

ANALYSIS OF FACTORS UNDERMINING ACCESS TO DIGITAL FINANCE AND THEIR INFLUENCE ON FINANCIAL INCLUSION IN SELECTED AREAS IN NIGER STATE

¹**Danladi Yahaya**
isabadan2012@gmail.com

²**Dr. Abdullahi Babandako Yusuf**
abdulby2@gmail.com

³**Dr. Sayedi Shuaibu Ndagi**
ssndagi@gmail.com

^{1,2,3}Department of Business Administration,
Ibrahim Badamasi Babangida University, Lapai, Niger State.

ABSTRACT

Financial inclusion ensures easy access to financial services by enabling the disadvantaged and vulnerable sections of the society to actively participate and contribute to activities that promote societal development. Nigeria has a sizeable rural population with limited access to conventional financial institutions. This necessitated this study on analysis of factors undermining access to digital finance and their influence on financial inclusion in rural areas in Niger State. The study adopted the survey research design. The population of the study is infinite. The study used snowball sampling technique. Primary data were sourced through a field survey using questionnaire. Respondents were required to indicate their level of agreement on a five-point Likert Scale (from 5= strongly agree to 1= strongly disagree). The questionnaire undergone content validity. Small portion of questionnaire were administered to ensure the instrument is reliable to carry out the study. The data collected from respondents were analyzed using both descriptive and inferential statistics. Simple percentages was used to answer research questions and multiple regression to test the null hypotheses. The results show that digital finance significant affect financial inclusion (p: .000). The study recommends that deliberate efforts be made to spread access points to more rural areas to promote financial inclusion. This should include a policy roadmap for expanding financial services access points to unbanked and under banked areas.

KEYWORDS: digital finance, access to digital finance and financial inclusion

1.1 INTRODUCTION

Digital finance has been a catalyst for promoting a sound financial system both in preventing fraud and fostering economic growth as well as development. A digital financial service, with effective oversight supervision, is capable to expand the economies of scale and is very essential in closing the gap of financial inclusion (Iriobe & Akinyede, 2017). Developing countries yearning for fast development seek the existence of financial inclusion in their economic activities. Digital finance is a financial transaction conducted through an electronic environment. It is a financial service delivery carried out outside conventional bank offices. Such financial services go beyond banking branches, use of agents or other third-party as a primary point of contact with customers and rely on technologies (Babajide, 2020). Digital financial services are accessed and delivered through digital channels such as Automated Teller Machine, Point Of Sale, Internet (web), Mobile money, Nibss Instant Payment, Electronic-Bills pay, Mobile-cash, Remita and mobile phones to transmit transaction details among others.

Digital payment platforms became imperative in assisting and unbundle the Nigerian economic activities via the financial system in complementing technology driven. Apart from the fact that the digital financial environment is expected to become a key frontier in the quest for economic diversification; Nigeria has also extended it to prevent financial leakages both in the private and public sectors. Digital finance and financial inclusion have several benefits to financial services users, digital finance providers, governments, and the economy. Access to digital technologies allows a wider range of financial services such as online banking, mobile banking among others. The technology has spread internet banking, mobile banking, e-wallets, mobile wallets, and credit and debit cards. It provides several benefits like convenience, easy financial transactions etc. to the customer. It is vital to the public as it boosts security for their cash and it is more convenient compared to keeping money at home traveling with the money. However, the provision of digital finance involves the participation of different players such as banks/financial institutions, mobile network operators, financial technology providers, regulators, agents, chains of retailers and clients Haider (2018). It can eliminate such transaction costs and provide affordable, convenient, and secure banking services to poor individuals in developing countries.

Financial inclusion undoubtedly, is a key enabler to reducing poverty and boosting economic prosperity. Hence, the quest to strengthen the availability of economic resources, sustain an inclusive growth and build the concept of savings among the poor and underprivileged population has continued to increase the interest of most countries of the world, especially in Africa on financial inclusion. Nanda and Kaur (2016) defined financial inclusion as the availability and equality of opportunities to access financial services. They explained further that financial inclusion is the process by which individuals and businesses can access appropriate, affordable, and timely financial products and services. (Adesanya, 2017) added that this has been a great challenge across the world, especially in Africa with great opportunities for financial services on the micro level. Consequently, Sahay et al., (2020) posit that technology has been changing the landscape of the financial sector, increasing access to financial services in profound ways.

