



Naira Digitalization and Financial Stability of Selected Deposit Money Bank in Nigeria: Are Nigeria Bank Ready?

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ABSTRACT

Deposit money banks play significant role in achieving sound financial system digitalization through implementation of online banking policy enacted by the financial system regulators. Financial system digitalization improves banks customer transactions which makes more income available to deposit money banks and thus enhanced bank financial stability. Despite positive contribution of digitalization of financial system to commercial banks, there still exist problem of perceived information security risks and perceived flop in government policy on digitalization of financial system among populace or banks customers in Nigeria. Survey research design and regression method of analysis was employed through Structural Equation Modelling via SmartPls 3.0 and reliability results ranged between 0.716 to 0.798 as well as Average Variance Explained (AVE) for validity was greater than 0.5, thus items in the instruments were reliable and valid. Findings revealed that e-Naira, populace perceived security and perceived government policy of digital currency have positive and significant influence on bank financial stability of deposit money banks in Nigeria. The study recommended that the Central Bank of Nigeria continue to emphasize the advantages of e-Naira and ensure the information security of bank customers in order to encourage the public or bank customers to adopt it. As a result, deposit money banks would be able to collect more transaction fees, increasing the financial stability of Nigerian banks.

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1. Introduction

Deposit money bank stability has become major concerned among commercial banks around the world. Commercial bank or deposit money bank managers whether in developed, emerging and developing economies experienced diverse challenges in achieving sound and targeted bank stability due to unforeseen policy like Naira digitalization in the banking industry (Amadi, Adetiloye, Babajide, & Amadi, 2021). Due to this challenge in achieving sound bank stability, professionals, bank managers and scholars were attracted to investigate how unforeseen banking policy like digital currency via e-Naira affect bank financial stability.

Financial sector regulators around the world consider banking stability to be a primary goal for supervision and regulation in the banking industry. Despite sound record of banking system in developed and emerging economies, there exist record of bank instability due to unpredictable economic policies (Ingves, 2018; Ozili, 2018, 2020) compare with Nigeria banking system that was still developing and feature with continuous collapsed of banks due to enormous record of bank financial instability. According to Antoniades, Widiarto, and Antonarakis (2019) failure to follow prudential norms of digital finance, poor financial policy, and excessive risk-taking surrounding digitalization of financial system were the main causes of the financial crisis the Nigerian banking system endured, thus trigger deposit money banks instability.

In Nigeria, one of the recent policies in the banking industry was digitalization of Naira via e-Naira introduced by Central Bank of Nigeria (CBN). A digital currency that is equal to fiat Naira is called e-Naira (physical or printed Naira notes). Once more, e-Naira is Naira in a digital format that is solely usable online and does not require real notes. Despite positive merit from e-Naira such as increased in financial inclusion, quick maintenance of e-wallet, enhanced well-regulated financial environment, fast track bank-customer transaction, Timi-Koleolu and Aroh (2021) still asserted that there exist significant challenges of e-Naira to deposit money banks and populace in Nigeria. Chukwuere (2021) opined there exist significant risks in using digital currency among populace and government agencies. This insinuated that e-Naira create more perceived security risk in terms of password theft, account hacking, and internet banking fraud and biased

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perceived Government (CBN) policy via creative means of stealing and diverting people's money as well as make rural populace more vulnerable which in turn run down deposit money banks financial stability in Nigeria. Ozili (2021) confirm that e-Naira attached with problems of digital illiteracy, increased in data theft and cyber-attack. This study identified problem that may be generated by e-Naira, resulting from less physical cash that may reduce volatility of cash transactions among retail businesses, loss of cash deposit and bank illiquidity, thus increase bank instability in Nigeria.

