slovenia look at the tax benefit involved and accept the use of crypto-currency. Sweden government have not regulated bitcoin and other crypto currencies but she has acknowledged it as a means of payment (Wikipedia 2017). Asian countries such as Dubai and Saudi Arabia allowed the use of bitcoin (Everette 2017). Indian has totally banned the use of any crypto currency. In Africa, Nigeria and Algeria the use of cryptocurrency and other virtual currency has been totally banned by the government.

Crypto Currency and its Development in Nigeria

The experiences of Nigerians over the various ponzi schemes have made the Nigerian government to be skeptical about crypto currency which is assumed to be like the ponzi scheme. A ponzi scheme according to <http://www.investopedia.com> is a fraudulent investing scam promising high rates of return with little risk to investors. The scheme generate returns for early investors from the investment of the new investors, which made it fraudulent.

In Nigeria, bitcoin adoption was in response to the 2016 financial crisis, which limited international trading due to the insufficiency of foreign currencies. The common factor for bitcoin acceptance by both Nigeria and USA citizens is its isolation from financial crisis and that it serves as a great medium of exchange during these times. The implication of this trend is that while currencies are at the risk of government interferences, bitcoin does not follow this trend. Thus during financial instability, bitcoin becomes more viable in the country. In Nigeria, bitcoin primarily serves as an alternative investment opportunity that is not under the influence of any economic pressures or uncertainty Vanguard News Paper (March 28, 2018). It has attractive potentials and offer a great return on investment to investors. Johnson (2002) is of the opinion that it would give the investors the right to a verifiable identity on the internet.

In 2017, the Federal Government of Nigeria made official release twice, intimidating citizens about its non-readiness to support the use of Bitcoin and warning individuals, corporate bodies and banks not to get involved in Bitcoin transactions because it cannot be controlled by government. It's illegal because of the anonymity nature of the currency, it can be used in financing money laundering and terrorist activities and the possibility of a sudden crash. This warning became imperative because of the devastating effects of the various ponzi schemes in Nigeria which suddenly collapsed towards

the end of year 2016 up to the first quarter of 2017 in which case, many Nigerians lost their fortunes (Bartoletti et al., 2017).

Regulation of Crypto Currency in Nigeria

Though many Nigerians investors have invested in the cryptocurrency with the aim of recouping huge interest in the future but its future is not certain. The Nigeria Government through the CBN and SEC has issued a series of warnings to her citizens on the likely outcome of investing in the cryptocurrency market or virtual currency that are not guaranteed by the government. Ingham (2000) as cited in Salawu and Moloji (2018) maintained that the essence of state as the final authority does not only lie on the ability to create laws or to print money, but in the ability of the government to be in control of such money, to serve as last resort, ensure stability and legitimacy of the money. The approval of government in legalizing the use of crypto-currency as a medium of exchange would be in contrast to the Chartalism monetary theory of money which stipulate that money has is referred to as legal tender because it is created by government. In a nutshell, the state determines what to accept and what not to accept as a medium of exchange. Therefore, the power to either legislate the use of crypto-currency by the citizens of any country resides with the state (government). The Nigeria government therefore reiterates that crypto-currencies are not legal tenders in Nigeria, thus any bank or institution that transact in such businesses does so at its own risk.

The warning by the government also stated the risk of investing in such market that is unregulated and highly volatile. The Nigeria cyber-crime (prohibition & Prevention) Act 2015 requires that all financial institutions including fintech companies to verify the identity of customers involved in electronic transactions, integrate and implement, know your customers, process and keep all subscribers' data safe for a period of at least 2 years. The CBN consumer protection framework also requires all financial institutions regulated by CBN to follow the fintech laws and keep adequate consumer data and implement protection measure to prevent unauthorized disclosure of such data. The use of crypto currency goes beyond data protection of consumers and enters the realm of untraceable data. This is why Nigerian government stated clearly that any citizen who invested in such currency does that at their personal risk in the event of any loss.

Economic Importance of legislating Crypto- currency (Bitcoin) in Nigeria

- 1) Huge Return: -There is a promise of huge return on the investment which would be used to carry out some developmental activities by the investors thereby leading to growth and development of the country.
- 2) Increase tax base: -Many countries that accept the use of crypto currency, does that because of the tax benefit to be derived. So Nigeria can tap into that and increase her income from tax which could be used in providing infrastructures.
- 3) Elimination of corruption: - Corruption has been one of the main epidemic that affects the development of the Nigeria's economy. According to the Transparency International ranking on corruption as at January 2020 Nigeria ranked 146th out of 180 countries globally in terms of reduction in corruption. It was even ranked as the fourth most corrupt country in West African. The block chain technology of crypto-currency can be applied in reducing some of this related issues leading to corruption such as developing budget-tracking mechanism to track all government income and expenses. The block chain application mechanism will save all transactions both income and expenditures and everyone in the network would be alerted at every interval and updates. The transaction time, amount involved, the recipient, the endorser and account number would all be under public scrutiny.