Technological solutions in the financial sector reduce operational costs and make financial services more accessible to low-income categories, while providing digital services eliminates the need for the physical presence of a financial intermediary and facilitates the financial inclusion of people in remote and rural areas. In addition, compared to traditional financial services, as well as micro insurance and microfinance services, FinTech provides a better personalization of services for the

needs of a specific individuals or households. Financial Technology allow smart-phones and other gadgets to be used to access digital financial products and cover a wide variety of financial services in the areas of payments and transfers, savings, investment and credit, personal finance planning, financial consulting, insurance and other services expansion of basic services. It can lead to greater economic stability and increased financial Financial inclusion refers to the access and applying a set of adequate financial services by households and firms is essential for advancement as it can help poor family units enhance their lives while likewise impelling financial movement. Digital financial services are held out as keymoney-related answers for enhancing monetary consideration (Agufamidikamichelle, 2016). Financial inclusion is bridging the gap between cash and digital payments. Customers are connected to a digital payment system, they can transfer money instantly and cheaply to friends, family and business purposes

Since 2010, the G-20 and the World Bank have led the initiative for increased financial inclusion in developing countries to help reduce poverty levels in developing and emerging economies Peterson and Ozili (2018). In Nigeria, the digital payment system was launched in 2012. In 2012 the Central Bank of Nigeria (CBN) launched the National Financial Inclusion Strategy to ensure that more than 80% of bankable adults in Nigeria have access to financial services targeted at the low-income earners by 2020. Even though, the target to reduce the financial exclusion rate to 20% by 2020 was not achieved. At the end of that year, 35.9 % of the target (adult) population remained financially excluded. However, the threat of cyber-attacks is the red alert which coincides with the evolution of the economy. It seems that while people are getting comfortable with cashless payments, some kind of negative perceptions like security problems, poor network coverage, and lack of merchant willingness, high transactional costs, lack of users' knowledge on technology etc. are holding back many from adopting the new system. Digital financial services can be more convenient and affordable than traditional banking services, enabling low-income and poor people in developing countries to save and borrow in the formal financial system, earn a financial return. The perceived benefits of digital finance is worth exploring. Prior studies examine digital finance please see Hia&Shidadeh (2015); financial inclusion Karlan (2015); Agufa (2016); Eleanor (2017); Iriobe & Akinyede (2017); and Babajide et al., (2020); and Banso and Watson (2022) however, based on the literature review no single study has linked digital finance to financial inclusion. Thus, in order to bridge the gap in literature this study sought to assess digital finance and financial inclusion.

1.2 Objectives of the Study

The objective of the study was to determine the factors that undermine access to digital finance and their influence on financial inclusion in selected rural areas in Niger State. Specifically, the study determined;

1. Influence of access to digital technologies on financial inclusion in selected areas in Niger state.
2. Influence of access to payment on financial inclusion in selected areas in Niger state.
3. Influence of access to savings on financial inclusion in selected areas in Niger state.
4. Influence of access to credit facilities on financial inclusion in selected areas in Niger state.

1.3 Research Questions

1. Does access to digital technologies have significant influence on financial inclusion in selected areas in Niger state?
2. How does access to payment influence financial inclusion in selected areas in Niger state?

3. To what extent does access to savings influence financial inclusion in selected areas in Niger state?
4. Does access to credit facilities influence financial inclusion in selected areas in Niger state?

1.4 Research Hypotheses

The following null hypotheses were:

H₀₁: Access to digital technologies does not have significant influence on financial inclusion in selected areas in Niger state.

H₀₂: There is no significant influence between access to payment and financial inclusion in selected areas in Niger state.

H₀₃: Access to savings does not influence financial inclusion in selected areas in Niger state.

H₀₄: Access to credit facilities does not have significant influence on financial inclusion in selected areas in Niger state.

