Josas
ISSN: 2682-6224
Volume 3 No 1 2019
www.wdujournals.org

FINANCIAL INCLUSION THROUGH ELECTRONIC BANKING IN NIGERIA: AN ANALYTICAL STUDY

KALU I. AWA PhD
Department of Financial Studies
Faculty of Management Sciences
National Open University of Nigeria
Victoria Island Lagos Nigeria
Email: kawa@noun.edu.ng

ABSTRACT: ***Financial Technology (fintech) involves the use of digital platforms and software to provide financial benefits to consumers. Such digital tools often upset conventional business models by producing new and efficient ways of delivering services. This study explored the impact of electronic banking as a tool for financial inclusion in Nigeria as cashless policies unfold in the Nigerian financial system. The specific objectives of this study were to determine the extent to which transactions using mobile telephone banking and point of sale had impacted the banking adult in Nigeria. With Ordinary Least Square regression the study discovered that while mobile/telephone banking had positive but non-significant relationship with the banking adult, transactions through Point of Sale machine service (POS) showed negative and non-significant relationship with the banking adult in Nigeria. Therefore, the study recommends that CBN should educate people adequately on the importance of e-banking through intensive campaign as it would promote trade and commerce through the electronic channels and facilitate the success of CBN financial inclusion policy.***

Keywords: Financial Inclusion, E-Banking, Mobile Telephone Banking, Point Of Sale (POS), Internet Banking

INTRODUCTION

In pursuance of financial inclusion target in Nigeria, successive governments since 1970s intervened through establishment of policies. One of the major policies of the government aimed at promoting financial inclusion was the adoption of the rural banking scheme in1977 which recorded limited success. Under the scheme the commercial banks were provided with targets to establish rural branches under the scheme. An observed effect of this policy on level of financial inclusion was reflected in the decline in the ratio of cash outside bank to the stock of narrow money supply in the economy from 61.1% in 1969 to 44.3% in 1979 to 40.9% in 1989 (Oluba, 2008; Kama, & Adigu, 2013).

In addition, to promote increased savings culture and grow banking habit, government founded the Peoples Bank in October 1989 to serve the poor in the society through acceptance of small deposits and provision of micro credit to the low-income members of the economy. Indeed, this exercise facilitated the establishment of community banks in 1990s which targeted the low income/rural dwellers.

The Peoples Bank was funded from grants and loans from federal government through Central Bank of Nigeria and low interest-bearing loans from philanthropic organizations.

The community banks were conceived as self-sustaining community owned financial institutions which metamorphosed into Microfinance banks (MFBs) in 2005 which are skewed towards the urban population leaving out large segments of the rural population.

In 2010, CBN stepped-up the campaign for banks to invest heavily in other low-cost branchless channels such as ATMs, Point of Sale (POS), tele-mobile and internet banking among others to accelerate the use of modern electronic payments channels towards the implementation of cashless policy. The cashless policy was implemented in pursuit of three major objectives namely, to develop and modernize the payment system, reduce banking cost to drive financial inclusion; and improve effectiveness of monetary policy. In 2012 the apex bank also launched the National Financial Inclusion Strategy aimed at further reducing the exclusion rate to 20% by 2020.

In other words, these policies were expected to drive financial inclusion based on the implicit assumption that reduced banking cost and more efficient payment system will encourage more people and businesses to embrace the formal financial service and enlist a reasonable number of Nigerian adults into banking.

Consequently, the main objective of this study is to determine the impact of e-banking on financial inclusion in Nigeria from 2006 to 2016. The specific objectives include finding the effect of mobile telephone banking on financial inclusion and that of POS on financial inclusion. That leads us to the following research questions: Do transactions involving mobile telephone banking have significant effect on financial inclusion and how do transactions of POS impact on financial inclusion? Responses to these questions may include: Transactions involving MTB and POS do not have any significant effect on financial inclusion in Nigeria.