2. Literature Review

Though, this study synchronized several related empirical studies such as Ahiabenu (2022), Agur, Ari, and Dell'Ariceia (2022), Asidok and Michael (2018), Andolfatto (2021), Eze and Egoro (2016), Kochergin (2021), Kumhof and Noone (2021), Obiora, Omaliko, and Okeke (2022), Oladejo (2016), Olaiya and Adeleke (2019), Soderberg, Bechara, Bossu, Che, Davidovic, Kiff, Lukonga, Griffoli, Sun, and Yoshinaga (2022), Ugwueze and Nwezeaku (2016), Zhang, Tian, Cao, Yuan, Yu, Yan, and Zhang (2021) among others on digital currency and financial performance within and outside Nigeria contexts. These aforementioned empirical studies established mixed findings that digital finance enhanced bank financial performance while other studies such as Asidok and Michael (2018), Obiora, Omaliko, and Okeke (2022), Oladejo (2016), Olaiya and Adeleke (2019), Soderberg, Bechara, Bossu, Che, Davidovic, Kiff, Lukonga, Griffoli, Sun, and Yoshinaga (2022) and Ugwueze and Nwezeaku (2016) found negative connection between digital currency and bank financial performance. However, aforementioned related empirical studies failed to empirically investigate how e-Naira affect financial stability of deposit money banks within and outside Nigeria. Thus, there exist empirical gap.

Furthermore, empirical studies such as Tough, and Kapingura (2023) examined the link between digital financial inclusion, bank competition and bank stability in Africa. Findings established that there exists significant connection between digital financial inclusion and bank stability and inverse direction between digital financial inclusion and non-performing loans. Banna (2020) and Banna and Alam (2021a, 2021b, 2021c) focused on digital financial inclusion and sustainable economic growth measure with banking stability. Their studies established that digital financial inclusion boost banking stability, reduce banks risks and enhances financial mobility.

Considering past related aforementioned empirical studies reviewed, no known studies examined how Naira digitalization measure with e-Naira affected bank financial stability among commercial banks or deposit money banks within and outside Nigeria contexts. Similarly, past related empirical studies failed to considered how populace perceived security on digital currency and perceived government policy of digital currency as control variables affect bank financial stability among commercial banks in Nigeria. This indicated that there exist empirical gap and control variables gap to be filled. Thus, this study hypothesized that; **H₀**: e-Naira, Populace perceived security of digital currency and Perceived government policy of digital currency have no significant effect on financial stability of banks in Nigeria. Therefore, problem and gap identified motivated this study.

3. Theoretical Framework

Davis' (1986) Technology Acceptance Model (TAM) provides the foundation of this investigation. The TAM, according to Monyoncho (2015), made clear the mindset that underlies the desire to utilize technological know-how. According to TAM, one of these two factors—perceived usefulness (PU) or perceived ease of use (PEOU)—influences customers' decisions when they are presented with new technology advancements (Lule, Omwansa, & Waema, 2012). TAM addresses impressions as opposed to real system usage. PEOU is the amount of trust that people have in a system, and users are more likely to use a new technology if they believe it will be helpful in the near and long terms. The TAM further emphasizes that how new technology (e-Naira) is seen as directly related to both its usability and system simplicity which will encourage banks customers to embrace the e-Naira and eventually enhanced bank financial stability.

3. 4. Methodology

Survey research design through administration of instrument (questionnaire) was used to administered questionnaire to staff in head office of selected banks. The population of the study comprised of executive and non-executive directors of banks in Nigeria. All the nineteen (19) conventional banks Head office was considered as a unit of analysis in which information and decision from head office of banks cover all banks in Nigeria. The total population was 190 respondents in which total enumeration (census) was employed since the population is small. The study used executive and non-executive directors since they have sound and strategic information on objective of the study compare to middle and lower-level staff in the Tier-1 and Tier-2 DMBs. The study retrieved 183 respondents out of 190 questionnaires administered. The retrieved questionnaires were subjected reliability, validity and normality tests, so as to advance to structural equation model using SmartPLS 3.0. The study used Cronbach Alpha for Internal Consistency of items in the instruments (See Table 1) and Average Variance Extracted (AVE) and Composite Reliability (See Table 1) and employed regression method of analysis through SmartPls 3.0.

4.1 Reliability of Data

Table 1: Construct Reliability for Internal Consistence

Variables	No of Items	Cronbach's Alpha
e-Naira (EN)	5	0.798
Populace Perceived Security (PPS)	5	0.743
Perceived Government Policy (PGP)	5	0.718
Bank Financial Stability (BFS)	5	0.716

Source: Researchers' Computation (2023) from SmartPLS 3.0

Cronbach Alpha result from Table 1 test for reliability or dependability test of the data for the study variables via Internal Consistency. For all the variables which is greater than threshold of 0.7. This indicates adequate levels of internal consistency reliability (Vaske, Beaman, & Sponarski, 2016).