LITERATURE REVIEW

2.1 Digital Finance

The term digital finance refers to financial services delivered through mobile phones, personal computers, the internet, or cards linked to a reliable digital payment system. Digital finance encompasses a magnitude of new financial products, financial business, finance- related software, and novel forms of customers' communication and interaction-delivered by financial technology companies and innovative financial services providers. It involves an environment of technological infrastructure that enables individuals and companies to have access to payments, savings, and credit facilities via the internet (online) without the need to visit a bank branch or without dealing directly with the financial services providers (Sekhar, 2021). (Bach, 2011). (Ionescu, 2012). According to Shofawati (2019), that digital financial services generally refer to the far-reaching technologies available to perform financial services from a wider range of providers to an extensive category of recipients. This is possible by the use of digital remote means including e-money; card payments like ATM, POS and electronic funds transfer like NIP Dayadha (2015). Digital finance can lead to greater financial inclusion by expanding financial services to non-financial sectors, and the intermediation. It can also boost long-term positive effects on banking performance (Li and Zeng, 2020). Access to digital technologies, in particular mobile phones, internet connectivity and biometric authentication, allows for a wider range of financial services, such as online banking, mobile phone banking, and digital credit for the unbanked. Digital financial services can be more convenient and affordable than traditional banking services, enabling low-income and rural dwellers in developing countries to save and borrow in the formal financial system and earn a financial return.

2.2 Financial Inclusion

According to a United Nations Report, financial inclusion is the sustainable provision of affordable financial services that bring the poor into the formal economy (United Nations, 2016). Financial inclusion may also be defined as the use of formal financial services by the poor (Ozili, 2018). Financial inclusion involves increasing the number of individuals that have access to formal

financial services mainly through having formal bank accounts, which contributes to poverty reduction and economic growth. With greater financial inclusion, individuals who were previously financially excluded will be able to invest in education, save and launch businesses, and this contributes to poverty reduction and economic growth (Ozili, 2018).

2.3 Empirical Review

Evan, Frederico, and Ross (2015) study the regulations of digital financial services agents in developing countries to promote financial inclusion. The study analyses whether the vicarious liability of the principal is a more efficient regulatory approach than the personal liability of the agents in Kenya. The results demonstrate that vicarious liability of the principal, coupled to an explicit agreement as to agent rewards and penalties is a more efficient regulatory approach. The study explained that digital financial services offered by banks and mobile money providers through agents can solve a problem without the need for complex and costly physical banking infrastructures.

Ozili (2018) examines the impact of digital finance on financial inclusion and stability. The study aims to provide literature on some issues around digital finance since it has not been critically addressed. After most, the study found out that a good number of issues still borders the digital environment that demands attention to function efficiently for both individuals, businesses, and governments. The study suggested a greater financial inclusion through digital finance in the developing and emerging economies Yan Shen and Yiping Huang (2016), introduction to the special issue: internet finance in China Internet finance, which is often referred to as “digital finance” and “Fintech”. Internet finance refers to the new business model of utilizing the Internet and information communication technologies to accomplish a wide range of financial activities.

AgufaMidika Michelle (2016), the effect Of Digital Finance On Financial Inclusion In The Banking Industry In Kenya, The study concluded that digital finance doesn't have any correlation on financial inclusion in banking sector in Kenya since banking institutions adopt digital financial services to lower operating cost associated with opening and operating branches to improve their profitability and financial performance and not to foster financial inclusion.

Laura and Susan (2017) investigate the promise of digital finance. The study found out that mobile phones and digital technologies have rapidly spread around the globe, but the implications of utilization for economic development and the transformation of finance is yet to receive full attention. The study prayed for urgent reforms for full and better utilization.

2.4 Theory of Financial Innovations

Silber (1983) proposed the theory of financial innovations, which is based on the assumption that benefit expansion of monetary foundations is the primary basis for financial inclusion The hypothesis argues that the key motivations for new inventions are flaws in the financial business sector, including erroneous data, office expenses, and exchange charges. According to the theory, financial innovations can be either very new solutions or simply traditional methods by which the most recent component of development has been offered, increasing firms' liquidity as well as increasing the number of new applicants due to their qualifications on the situation. According to the theory, financial innovation is a vital motivating force in the financial system, leading to improved economic competence and increased economic advantage as a result of new and frequent changes.