It is believed that findings from this study will be of benefits to bankers, their regulators, and policy makers and to the general public. The study will also enrich literature in the management sciences while students and scholars will benefit from the outcome of the study. The remaining part of the paper has review of related literature in section two, methodology in section three, data presentation and analysis in section four and conclusion of the study in section five.

REVIEW OF RELATED LITERATURE

Conceptual review

Financial Inclusion

Financial inclusion involves the delivery of financial benefits generally by the private sector to everybody who needs them – payments, transactions, credit, savings and insurance – delivered in a sustainable and responsible way (World bank 2018). Precisely, this is a financial structure that provides for virtually every citizen. Financial inclusion intends to provide financial services cheaply and accessible to the populace. The idea is to target the segment of society

who by their nature, are traditionally excluded based on income, gender, occupation, trade, location and financial savvy.

In current times, according to Kama and Adigun (2013) financial inclusion has become an important developmental policy position in many countries, especially in developing economies. Financial inclusion indicates access to a wide range of financial services like savings, payments, credit, pension products and insurance.

The design of the products is expected to suit the need of the unbanked, recognizing their access to distribution channels and income levels and must be provided at a reasonable cost. The inclusion scheme demands that formal financial services should be affordable even for low-income groups, especially when compared to informal services like money lenders or esusu (CBN, 2012).

The Centre for Financial Inclusion CFI) avails a sort of an all-embracing definition. The Centre defines financial inclusion as "a state in which all persons who can use them have access to a full suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients. It is a state where financial services are delivered by a range of providers, most of them private sector, and reach everyone who can use them, including the poor, disabled, rural, and other excluded populations" (Centre for Financial Inclusion, 2010).

From the definition, CFI's Vision for Financial Inclusion include access to a full range of financial services such as savings, credit, payments and insurance; rendered with value: affordable, convenient, suitable, offered in a dignified manner protective of the client; made available to all eligible users. Particular interest is shown to disabled people, rural dwellers, excluded persons and women; with finance, customers become informed and capable of taking money management decisions: by a competitive and diverse marketplace: with a retinue of operators, clear regulatory framework and robust financial infrastructure.

Mehotra and Singh (2010) submitted that financial inclusion can be regarded as quasi-public good as it has features of public goods. Today, financial inclusion is generally seen as a right of every citizen to social inclusiveness, better life quality and a mechanism for bolstering the economic capacities of the nation's poor (Banco Central do Brazil, 2010).

E-banking

E-banking or online banking or Internet banking refers to the service that enables consumers to conduct banking transactions through a computer with an internet connection. According to Caldwell (2019) through e-banking one can pay bills online, transfer money between accounts, view one's transactions, carry out mobile banking and sync with your money applications.

Benefits of e-banking

Tuchila (2000) found the benefits of e-banking to be many – to customers, like (minimized costs of opening and using bank services, maximized saving of time and ease in using 24 hours a day, timely transaction completion and improved funds management). Some of the benefits to the bank include improved market presence, timely response to changes in the marketplace, lower costs of doing business, wide market penetration and promotion and selling of current products.

Polasik and Piotr (2009) corroborated that internet banking assists in lowering costs of banking operations. Earlier studies also showed that Internet banking promotes customer

loyalty and commitment which by extension enhances banking profitability (Mohan, Ahmad, Kong, Yew, Liew, & Mat, 2013). Consequently, Internet banking technology has become a tool used by banks to improve customer experience, retain them, and ultimately, increase market shares.

It is therefore of no surprise that e-banking has transformed into a global phenomenon, and an invaluable and powerful tool that develops, supports, and promotes innovation and improves competitiveness (Hasan, Baten, Kamil, & Parveen, 2010).

Theoretical framework

This study is hinged on a combination of the Technology Acceptance Model (TAM) and Technology Continuance Theory (TCT), which is described below. For want of space, we mention the Cognitive (COG) model and Expectation Confirmation Model (ECM) as other relevant theories or models of e-banking.