4.2 Data Validity

Table 2: Construct Validity and Convergent Validity

Variables	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
e-Naira	0.788	0.712	0.623
Populace Perceived Security	0.820	0.784	0.671
Perceived Government Policy	0.840	0.832	0.530
Bank Financial Stability	0.795	0.795	0.590

Source: Authors' Computation (2023) from SmartPLS 3.0

In this work, Table 2 depicted that AVE larger than 0.5 has been suggested to provide empirical evidence for convergent validity. Thus, all AVE values in Table 2 were above 0.5, this indicated that there exists convergent validity. Similarly, composite reliability (CR) evaluates convergence validity. In addition, composite reliability values reflect the level to which the construct indicators reveal the latent variable, and they should be greater than 0.70, thus, in this study, all the composite reliability values ranged from 0.784 to 0.832.

4.3 Discriminant Validity

The degree to which the constructs or latent variables are independent of one another is measured by discriminant validity (Henseler, Ringle & Sarstedt, 2015). Discriminant validity in PLS SEM assesses how different a construct is from other constructs.

Table 3: Fornell-Larcker Criterion

	e-Naira (EN)	Perceived Security (PS)	Perceived Government Policy (PGP)	Bank Financial Stability (BFS)	Collinearity Statistics	
e-Naira (EN)	0.865				Tolerance	VIF
Populace Perceived Security (PPS)	0.862	0.852			.125	3.215
Perceived Government Policy (PGP)	0.833	0.832	0.860		.158	2.113
Bank Financial Stability (BFS)	0.832	0.826	0.856	0.858	.182	3.204

Source: Authors' Computation (2023) from SMARTPLS 3.0

From Table 3, Fornell-Larcker Criterion was employed to determine discriminant validity (Hair, Risher, Sarstedt, & Ringle, 2019). The Fornell-Larcker Criterion values for all variables are in the range from 0.832 to 0.865 and these indicate that all variables are distinctively different at values below Fornell-Larcker Criterion of <1.0. Importantly, the result of Fornell-Larcker Criterion infers that the variables are distinctively different from one another since all the variables value less than one which also confirms the discriminant validity. The VIF coefficients in a PLS SEM model provide information on the degree of multicollinearity. VIF values of less than 5.0 indicate a well-fitting model without multicollinearity (Sarstedt et al., 2014). The

results of this study's VIF calculations are displayed in Table 3. All of the predictor constructs' VIF values were under 5.0 (See Table 3). Thus, the multicollinearity result in Table 3 supported the result Fornell-Larcker Criterion for discriminant validity that truly there exist discriminant validity among the study variables.

Model Specification

In this study, there are three variables; independent and dependent variables as well as moderating variable. The operational model for the variables is denoted in the equations below:

Y = Dependent Variable

X = Independent Variable

Y = Bank Financial Stability (BFS)

X1 = e-Naira (EN)

X2 = Customer Perceived Security (CPS)

X3 = Perceived Government Policy (PGP)

The models formulated for each of the hypotheses are written as:

Hypothesis One

$Y = f(X1)$

$Y = \beta_0 + \beta_1 X1 + \varepsilon_i$

$BFS = \beta_0 + \beta_1 EN + \varepsilon_i$

Hypothesis Two

$Y = f(X2)$

$Y = \beta_0 + \beta_2 X2 + \varepsilon_i$

$BFS = \beta_0 + \beta_2 PPS + \varepsilon_i$

Hypothesis Three

$Y = f(X3)$

$Y = \beta_0 + \beta_3 X3 + \varepsilon_i$

$BFS = \beta_0 + \beta_3 PGP + \varepsilon_i$

5. Response Rate

The copies of questionnaire that were administered to the respondents were 190 out of which a total of 176 copies of questionnaire were properly filled and returned. This represented an overall successful response rate of 93.0%. Bryman and Bell (2011) posit that a response rate of $\geq 50\%$ is acceptable to analyse the results of the study.