METHODOLOGY

The study adopted the survey research design. Primary data were sourced through a field survey using questionnaires in collecting data from respondents. This method is considered useful for studies on non-observable events such as opinions, attitudes, preferences, and dispositions, given the time and personal constraints in such population studies (Soyombo, 2002). The population of the study is infinite. The areas covered include Sanchi, Gaba, Busu, Edobaba and Doko. A snowball sampling technique was used to select sample of 425. The questionnaire were administered across five rural areas of Niger state, out of which 400 were returned, resulting in a response rate of 94.1 per cent. Respondents were required to indicate their level of agreement on a five-point Likert Scale (from 5= strongly agree to 1= strongly disagree). The questionnaire undergone content validity. Small portion of questionnaire were administered to ensure the instrument is reliable to carry out the study. Data collected were analyzed using simple percentages to answer the research questions and multiple regression to test the null hypotheses. Decision rule is that if the value of $p < 0.05$ it means that the variable is significant in the model. SPSS Statistics 23.0 software. The multiple regression equation is given below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon, \text{ where}$$

Y = financial inclusion

β_0 = Constant Term

X1 = access to digital technologies

X2 = access to payment

X3 = access to savings

X4 = access to credit facilities

ϵ = Constant error

RESULTS

Presented below are the results of the data analysis relating to the postulated hypotheses, based on the responses of participants classified by gender

4.1 Gender Characteristics of Respondents

Table 4.1 Distribution of respondents by gender

	Gender	Frequency	% valid
Valid	Male	245	61.25
	Female	155	38.75
	Total	400	100

Source: Researcher's Field Survey, 2023.

Table 4.1 shows that 245 (or 61.25%) of the four hundred respondents are male, while 155 (or 38.75%) are female. The table shows all data were effectively captured with no missing data.

4.2 Ownership of Bank Accounts by Respondents

Data collected from respondents were analyzed to find out how many have a bank account

Table 4.2 Analysis of respondent by bank account ownership

GENDER	Do you have bank account							
	YES	%	NO	%	MISSING	%	TOTAL	%
MALE	220	55	25	6.25	0	0	245	61.25
FEMALE	124	31	29	7.25	2	0.5	155	38.75
TOTAL	344	86	54	13.50	2	0.5	400	100

Source: Researcher's Field Survey, 2023.

Table 4.2 indicates that a total of 344 (86%) of the respondents have a bank account, while 14% either have no bank account or failed to provide an answer. Out of the respondents with a bank account, 220 (55%) are male and 124 (31%) are female.

4.3 Influences on Respondents Banking Behavior

The cross tabulation result for the factors that influences respondents' uptake of financial services are presented in table 4.3

Table 4.3 Analysis of influences on respondents banking behavior

GENDER	Why did you not own a bank account?					TOTAL
	0	DISTANCE FROM HOUSE TO BANK	DELAY IN BANKING TRANSACTION	SATISFACTION WITH ALTERNATIVE CHANNELS	OTHERS	
MALE	219	11	9	1	3	245
FEMALE	125	15	5	8	4	155
TOTAL	344	26	14	9	7	400

Source: Researcher's Field Survey, 2023.

The result in Table 4.3 show that of the 56 participants who have no account (including the two missing), they were discouraged by distance to bank (over 46%), delay in transacting banking business (25%), satisfaction with alternative channels (16%), while other constraints account for only 12.5 per cent.

4.4 Distance to Finance Houses (Banks) and Access to Financial Services.

Responses on the challenges to financial services access by respondents poses by distance to financial services points were analyzed and presented in table 4.4

Table 4.4 Financial inclusion hindered by distance to finance houses

GENDER	Financial Inclusion hindered by distance to finance houses				SD	TOTAL
	SA	A	N	D		
MALE	75	88	28	26	28	245
FEMALE	49	58	16	24	8	155
TOTAL	124	146	44	50	36	400

Source: Researcher's Field Survey, 2023.