- 4) **Alternative Financial Structures:** - It would relieve Nigerians of the stress involved with having access to banking because banks are not located in many rural areas where majority of Nigerians are residing. So this mobile money that does not require any physical branch would be very useful to such Nigerians. In other words, it would tackle the inefficiencies of the existing financial/banking system.
- 5) **Access to Financial Service:** - One of the main feature of the financial inclusion of government is to provide financial products that would help Nigerians to invest, save, obtain an insurance etc. The crypto-currency through the use of block chain can help Nigerians have access to the various financial products irrespective of their location. Since most Nigerians still remain in the rural sectors and access to banks is still a major challenge mobile transaction would help in solving this problem. Access to adequate financial service is an important element for the reduction of poverty and improving development in any economy. Mobile money has helped many countries in achieving their goal of access to financial service to the citizens.
- 6) **Reduction in Cost of Banking:** - The uses of block chain or mobile money would save the rural dwellers a lot in terms of banking charges, telecommunication charges and cost of transporting to where the banks are located. Because banks are not located in all the rural areas within the country. However, total adoption can only be achieved with integration into already existing financial models and favorable Government policies.
- 7) **Access to credit facilities by SMEs:** BOFI (Banks & other Financial Institutions) and credit bureaus which are established to grant credit facilities to SMEs are reluctant in granting loan to them because of lack of adequate data base to obtain information about the SMEs. Two bills were signed into laws in 2017 such as the Collateral Reporting Act and Credit Reporting Act to ease access to credit by SMEs. According to Titilola O. (2018), The Block Chain Technology can be used to implement these laws where different financial institutes could save information about the financial status of their clients through the authorization of customers to access their data, the customer's financial situation and the risk of the credit can be monitored properly.
- 8) **Harmonized Data Base:** - The block chain technology which is the safeguard for the Crypto currency activities can be used in creating ledger accounts for every citizen with a provision for amendment and management. Nigeria is known for lack of harmonized or centralized data base for its citizens. This has affected so many issues in terms of planning, making provision for infrastructures, determining unemployment rate, monitoring adequate rate of development etc. This issue can be resolved with the aid of the block chain technology of Crypto currency.
- 9) **Help in improving Electoral System:** -The country since the inception of democracy have been seeking for ways of improving its electoral system that would lead to a free and fair election that could be accepted and bring confidence to its citizens. The block chain technology can be used to achieve that.
- 10) **Reduction in the cost of printing money by government:** According to Kamlesh (2017) he stated that legalizing the use of crypto-currency as a medium of exchange will lead to the reduction of the cost of printing money and maintenance cost. It would also reduce other

expenses that are incurred by government such as storage of notes, transportation of the notes to distant places, security of the notes and devices for the detection of counterfeit notes, etc.