Diagnostic Tests

Normality

The study used skewness and kurtosis statistic as recommended by Henseler *et al.* (2015). The skewness value fall between -3 and $+3$, and kurtosis is suitable between -10 to $+10$ (Brown, 2006). The results presented in Table 5 show that all the variables passed normal distribution.

Table 4: Tests of Normality

Variables	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
e-Naira	-1.021	.128	.613	.210
Populace Perceived Security	1.711	.128	-.347	.210
Perceived Government Policy	-1.072	.128	.521	.210
Bank Financial Stability	1.532	.128	.409	.210

Source: Field Survey Results, 2023

Linearity Test

Table 5: Tests of Linearity

Variables	Correlation	Bank Financial Stability
e-Naira	Pearson Correlation	0.561**
Populace Perceived Security	Pearson Correlation	0.712**
Perceived Government Policy	Pearson Correlation	0.793**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Source: Field Survey Results, 2023

Table 5 correlation results revealed a substantial correlation between the dependent and independent variables, illuminating the variables' apparent linearity.

Multicollinearity

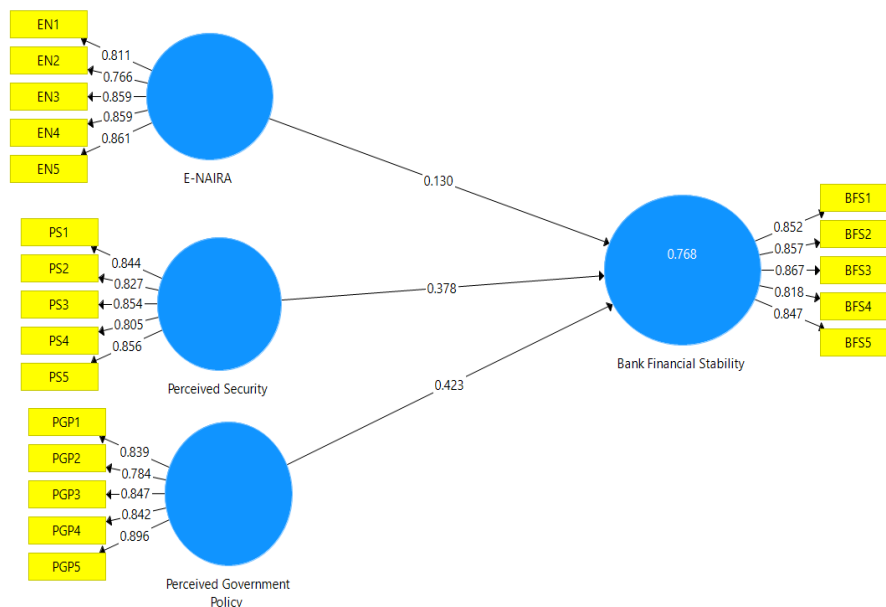
To check for multicollinearity, tolerance values and the variance inflation factor (VIF) were also utilized. Less than 0.1 of a tolerance value indicates a major collinearity issue. According to Henseler et al. (2015), the VIF value shouldn't be higher than 5.00 and the tolerance value allowed shouldn't be less than 0.1. According to Henseler et al. (2015), multi-collinearity is present when the VIF value is higher than 10. Therefore, there is no issue with multi-collinearity among the independent variables (see Table 6).

Table 6: Multicollinearity Test of Independent Variables			
Model		Collinearity Statistics	
		Tolerance	VIF
e-Naira		.125	3.215
Populace Perceived Security of e-Naira		.158	2.113
Perceived Government Policy of e-Naira		.182	3.204