Two hundred and seventy participants, representing 67.5 per cent see distance from financial services dispensing points as a key barrier to their uptake of financial services. Eighty-six or 21.5 per cent disagree. This aligns with the findings in 4.3, that fifty-six (over 46%) of the participants who have no account (including the two missing), were discouraged by distance to banks.

4.5 Infrastructural Deficiency and Access to Financial Services

Participant's responses on the hindrance posed by infrastructural deficiency were analyzed in table 4.5

Table 4.5 Access to financial services hindered by infrastructural deficiency

GENDER	Access to financial services has been hindered by poor communication network				SD	TOTAL
	SA	A	N	D		
MALE	84	73	35	27	26	245
FEMALE	55	60	13	14	13	155
TOTAL	139	133	48	41	39	400

Source: Researcher's Field Survey, 2023.

Two hundred and seventy-two participants, representing 68 per cent see infrastructural deficiency as a key challenge to their uptake of financial services. Eighty or 20 per cent disagree, while 48 (12%) were unresponsive.

4.6 Correlation, model summary, Anova and coefficient of regression.

Correlations		Financial inclusion	Access to digital technologies	Access to payment	Access to savings	Access to credit facilities
Pearson Correlation	Financial inclusion	1.000	.928	.926	.383	.440
	Access to digital technologies	.928	1.000	.893	.490	.495
	Access to payment	.926	.893	1.000	.494	.513
	Access to savings	.383	.490	.494	1.000	.958
	Access to credit facilities	.440	.495	.513	.958	1.000
Sig. (1-tailed)	Financial inclusion	.	.000	.000	.000	.000
	Access to digital technologies	.000	.	.000	.000	.000
	Access to payment	.000	.000	.	.000	.000
	Access to savings	.000	.000	.000	.	.000
	Access to credit facilities	.000	.000	.000	.000	.
N	Financial inclusion	400	400	400	400	400
	Access to digital technologies	400	400	400	400	400
	Access to payment	400	400	400	400	400
	Access to savings	400	400	400	400	400
	Access to credit facilities	400	400	400	400	400

Source: Researcher's Field Survey, 2023.

The study consider it necessary to examine the relationship between digital finance and financial inclusion in selected areas Niger state. Pearson man correlation was conducted. The data analysis revealed a strong positive relationship between access to digital technologies and financial inclusion ($R= 92.8$). In addition, the relationship between access to payment and financial inclusion was found to have positive correlation ($r= .92.6$). Finally, the data analysis revealed moderate positive relationships in the relationship between access to savings and financial inclusion and access to credit facilities and financial inclusion ($r= .38.3$ and $.44.0$ respectively) in some selected areas in Niger State.

Table 4.7 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^a	.940	.939	.43207
a. Predictors: (Constant), Access to credit facilities, Access to digital technologies, Access to payment, Access to savings				

Source: Researcher's Field Survey, 2023.

The R2 reports that independent variables (access to digital technologies, access to payment, access to savings and access to credit facilities) explained 94% of variable in dependent variable (financial inclusion). This shows that the model is good to explain the effect of digital finance on financial inclusion.

Table 4.8 ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1157.157	4	289.289	1549.608	.000 ^b
	Residual	73.741	395	.187		
	Total	1230.898	399			
a. Dependent Variable: Financial inclusion						
b. Predictors: (Constant), Access to credit facilities, Access to digital technologies, Access to payment, Access to savings						

Source: Researcher's Field Survey, 2023

Table 4.8 shows the Anova table. The f : 289.289 and the p value is = 000. This shows that the model is statistically significant.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.104	.061		-1.707	.089
	Access to digital technologies	.588	.029	.555	20.074	.000
	Access to payment	.522	.031	.471	16.884	.000
	Access to savings	-.639	.047	-.588	-13.648	.000
	Access to credit facilities	.544	.049	.488	11.209	.000
a. Dependent Variable: Financial inclusion						

Source: Researcher's Field Survey, 2023.

Test of Hypothesis

H₀₁: Access to digital technologies have no significant influence on financial inclusion in selected areas in Niger state.