Challenges (Risks) Associated with Cryptocurrency

1. **Lack of Central Authority:** - One of the main feature of crypto currency is that it lacks central government/authority. Although the transaction and account details of each participant is made public for all the members to see and monitor, there is no particular administrator who is in charge of monitoring the fluctuations in crypto currency's activities. This made it difficult to trace or identify or hold anybody liable for any issue that may call for investigative purpose (Meiklejohn et al 2016). as such the use of such currency is termed illegal in a country where there is lack of a central authority.
2. **Lack of Anonymity:** - this is also another challenge; it is an in built feature of any crypto currency. The various participants in the transaction do not know each other. This may give room for shading and illegal activities that they may ordinarily would not engage physically.
3. **Lead to cybercrime:** - The anonymity and lack of central authority nature of the crypto-currency may lead some participants into committing cybercrime such as money laundering, terrorism, trade of illegal goods (drugs weapons, human organs) e.t.c.
4. **Lack of Trust:** - Nigerians do not trust each other and with past experience associated with some ponzi scheme (e.g. MMM), it would discourages many investors. Also because it is still relatively new, many Nigerians are relatively reluctant in investing in the crypto currency.
5. **Subject to hacker's activities:** - Crypto-currency transactions can only be carried out with the aid of internet facilities which makes it vulnerable to hackers. Unlike in the banking sector where activities are being monitored by a central authority it is not easy to have access to another person's account but under crypto-currency the identity of the rightful owner of an account can be secretly hacked by manipulating the crypto private key because the crypto-currency technology cannot differentiate the rightful owners and hackers. Lansky (2018) stipulate that even the court cannot reverse any hacked executed transaction.
6. **Different meaning attributed by different countries:** - All over the world, various countries attached different meaning to crypto-currency based on their evaluation and perception of the features. Some countries refer to it as real assets, intangible assets, convertible virtual money etc. For instance, according to Beck & Garratt (2017), Israel and Norway refer to crypto-currency as a taxable asset, United Arab sees it as virtual commodity, European central bank in 2012 referred to it as virtual money. In America, between 2013 and 2018 different meanings were given to it, in 2013 the US treasury calls it virtual money, in 2015 the commodity futures trading commission calls it commodity while in 2018 the supreme court calls it a fund. All these different names and meaning makes it complicated for any government to give it legal backing for usage.
7. **Lak of infrastructure such as electricity:** This is a big problem in Nigeria where the citizens cannot boost of power supply regularly. This would definitely affect the investors transactions.

Research Methodology

For this research, crypto-currency and the Nigeria economy, field survey was used which involve the administration of questionnaires.

The population is made up of the management staff of both the private and public establishments in Nigeria which includes accountants and managers of banks, accounting firms and accounting lecturers of tertiary institutions. A simple random sample is taken from each stratum and combined to form a total sample of 35 respondents for the study. That is 15 respondents from the private sector and 20 from the public sector. The primary and secondary methods were used in obtaining data for the paper.

However, in analyzing research data, there is need to adopt a specific method of data analysis and a test statistic for hypothesis testing. In this research work, data generally shall be analyzed with the use of tables and percentages as well as foot note explanation of each table. The hypothesis shall be evaluated using the Pearson moment correlation co-efficient to examine the relationship between the variables and then tested with Z-test.

$$\text{Formula: } r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where:

r = sample correlation co-efficient

n = sample size

x = value of the independent variable

y = value of the dependent variable

\sum = summation

$$Z = \frac{(\bar{X} - \mu)}{\frac{\partial}{\sqrt{n}}}$$

Where:

μ = mean

∂ = standard deviation

n = sample size

\bar{X} = observation

Data Analysis and Results

The analysis of data on this research work was purely based on the responses obtained from the staff and management of both private and public establishments in Nigeria. Thirty-three (33) questionnaires were duly completed and returned out of the thirty-five (35) questionnaires that were administered to the sample. Tables and percentages will be used to present and analyze the respondents' response.

Question 1: The use of crypto-currency as a medium of exchange would have potential benefits and impact on the economy.

Table 1

Response	No of response	Percentage %
Strongly agreed	12	36
Agreed	10	30
No idea	2	6
Strongly disagreed	4	12
Disagreed	5	16
Total	33	100

Source: Field survey, 2021.

From the table 1 it shows that 66% of the respondents agreed that there are benefits associated with the use of crypto-currency while 28% of the respondents disagreed. This means that with the use of crypto-currency as a medium of exchange there would be potential benefits and impact on the growth of the economy.

Question 2: There are series of challenges(Risks) hindering the adoption of crypto-currency as a legal tender.

Table 2.

Response	No of response	Percentage %
Strongly agreed	12	36
Agreed	12	36
No idea	-	-
Strongly disagreed	5	15
Disagreed	4	13
Total	33	100

Source: Field survey, 2021

Table 2 indicates that 72% of the respondents agreed while 28% of the respondents disagreed that there are inherent challenges hindering the adoption of crypto-currency as a medium of exchange. This means that there are some challenges or risks hindering the adoption of crypto-currency as a medium of exchange by Nigerian government.

Question 3: Some countries have regulatory approaches to the adoption of crypto-currency.

Table 3.

Response	No of response	Percentage %
Strongly agreed	3	9
Agreed	5	15
No idea	-	-
Strongly disagreed	11	33
Disagreed	14	42
Total	33	100

Source: Field survey, 2021

Table 3 revealed that 24% of the respondents agreed that many countries have regulatory approaches to crypto-assets while 73% of the respondents disagreed to the fact. This means that many countries do not have regulatory approaches to crypto-currency.

Question 4: Crypto-Currency (Bitcoin) can perform the functions of money.