a. Dependent Variable: Bank Financial Stability

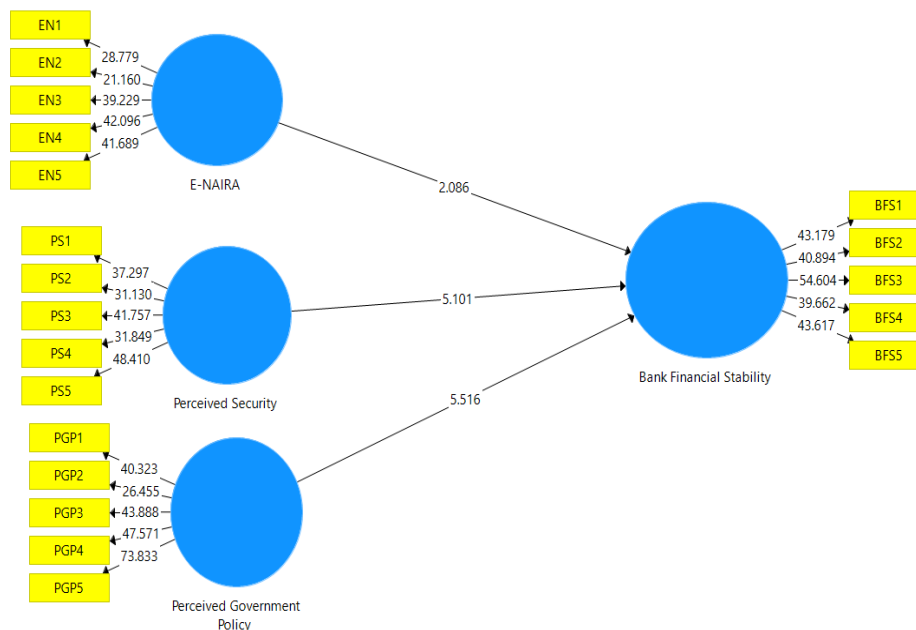
Source: Field Survey Results, 2023

5.1. SmartPLS Result, Factor Loading and Discussions



The factor loading of all items for the study variable were greater than 0.70 which indicated that all items strictly measure study variables. Result from SmartPLS 3.0 above depicted that independent variable such as E-Naira, Populace perceived security and perceived government policy have positive and significant effect on financial stability of selected deposit money banks in Nigeria. The SmartPLS 3.0 result further depicted that E-Naira, perceived security and perceived government policy accounted for 76.8% changes in bank financial stability. This insinuated that there is need for perceived security (online transaction security for bank customers or Populace on e-Naira) and perceived government policy (robust government policy on e-Naira) as major driver and enhancer of e-Naira which in turn increase bank customers patronage of e-Naira among deposit money banks, thus enhance deposit money bank financial stability in Nigeria.

t-Student Statistic Result



The t-Student Statistic result above shown that e-Naira, perceived security and perceived government policy have significant link on financial stability of deposit money banks in Nigeria. This study established empirical signal that Naira Digitalisation measure via e-Naira with control variable of perceived security (online transaction security for bank customers or Populace on e-Naira) and perceived government policy (robust government policy on e-Naira) significantly affect bank financial stability. Related studies such as Ahiabenu (2022), Andolfatto (2021), Amadi, Adetiloye, Babajide, and Amadi (2021), Agur, Ari, and Dell'Araccia (2022), Ahamed and Mallick (2019), Asidok, and Michael (2018), Banna and Alam (2021b), Kochergin (2021) and Kumhof, and Noone (2021) established that digital financial services significantly improved bank stability. Based on majority findings supporting the empirical findings of this study, therefore all the three null hypotheses stated that e-Naira, perceived security (online transaction security for bank customers or Populace on e-Naira) and perceived government policy (robust government policy on e-Naira) do not affect financial stability of deposit money banks in Nigeria were rejected.

6. Conclusion and Recommendations

The study concluded that financial stability of Nigerian banks is influenced by the e-Naira, public perceptions of e-Naira security, and perceived government policy on e-Naira. This demonstrated that the Nigerian banking industry is moving toward a digital financial system, as necessary and regulated by the Central Bank of Nigeria. Based on the findings, the study recommended that; Central Bank of Nigeria should continue intensify benefits of e-Naira to the populace or banks customers so that more patronage can be which will give more transactional charges as income to banks and in turn increase bank financial stability. Also, Central Bank of Nigeria should continue sensitizing the populace on e-Naira and how e-Naira is secure so as to enhance populace positive perception on security of digital currency transaction via e-Naira so as to increase populace participation in using e-Naira as mode of settling transaction and thus enhance financial stability of deposit money banks in Nigeria. Lastly, in order to strengthen the financial stability of Nigeria's banks, the Federal Government should establish a mandatory policy requiring the use of electronic money (e-Naira) for transactions between government and non-government agents as well as the banks.

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