Technology continuance theory (TCT)

According to Liao, Palvia, and Chen (2009) the Technology Continuance Theory emphasises the continuance intention of users of technology. The theory incorporates three popular models related to technology and information systems (ISs): The cognitive (COG) model (Oliver, 1980), the technology acceptance model (TAM) (Davis, 1989), and the expectation confirmation model (ECM) (Bhattacherjee, 2001).

Attitude and contentment - two important concepts were incorporated into the TCT, while perceived utility (PU), user-friendliness and confirmation are the other concepts.

Technology Acceptance Model (TAM)

Davis (1989 conceptual model of the Technology Acceptance Model (TAM) proposed that system capabilities and features arouse user motivation and in response becomes the moving force to use actual system. The TAM theory was meant to predict user intention to adopt new technology in IS and mobile banking by the public in developing and developed countries.

EMPIRICAL REVIEW

Electronic Banking and Financial Inclusion

Ayo, Adewoye and Oni (2010), Safeena and Abdullahi (2010), and Ovia (2009) found that with the advent of e-banking customers can be served round the clock and outside the banking hall and time taken is minimized and that improved use and internet penetration has lately redefined the concept of retail banking. Andrianaivo and Kpodar (2011) found evidence that in Africa, the interaction between mobile phone penetration and financial inclusion is positive and significant in the growth region.

With an aim to expand financial inclusion through mobile banking and to examine factors influencing behavioural intention to adopt (or continue to use) mobile banking in Bangladesh, Siddik, Sun, Yanjuan, and Kabiraj (2014) carried out a study using perceived financial cost to the combined model. The results of Structural Equation Modelling (SEM) indicated that Perceived financial cost, Perceived risk and Subjective norm are the most influencing factors that affect people's behavioural intention to adopt (or continue to use) mobile banking. On the other hand, Fernández de Lis, Llanes, López- Moctezuma, Rojas, and Tuesta (2014) used the micro data analysis for Columbia to confirm the steady progress towards financial inclusion pinpointing the huge gap that still exists.

The world financial inclusion average statistics shows that it is less than 50.0 per cent of adults that have access to financial services (Demirgüç-Kunt, Klapper, Singer, Ansar, and Hess, 2018). The situation is worse in Africa and other developing countries to the point attaining a higher financial inclusion status is doubtful and a big challenge (Ardic, Heimann, & Nataliya, 2011).

Mago and Chitokwindo (2014) examined the impact of mobile banking on financial inclusion in Zimbabwe adopting a qualitative research methodology and a survey design. The results revealed that the low income people are willing to adopt mobile banking and the reasons are that it is easily accessible, convenient, cheaper, easy to use and secure. As IFC (2017) asserts, IFC assists customers deploy new technology and innovative business models to increase financial inclusion. A study in Uganda shows that access to digital financial services have helped to double the national financial inclusion rate in just a few years. Many of those new customers were previously excluded from the financial sector.

In what looked like a critique of the Nigeria's ambitious financial inclusion goals, Chronic Poverty Advisory Network (2015), observed that its financial inclusion does not permit mobile phone operators to provide regulated financial services and merging formal financial services and informal financial service. While banks and other financial institutions favour the adoption of electronic payment, it is believed that the CBN's financial inclusion may be adversely affected because many unbanked Nigerians mostly rural dwellers do not know as much about mobile and electronic banking. This runs contrary to popular belief and finding of the positive relationship existing between e-banking and financial inclusion. As there is low literacy level and a huge infrastructural deficit, particularly in the rural areas, promotion of financial inclusion through the adoption of electronic banking is doubtful for now (Onyeka, 2017).

According to CBN (2015) the major barriers to financial services comprised unemployment or irregular income, high transportation costs and long distance to access points, trust in the financial sector and low financial literacy, and cumbersome documentation requirements high cost of financial services.

Review Summary

From the literature reviewed there has been low level of operation and adoption of e-banking in Nigeria as most transaction are cash based and few customers use credit cards especially in shopping malls and large super markets. Some empirical studies centered more on internet banking rather than e-banking while internet banking is one of the several channels of e-banking. The main benefits of e-banking to users are found to be convenience, speed, cheapness and enhanced social status. The benefits of e-banking notwithstanding, the reviewed literature showed that there were several challenges that border on security network, accessibility and confidentiality of transaction.