Decision

From the coefficient table $p = 0.000$ with $b = .588$ which means that digital technologies is significant in the model. Therefore, the null Hypothesis which stated that digital technologies have no significant influence on financial inclusion in selected areas in Niger state is rejected.

H₀₂: Access to payment have no significant influence on financial inclusion in selected areas in Niger state.

Decision

From the coefficient table $p = 0.000$ with $b = .522$ which means that access to payment is significant in the model. Therefore, the null Hypothesis which stated that access to payment have no significant influence on financial inclusion in selected areas in Niger state is rejected.

H₀₃: Access to savings have no significant influence on financial inclusion in selected areas in Niger State.

Decision

From the coefficient table $p = 0.000$ with $b = -.639$ which means that access to savings is significant in the model. Therefore, the null Hypothesis which stated that access to savings have no significant influence on financial inclusion in selected areas in Niger state is rejected.

H₀₄: Access to credit facilities have no significant influence on financial inclusion in selected areas in Niger state.

Decision

From the coefficient table $p = 0.000$ with $b = .544$ which means that access to credit facilities is significant in the model. Therefore, the null Hypothesis which stated that access to credit facilities have no significant influence on financial inclusion in selected areas in Niger state is rejected.

4.8 Discussion

The study analyse of factors undermining access to digital finance and their influence on financial inclusion in selected areas in Niger state. The finding of the study reveals that digital finance sub indicators namely access to digital technologies, access to payment, access to savings and access to credit facilities have significant influence on financial inclusion. This collaborates the findings of Benson and Watson (2022), which stressed that Digital financial services had eased the banking process by among other practices which created opportunities for customers who were hitherto unable to access traditional banking services, became available. They added that digital financial services have simplified, enabled real time payments that has improved the movement of cash and has revolutionized the concept of payments and have significantly reduced the costs associated with the search and markets. Moreover, in similar context Jean-Claude, Muhamadu&Tii (2022), in their study added that investment in financial and technological infrastructures and also in the human capital sector play an important part in promoting financial stability and inclusive finance in Africa.

5.1 Conclusion

The quest to strengthen the availability of economic resources, sustain an inclusive growth and build the concept of savings among the poor and underprivileged population has continued to increase the interest of most countries of the world, especially in Africa, on financial inclusion. However, dearth of access to financial services, especially in rural areas, issues of affordability and poor user experience, all contribute to the frustration consumers experience in the financial service industry. Financial inclusion requires attention to specific portions of the population historically excluded from the formal financial sector because of their either income levels or volatility, gender, location, type of activity or level of financial literacy. This study investigated the impact of digital finance on financial inclusion. This study concludes that there is significant relationship between access to digital technologies, access to payment, access to savings and access to credit facilities and financial inclusion at 5% significant level.

5.2 Recommendations

Based on the findings of the study, the following recommendations were made:

1. The management to make effort to improve access to digital technologies, access to payment, access to savings and access to credit facilities in rural areas to promote financial

services uptake.

2. Financial sector regulators should evolve policies, which require financial services providers to spread to more areas. This should include speeding up the development of an implementation roadmap for expanding financial services access points to unbanked areas. This will overcome the identified challenges of distance, cost, and access to financial services.
3. Banks and other financial services providers should increase the widespread of digital infrastructures and outlets in rural areas and pay attention to services rendered to customers as this will improve patronage and engender financial inclusion.
4. Government and other stakeholders should initiate orientation programme orientation aim at promoting female on financial inclusion in line with the current government policy.