Table 4

Response	No of response	Percentage %
Strongly agreed	10	30
Agreed	14	42
No idea	-	-
Strongly disagreed	3	9
Disagreed	6	19
Total	33	100

Source: Field survey, 2021

Table 4 indicates that 72% of the respondents agreed that crypto-currency can perform the functions of money while 28% respondents disagreed. This means that crypto-currency if accepted to be used as a legal tender can perform the functions of money.

Question 5: The various crypto-currencies are worth investing in because of the high rate of return.

Response	No of response	Percentage %
Strongly agreed	10	30
Agreed	16	48
No idea	-	-
Strongly disagreed	-	-
Disagreed	7	21
Total	33	100

Source: Field survey, 2021

Table 5 reveals that 78% respondents agreed that crypto-currencies are worth investing in while 21% of the respondents disagreed. This means that bitcoin and other types of crypto-currencies are worth investing in.

Table 6: Bank should fear the emerging technology network inversion of bitcoin and other crypto-currencies.

Table 6

Response	No of response	Percentage %
Strongly agreed	10	30
Agreed	15	45
No idea	-	-
Strongly disagreed	3	9
Disagreed	5	16
Total	33	100

Source: Field survey, 2021

Table 6 indicates that 75% of the respondents agreed that banks should fear the emerging technology network inversion of bitcoin and other crypto-currencies, while 25% respondents disagreed. This means that the emerging of technology inversion of bitcoin and other crypto-currency should be a big challenge for banks.

Question 7: The use of crypto-asset is not yet popular in Nigeria

Table 7

Response	No of response	Percentage %
Strongly agreed	10	30
Agreed	16	48
No idea	-	-
Strongly disagreed	4	12
Disagreed	3	10
Total	33	100

Source: Field survey, 2021

Table 7 shows that 78% of the respondents agreed that the use of crypto-asset is not yet popular in Nigeria while 22% respondents disagreed that crypto-assets is popular in Nigeria. This means that the use of crypto-currency is not yet popular in Nigeria.

Question 8: There is lack of awareness of the benefits of using crypto-currency.

Table 8

Response	No of response	Percentage %
Strongly agreed	8	24
Agreed	12	37
No idea	-	-
Strongly disagreed	5	15
Disagreed	8	24
Total	33	100

Source: Field survey, 2021

Table 8 indicates that 61% of the respondents agreed that there is lack of awareness of the benefits of using crypto-currency while 39% of the respondents disagreed. This means that there is lack of awareness of the benefits of using crypto-currency as a medium of exchange in Nigeria.

Test of Hypotheses

The hypothesis would be tested to enable the researcher draw its conclusion.

Decision Rule: Reject H_0 if Z calculated is greater than Z - tabulated otherwise do not.

Hypothesis 1

H_0 : There are no potential benefits associated with the adoption and use of crypto-currency as a medium of exchange in Nigeria.

Recall table 1

Response	No of response	Percentage %
Strongly agreed	12	36
Agreed	10	30
No idea	2	6
Strongly disagreed	4	12
Disagreed	5	16
Total	33	100

Source: Field survey, 2021

Contingency table

Respondents X	No of respondents Y	X ²	XY	Y ²	(X- μ)	(X- μ) ²
5	12	25	60	144	-1.6	2.56
4	10	16	40	100	-2.6	6.76
3	2	9	6	4	-3.6	12.96
2	4	4	8	16	-4.6	21.16
1	5	1	5	25	-5.6	31.36
Σx 15	Σy 33	55	119	289		74.8

$$\mu = y = 33/5 = 6.6$$

σ =

$$\sqrt{\frac{\sum(x-\mu)^2}{n}} = \frac{74.8}{5} = 14.96 = 3.8678$$

r =

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2] [n\sum y^2 - (\sum y)^2]}}$$

$$= \frac{5(119) - (15)(33)}{\sqrt{[5(55) - (15)^2] [5(289) - (33)^2]}}$$

$$= \frac{595 - 495}{\sqrt{(275 - 225)(1445 - 1089)}}$$

$$= \frac{100}{\sqrt{(50)(356)}} = \frac{100}{\sqrt{17,800}} = \frac{100}{133.4166} = 0.7495$$

The result above shows that there is significant relationship between the benefits and adoption of crypto-currency as a medium of exchange.

Using Z-test

$$Z = \frac{X - \mu}{\frac{\sigma}{\sqrt{n}}} = \frac{15 - 6.6}{\frac{3.8678}{\sqrt{5}}} = \frac{8.4}{2.2361}$$

= Zcal = 4.8563

Z-tab = Z0.05, n-1 = Z0.05,4

= 1.645.