However, none of the known studies has addressed how Mobile/Telephone banking services and the Point of Sale machine impacted on the population of banking adult in Nigeria.

METHODOLOGY

The research design adopted in this study is the *ex-post facto* and analytical design. The study covered the entire economy for the period of 2006-2016. 2006 was chosen as beginning year because that data on e-banking started being available in Nigeria. The secondary time series data sourced from Central Bank of Nigeria Statistical bulletin and population distribution

by age and sex from National Population Commission and National Bureau of Statistics are reliable and free from bias, sentiment, and verifiable. Ordinary Least Square Regression model is adopted for data analysis using E-views10. Diagnostic tests were applied on the data.

The study adopted multiple regression analysis to measure the effect of changes in the dependent variable (Banking Adult) as a result of changes in the independent variables (VMTB and VPOS). The econometric model is specified as:

$BKA = \beta 0 + \beta_1 MTB + \beta_2 POS + \mu$

Where β_o = intercept/constant, $\beta 1$ and β_2 = coefficient of parameters, μ = error/stochastic term. Financial inclusion (represented by Banking Adult coded BKA) as a dependent variable while MTB = Volume of Mobile/Telephone transactions, POS = Volume of Point of Sales transactions are both explanatory variables. Econometric representations of the Hypotheses in null form are H_1: Mobile/Telephone banking services do not have a positive and significant impact on the banking adult in Nigeria, $BKA = \beta_o + \beta_1 MTB + \mu$ H_2: Point of Sales machine do not have a positive and significant impact on the banking adult in Nigeria, $BKA = \beta_o + \beta_2 POS + \mu$

Preliminary tests include test for stationarity, multicolinearity, normality, model fitness, Breusch-Pegan-Godfrey test for heteroskedasticity. Descriptive statistics are presented in tables. Pair-wise Granger Casualty Test was used to prove the direction of influence.

RESULTS

Table 4.1 presents the data set obtained from Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS) and National Population Commission (NPC). The descriptive Statistics are shown in Table 4.2 and Table 4.3. The presentation of data for the entire period is discussed in line with the objectives of the study.

Table 4.1: Values of Dependent and Independent Variables (in Millions)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BKA	11.83	17.37	18.3	24.91	25.4	27.10	28.6	33.76	33.9	34.5	36.9
MTB	0.1	4	4.8	1.6	0.6	0.5	0.27	6.3	12.6	44.0	47.1
POS	6.1	2.3	1.8	0.8	0.6	0.6	0.98	4.5	9	33.7	63.7

Source: CBN Statistical Bulletin, 2012and 201644.0, EFInA 2008-2016

2008-2016

The volume of transaction in MTB and POS were 47.10 and 63.70 2016 indicate 7% and 89% increase over 2015 figures. Transactions involving the use of Point of Sale machine increased the more.

Table 4.2 Descriptive Statistics of Dependent and Independent Variables

	BKA	C	MTB	POS
Mean	26.59727	1.000000	11.07909	10.54364
Median	27.10000	1.000000	4.000000	1.800000
Maximum	36.90000	1.000000	47.10000	63.70000
Minimum	11.83000	1.000000	0.100000	0.600000
Std. Dev.	8.086021	0.000000	17.44977	20.09888
Skewness	-0.442673	NA	1.498906	2.020505
Kurtosis	2.063979	NA	3.468517	5.614540
Jarque-Bera	0.760821	NA	4.219591	10.61756
Probability	0.683581	NA	0.121263	0.004948
Sum	292.5700	11.00000	121.8700	115.9800
Sum Sq. Dev.	653.8374	0.000000	3044.944	4039.649
Observations	11	11	11	11

Source: Researcher's E-Views Result

As shown in Table 4.2, the average usage of MTB and POS in terms of transaction volume in Nigeria for the period 2006 to 2016 were 11.07 and 10.54 million respectively as against number of banking adult of 26.59 million with maximum usage of 47.10 and 63.70 million respectively against the banking adult maximum of 36.90 million and minimum usage of 0.10 and 0.60 million respectively against the banking adult minimum of 11.83 million. The level of volatility in the explanatory variables range between of 20.09 million for POS and 17.44 million for MTB against the banking adult of 8.08 million divergent from the mean.