REFERENCES

- Adesanya, O. O. (2017). Financial inclusion in Nigeria: The challenges of banks and mobile money operators, IFC Satellite Seminar at the ISI World Statistics Congress on “Financial Inclusion” Marrakech, Morocco. *Bank for International Settlement*, 1-15
- Aduda, J. Kalunda, E.(2012). Financial Inclusion and Financial Sector Stability with reference to Kenya: A review of literature. *Journal of Applied Finance and Banking*, 2, 95-120.
- Agufa, M. M. (2016). The Effect Of Digital Finance On Financial Inclusion In The Banking Industry in Kenya.
- Babajide, A. A.; Oluwaseye, E. O.; Lawal, A. I, & Isibor, A. A. (2020). Financial Technology, Financial Inclusion And MSMES Financing In The South - West Of Nigeria. *Academy of Entrepreneurship Journal*, 26(3): 1-17.
- Benson, J. L. and Watson G. M. (2022). Digital financial services and financial inclusion in Tanzania. *Olva Academy – School of Researchers*, 4 (1), 96 - 106.
- Central Bank of Nigeria (2012). National Financial Inclusion Strategy: Financial Inclusion in Nigeria, Abuja. 1-21
- Eleanor L. (2017). The future is mobile: Financial inclusion and technological innovation in the emerging World. *Stanford Journal of Law, Business & Finance*.
- Enhancing Financial Innovation and Access (2016). EFINA Access to Financial Services in Nigeria. 2016 Survey: Key Findings available at: Accessed in <http://www.ena.org.ng/assets/A2F/2016/Key-Findings-A2F-2016.pdf> May 2017
- Han, R., & Melecky, M. (2013). Financial inclusion for financial stability: Access to bank deposits and the growth of deposits in the global financial crisis. *World bank policy research working paper* 6577. World Bank.
- Hia, X. & Shidadeh, F. H. (2015). Financial Inclusion: Policies, Status, and Challenges in Palestine. *International Journal of Economics and Finance*, 7(8), 196-207. URL: <http://dx.doi.org/10.5539/ijef.v7n8p196>
- Huma H. (2018). Innovative financial technology to support livelihoods and Economic outcomes. Independent Consultant.
- Iriobe, G. & Akinyede, O. (2017). The Effect of Financial Technology Services on Banks customer's satisfaction in Nigeria, 1-9
- Karlan D. (2015). Research and impacts of digital financial services. *The National Bureau of Economic Research*
- Kempson, E., Alkinson, A. & Pilley, O. (2004). Policy Level Response to Financial Exclusion in Developed Economies: Lessons for Developing Countries. *Report of Personal Finance*

- Research Centre, University Bristol.
- Jean-Claude, K, Muhamadu, A. K. W. & Tii, N. N. (2022). Digital Technologies and Financial Inclusion in Sub-Saharan Africa. *African Governance and Development Institute*, 1-34.
- Laura T., Susan L (2017). The promise of digital finance. *The European Financial Review*
- Błach, J. (2011). Financial Innovations and their Role in the Modern Financial System – Identification and Systematization of the Problem. *Financial Internet Quarterly - e-Finance*, 7(3), 13-26
- Li, X. & Zeng, S. (2010). Finance Innovation Model Literature Review. Beijing University of Technology
- Nanda, K. & M. Kaur. (2016). Financial Inclusion and Human Development: A Cross-Country Evidence. *Management and Labour Studies*, 41 (2): 127-153.
- National Bureau of Statistics (2019): Available from: <http://www.nigerianstat.gov.ng/>.
- Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability, *Borsa Istanbul Review*, 18(4), 329-340.
- Pallavi, G. & Bharti, S. (2013). Role of Literacy Level in Financial Inclusion in India: Empirical Evidence. *Journal of Economics, Business and Management*, 1(3), 272-276
- Sahay, R.; Allmen, U. E.; Lahreche, A.; Khera, P.; Ogwa, S.; Bazarbash, M. & Beaton, K. (2020). The Promise of Fintech: Financial Inclusion in the Post COVID-19 Era. *Washington, DC: International Monetary Fund*.
- Shofawati A. (2019). The role of digital finance to strengthen financial inclusion and growth in SME in Indonesia. *The 2nd International Conference of Islamic Economics, Business and Philanthropy (ICIEBP)*.
- United Nations. (2016). Digital financial inclusion. International telecommunication union, issue brief series, inter-agency task force on financing for development. United Nations. Available at: http://www.un.org/esa/ffd/wp-content/uploads/2016/01/Digital-Financial-Inclusion_ITU_IATFIssue-Brief.pdf. (Accessed 11th August 2022).
- Yan Shen and Yiping Huang (2016). Introduction to the special issue: Internet finance in China. *China Economic journal*.