Decision: Since Z calculated (4.8563) is greater than Z- tabulated (1.645), we therefore reject Ho and accept Hi which state that there are potential benefits associated with the adoption and use of crypto-currency as a medium of exchange in Nigeria.

Hypothesis 2

Ho: There are no challenges (Risks) inherent in legalizing the adoption and use of crypto-currency in Nigeria.

Recall table 2

Response	No of response	Percentage %
Strongly agreed	12	36
Agreed	12	36
No idea	-	-
Strongly disagreed	5	15
Disagreed	4	13
Total	33	100

Source: Field survey, 2021

Contingency table

Respondents X	No of respondents Y	X ²	XY	Y ²	(X- μ)	(X- μ) ²
5	12	25	60	144	-1.6	2.56
4	12	16	48	144	-2.6	6.76
3	-	9	0	0	-3.6	12.96
2	5	4	10	25	-4.6	21.16
1	4	1	4	16	-5.6	31.36
Σx 15	Σy 33	55	122	329		74.8

μ = y = 33/5 = 6.6

σ =

$$\sigma = \sqrt{\frac{\sum(x-\mu)^2}{n}} = \sqrt{\frac{74.8}{5}} = \sqrt{14.96} = 3.8678$$

$$\begin{aligned}
 r &= \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2] [n\sum y^2 - (\sum y)^2]}} \\
 &= \frac{5(122) - (15)(33)}{\sqrt{[5(55) - (15)^2] [5(329) - (33)^2]}} \\
 &= \frac{610 - 495}{\sqrt{(275 - 225)(1,645 - 1,089)}} \\
 &= \frac{115}{\sqrt{(50)(556)}} = \frac{115}{\sqrt{27,800}} = \frac{115}{166.7333} = 0.6897
 \end{aligned}$$

The result above shows that there is significant relationship between the challenges (Risks) in legalizing the adoption and use of crypto-currency in Nigeria.

Using Z-test

$$Z = \frac{X - \mu}{\frac{\sigma}{\sqrt{n}}} = \frac{15 - 6.6}{\frac{3.8678}{\sqrt{5}}} = \frac{8.4}{2.2361}$$

where:

$$\sigma = \frac{\sqrt{\sum(x-\mu)^2}}{n} = \frac{\sqrt{74.8}}{5} = 14.96 \quad \sigma = 3.8678$$

$$Z = \frac{15 - 6.6}{\frac{3.8678}{\sqrt{5}}} = \frac{8.4}{2.2361}$$

Z calculated = 4.8563

Z-tabulated = Z_{0.05, n-1} = Z_{0.05 5-1}

$$Z_{0.05} = 4$$

$$Z_{tab} = 1.645$$

Decision: Since Z calculated (4.8563) is greater than Z-tabulated (1.645) we therefore reject H₀ and accept H₁ which states that there are challenges (Risks) inherent in the adoption of crypto-currency in Nigerian.

Conclusion and Recommendations

Crypto-currency has come to stay despite the fact that many countries are scared of legalizing its usage due to the challenges involved which include lack of central authority and its anonymity nature that may attract hackers and encourage cybercrimes such as money laundering. Several suggestions have emerged from research finding with respect to governments of developing countries' response to legislating crypto-currency because at the long run, the cost of ignoring and not legalizing it would outweigh the perceived risks. It would be desirable for developing nations like Nigeria to legalize the use of crypto-currency for the protection of her economy and the interest of the citizens for the efficiency of her human capital. This would enable government to assess the returns made and ensure that proper disclosures are made for tax purposes.

Based on the findings of this study, the following recommendations are drawn:

- Nigeria government should take a clue from countries that are in the process of legislating it and review her regulatory framework for the purpose of legislating the use of crypto-currency which must specify the terms and conditions with respect to privacy law in the interest of the state and citizens, anti-laundry and loss recovery in the case of illicit transactions and possible attacks on users, there should also be insurance of crypto-assets in the interest of investors, etc.
- The legislation should range from monitoring, creation of state – owned crypto-currency to banning or derecognizing of some crypto-currency.
- The accounting and taxation aspect of crypto-currency should be made known to practicing accountants in Nigeria so as to enable them recognize it in their financial statement.
- The relevant agencies of government ought to be proactive regarding crypto-currencies by building necessary regulatory and monetary architectures or apparatuses around the new financial technology called crypto-currency so that Nigeria and Nigerians are not left out of this interesting shift in monetary paradigm

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