Table 4.2 showed that only transactions using MTB is normally distributed as the p-value is 0.12 which is greater than the initial value of 0.05 and right-tailed with skewness of 1.49 and peakedness of 3.46. Transaction using POS is right-tailed with skewness of 2.02 and p-value of 0.004 respectively is not normally distributed.

To ensure that the parameters estimated are stationary (stable over time) we utilized the Augmented Dickey-Fuller (ADF). At lag of zero the ADF t-statistic is -4.773546 with p-value of 0.0063 while the critical values at 1, 5, 10 per cent significance level are -4.420595, -3.259808 and -2.771129 respectively which shows that the banking adult has no unit root and the data is stationary. There is no evidence of multicolinearity among the variables because there is no relationship between the explanatory variables.

Causality tests were done to explore the transmission mechanism between electronic banking and financial inclusion in Nigeria. The result shows that we cannot reject the hypothesis that POS Granger cause MTB but we do reject the hypothesis that MTB does not Granger cause POS.

Table 4.3: The Regression results

Dependent Variable: BKA				
Method: Least Squares				
Date: 05/04/19 Time: 14:31				
Sample: 2006 2016				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23.08554	2.491469	9.265836	0.0000
MTB	0.517169	0.333040	1.552873	0.1591
POS	-0.210366	0.289144	-0.727549	0.4876
R-squared	0.434625	Mean dependent var		26.59727
Adjusted R-squared	0.293281	S.D. dependent var		8.086021
S.E. of regression	6.797640	Akaike info criterion		6.898029
Sum squared resid	369.6633	Schwarz criterion		7.006546
Log likelihood	-34.93916	Hannan-Quinn criter.		6.829624
F-statistic	3.074952	Durbin-Watson stat		0.619483
Prob(F-statistic)	0.102175			

Source: Researcher's E-Views Result

In view R^2 is 43.46%; this means that 43.46% variation of banking adult was explainable by changes in the explanatory variables (MTB and POS). Adjusted R^2 in the result shows 29.32% as the best fit of the model for all the explanatory variables jointly tested. There was no evidence of autocorrelation or serial correlation as evidenced from the Breusch-Godfrey Serial Correlation LM Test with a p-value of 12.78%.

H_1: Transactions using Mobile/Telephone banking services do not have a significant impact on banking adult in Nigeria.

The Decision Rule is to 1. Accept this null hypothesis if coefficient estimate of computed result is not positively signed and its $p>0.05$ and 2. Accept the alternate hypothesis if coefficient estimate of computed result is positively signed and its $p<0.05$. From Table 4.3, transactions using Mobile/Telephone Banking service has a positive and non-significant impact on banking adult in Nigeria. The value of its coefficient is 0.517169 which is positive while the probability value is 0.1591. A test of heteroscedasticity confirm that transactions using mobile/telephone banking has positive and non-significant impact on financial inclusion in Nigeria.

H_2: Transactions using Point of Sale machine do not have a significant impact on the banking adult in Nigeria.

From Table 4.3, volume of transactions using POS machine has a negative and non-significant impact on the banking adult. The coefficient is -0.210366 which is negative, while the probability value is 0.4876. The p-value is greater than the critical value of 0.05.

DISCUSSION AND CONCLUSION

As shown from the findings of this study, transactions using mobile/telephone banking (MTB) had positive and non-significant impact on the banking adult (BKA). The result is slightly at variance with the hypothesis. This implies that on the average, about 11.08 million of the entire population of the banking adult in rural and urban areas were encouraged, although at low rate as evidenced from the result in Nigeria from 2006-2016. Compared to other countries several reasons may have been behind the dismal inclusive growth. Top among these reasons is that people have limited knowledge about mobile money services. Our study does not support the finding of Andrianaivo and Kpodar (2011) which evidenced that the interaction between mobile phone penetration and financial inclusion is positive and significant.

Transactions using point of sales machine (POS) had a negative and non-significant impact on the banking adult. A further look revealed that the rate of penetration of POS machine shows that on the average about 10.54 million of the banking adult population were encouraged, although at low rate as evidenced from the result.

A critical constraint to achieving a high level of financial inclusion in Nigeria is infrastructure and technology. Without reliable internet and cellular network services, or even consistent access to electricity, it is difficult for digital financial services to be consistently available and reliable. While mobile network operators are investing in expanding network coverage, they point to poor infrastructure, including electricity shortages and poor roads, as well as regulatory hurdles and security constraints as challenges in expanding coverage more fully, particularly to rural areas. Government should join hand with the private sector to sort out this power issue. There is need to educate rural dwellers through public education and awareness on the importance of e-banking as it would facilitate the success of CBN financial inclusion policy. Also, access points, such as bank branches, ATMs or agents, are essential for a

functioning digital financial system, and yet the ratio of financial access points to adults in Nigeria remains low, particularly in rural areas.

Financial services providers are also confronted with significant costs in order to deploy new digital financial solutions: investing in enabling technology, product design, building customer awareness, etc. Even successful mobile money deployments can take a minimum of three to five years before they are profitable.

RECOMMENDATIONS

Concerning mobile telephone banking, existing advertising does not seem to be reaching the intended audience. The Central Bank of Nigeria should embark on intensive campaign for complete adoption of e-payments products especially at the grassroots in collaboration with the network providers. Banks and other financial institutions should intensify efforts in mounting e-payment channels in financially excluded areas with a view to improving financial inclusion in Nigeria.

Initially, payment for transactions through the POS machine attracted some financial incentive from the CBN; however, this ceased. This seemed an incentive towards financial inclusion. It has been replaced with a retinue of charges including service charge, sms charges, card maintenance fee and others. These charges have negative impact of financial inclusiveness and the apex bank should cause banks to discontinue then forthwith.

REFERENCES

Andrianaivo, M. & Kpodar, K. (2011). ICT, financial inclusion and growth: Evidence from African countries. International Monetary Fund *Working Paper, WP/11/73.*

Ardic, O. P, Heimann, M., & Nataliya, M. (2011). Access to financial services and the financial inclusion agenda around the world: A cross- country analysis with a new data set. *Policy Research working paper; no. WPS 5537*. Washington, DC: World Bank. *http://documents.worldbank.org/curated/en/519351468137108112/Access-to-financial-services-and-the-financial-inclusion-agenda-around-the-world-a-cross-country-analysis-with-a-new-data-set*

Ayo, C. K., Adewoye, J. O. & Oni, A. A. (2010). The state of e-banking implementation in Nigeria: A post-consolidation review. *Journal of Emerging Trend in Economics and Management Sciences* (JETEMS), *I*(1), 37-45. Retrieved from http://www,jetems.scholarlinkresearch.org

Banco Central Do Brasil (2010). A report of the financial inclusion project in Brazil. N. 1-. 2. ed. *Brasília : BCB*.

Black, N. J., Lockett, A., Winklhofer, H., & Ennew, C (2001). The adoption of internet financial services: A qualitative study. *International Journal of Retail & Distribution Management, 29*(8), 390-398.

Caldwell, M. (2019). Five advantages of online banking. Retrieved from https://www.thebalance.com/three-advantages-of-online-banking-2385804

Central Bank of Nigeria (2011). Guidelines on point of sale (POS) card acceptance services. Retrieved from *http://www.cenbank.org/cashless/POS_GUIDELINES_August2011_FINAL_FINAL%20(2)pdf*

Central Bank of Nigeria (2012). National financial inclusion strategy: Summary report. Abuja, 20 January. Retrieved from *https://www.cbn.gov.ng/Out/2012/publications/reports/dfd/CBN-Summary%20Report%20of-Financial%20Inclusion%20in%20Nigeria-final.pdf*

Central Bank of Nigeria (2015). 2015 annual report national financial inclusion strategy. *Financial Inclusion Secretariat,* Central Bank of Nigeria.

CFI (2019). CFI's vision for financial inclusion. Retrieved from http://www.centerforfinancialinclusion.org/our-definition-of-financial-inclusion Chronic Poverty Advisory Network (2015). Financial inclusion in Nigeria. Retrieved from www.chronicpovertynetwork.org

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018).The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution. Retrieved from https://globalfindex.worldbank.org/sites/globalfindex/files/2018-04/2017%20Findex%20full%20report_0.pdf

Fernández de Lis, S., Llanes, M. C., López-Moctezuma, C., Rojas, J. C., & Tuesta, D. (2014). Financial inclusion and the role of mobile banking in Colombia: Developments and potential. *BBVA Working Paper No. 14*/04*.*

Hasan, A. S., Baten, M. A., Kamil, A. A., & Parveen, S. (2010). Adoption of e-banking in Bangladesh: An exploratory study. *African Journal of Business Management, 4*(13), 2718.).

IFC (2017). From payments to electronic banking to financial inclusion: Investment & advisory services strategy. Retrieved from *http://web.worldbank.org/archive/website01418/WEB/IMAGES/ACCES-10.PDF*

IFC (2017). Online banking boosts financial inclusion in Sub-Saharan Africa. Retrieved from https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/impact-stories/online-banking-boosts-financial-inclusion

Kama, U., & Adigu, M. (2013). Financial inclusion in Nigeria: Issues and challenges. *Central Bank of Nigeria, Occasional Paper No. 45.*

Kama, U. & Adigun, M. (2013). Financial inclusion in Nigeria: The journey so far. Retrieved from SSRN: https://ssrn.com/abstract=2365209 or http://dx.doi.org/10.2139/ssrn.2365209

Liao, C., Palvia, P., & Chen, J. L. (2009). Information technology adoption behavior life cycle: Toward a Technology Continuance Theory (TCT). *International Journal of Information and Management*, 29, 309-320.

Mago, S., & Chitokwindo, S. (2014). The impact of mobile banking on financial inclusion in Zimbabwe: A case for Masvingo Province. *Mediterranean Journal of Social, 5*(9), 221-231.

Mohan, H., Ahmad, N., Kong, Q. C., Yew, C. T., Liew, J., & Mat, N. K. N. (2013). Determinants of the internet banking intention in Malaysia. *American Journal of Economics, 3*(3), 149-152.

Mohan, R. (2006). Economic growth, financial deepening and financial inclusion. Address at the Annual Bankers Conference Hyderabad, India. November 3rd.

Onyeka, U. (2017). Impact of electronic banking on cbn's financial inclusion policy. Retrieved from *https://dailyasset.ng/impact-electronic-banking-cbns-financial-inclusion-policy/*

Ovia, J. (2009). Internet banking practice and potentials in Nigeria. *Paper delivered at a workshop organised by ICAN at Lagos.*

Polasik, M., & Piotr Wisniewski, T. (2009). Empirical analysis of internet banking adoption in Poland. *International Journal of Bank Marketing, 27*(1), 32-52.

Safeena, R., & Abdullahi, H. (2010). Customer perspectives om e-business value: Case study of internet banking. *Journal of Banking & Commerce,* 15(1). Retrieved from http//: www.arraydev.com/commerce/jibc/2010-04/Rahmath%20Safeena.pdf

Siddik, M. N. A., Sun, G., Yanjuan, C. U. I., & Kabiraj, S. (2014). Financial inclusion through mobile banking: A case of Bangladesh. *Journal of Applied Finance & Banking, 4*(6), 109-136.

Worldbank (2018). Financial inclusion. Retrieved from https://www.worldbank.org/en/topic/financialinclusion/overview