JETMASE Vol 3(1): 181 –188, December, 2021 Available online at

https://www.jetmase.com

Influence of Agent Banking on the Nigerian Economy

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ABSTACT

The study empirically analyzed agent banking and the Nigerian economy. Data for the study were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin for the period of 2009-2019. Descriptive statistics and Ordinary Least Square (OLS) were employed with to test the hypotheses with the use of E-Views 9.0. The variables of Automated Teller Machine (ATM), Web/Internet Banking (WEB), Point-of-Sale (POS) and Mobile Banking (MOB) regressed on Real Gross Domestic Product (RGDP). The result shows that about 90.97% of the model was explained by the explanatory/independent variable The Durbin-Watson statistic shows that there is absent of autocorrelation or serial correlation. Prob.(F-statistic) 0.002746 shows that the variables were statistically significant. The study, concludes that agent banking has a significant influence on the Nigerian economy. Hence, the application of Agent Banking will in no doubt enhance customers' accessibility and profitability of banks, thereby leading to economic growth of a nation, Nigeria in particular. We therefore submit that the implication is that transitioning from our traditional banking system to an agent banking system will necessitate some change as well as a significant amount of effort and sensitization, especially among low-income customers who are currently deeply rooted in the use of cash and see it as a convenient and easy way of receiving and making payments at any time.

Keywords: Automated Teller Machine, Mobile Banking, Point-of-Sale, Real Gross Domestic Product, Web/internet banking.

INTRODUCTION

Beyond branches, there has been a proliferation in various types of remote access financial services in the last decade. Cell phones, automated teller machines (ATMs), point-of-sale (POS) systems, and banking correspondents have all been used to provide these services. These branchless networks have made a significant contribution to and financial inclusion in many countries by targeting citizens who would not have been reached by conventional branch-based systems. One of the most significant barriers to financial inclusion is cost: both the cost to banks of servicing low-value accounts and expanding physical infrastructure to remote rural areas, as well as the cost to customers in remote areas of travelling to bank branches (both in terms of money and time). Agent banking is rapidly evolving and its regulation plays a central role in enabling (or sometimes limiting) its spread. Regulators are required to strike a balance between promoting financial inclusion through profitable, lower cost delivery models, and protecting consumers and the integrity of the financial system.

In the past, banking services were provided manually, using a conventional muscle-bound banking data system, and despite its inconvenient nature, customers were satisfied to a degree. However, this performance is limited, especially in the area of money transactions or transaction processing. Customers find it difficult to fly with large amounts of money or remit cash to another branch of the bank, they work with, and this period has experienced a significant setback.

Nigeria, according to David (2012), did not adopt electronic banking as quickly as other developing countries. In the early 2000s, Nigeria introduced an electronic banking scheme. The use of raw cash was said to have bred corruption before the advent of electronic banking systems, owing to the "cash and carry phenomenon," which is commonly associated with the swift movement of "Ghana-must-go" bags by some politicians. According to some analysts, such bags are a major source of corruption because suspicious individuals try to bribe their way out of being searched in sensitive areas or places in a corrupt society. As a result of the increased demand for customer's deposits with the banking industry and the level of corruption in the country, the issue of financial inclusion which is anchored to agent banking and mobile banking become more important. To do so, banks had to introduce agent banking, which required them to deliver quality goods, enhance customer service, and reduce operating costs (CBN, 2011). With an adult population of 84.7 million in Nigeria, just 30% of whom are banked, and more than 88.3 million cell phone subscriptions as of December 2010, agent banking and other remote access financial services have a lot of potential to increase financial inclusion.

Furthermore, increasing financial inclusion is high on the regulator's agenda, which is the CBN (CBN, 2012). There is, therefore, great potential for agent banking in Nigeria to increase access to finance. CBN (2012) defines Agent Banking as the provision of financial services to the customer by deposit taken financial institution and mobile banking operators. It is also meant to promote financial inclusion. Agent banking may also be described as the mechanism by which a bank acts on behalf of another bank in any capacity.

Agent banking, according to Investopedia (2020), is when a syndicate manager receives a mandate from a creditor to arrange a syndicated loan. Agent Banking has been recommended as a result of the increased demand for customer deposit in Nigerian banks, especially the new generation banks that have realized the imperative of goods and prompt customer services it will provide.

Electronic banking has been a problem for some civil servants since it was introduced in all Nigerian banks; it shows that some staff in establishments such as the National Boundary Commission, for example, have yet to receive their salaries for the previous months since efforts to electronically transfer salaries into their accounts have failed, and the viability of agent banking, which is crucial to electrifying Nigerian banks, has been questioned (Ibrahim, 2009). The problem of agent banking and consumer usability and profitability is determined by the efficacy of a variety of instruments such as point-of-sale (POS), card reader, mobile phone, payment transactions, and sometimes personal computers (PC) (CBN, 2012).

Due to the dynamic, competitive and advancement in the financial system of this recent time, all banks have been on research trying to come out with the possibility means to increase and improve customers' accessibility and profitability in order to still control their market share. As a result, the CBN has proposed Agent-banking as one of the potential ways for banks provides better service to both active and disabled customers. Automated Teller Machines (ATMs), Point-of-Sale Machines (POS), Mobile Phone Banking, Online Banking Systems, and other instruments can be used to achieve agent banking.

Relative lack of interest amongst Deposit Money Banks (DMBs) in taking financial services down markets. Almost all the existing new generation banks base their feasibility and viability studies

in areas with promising increase in economics growth before establishing branches. This makes them not to bother about bringing in these services to the people in the remote areas of the country.

Relative small number of POS machine and the lack of inter-operability. This is one of the problems that the agent banking system is facing. This is because, the usefulness of POS in rendering financial services, especially now that the CBN has recommended an agent banking system cannot be overemphasized. Therefore, any country that wants to adopt this system must have it in mind to install multiple numbers of POS machines. Otherwise, will not harness the full benefits of the banking system.

Furthermore, most financial service providers on the African continent, especially in Nigeria, find it difficult and unnecessary to open branches in remote areas of the country, necessitating the use of a third party (Agent) to provide banking services to people in those areas. As a result, the study is needed to determine the relation between agent banking and customer accessibility and profitability in Nigeria, given the low level of computer literacy and its impact on the economy.

This study tends to investigate if agent banking has influenced the economy by using an ordinary least squares method (OLS) from E-view 9 as the analytical tool.

LITERATURE

Agent Banking

Agent banking is a way of providing limited banking services to bank customers through the use of agents who usually are not traditional bankers or banking businesses. Under any agency agreement between the financial institution which may be a commercial bank, mobile money company or a primary mortgage institution, the agent conducts banking transactions on behalf of the bank or financial institution, (investopedia 2020).

It is one of the retail channels for expanding financial inclusion, which is another term for bringing services to a large number of people, particularly those in rural areas, semi-urban centres, and the unbanked and underbanked segments of the urban population.

Instrument of Agent Banking

The different kinds of agent banking instruments that are being used in the areas (that is, countries) where the operations are in operative include the followings;

Automated Teller Machine

Automated teller machines (ATMs) are electronic terminals that allow bank customers to withdraw cash, make deposits, check account balances, and move funds between accounts at almost any time. You typically insert an ATM card and enter your pin. Some finical institution and ATM owner charge a fee, particularly if you don’t have an account with them or if your transactions take place in remote locations. Generally, before you complete the transaction, ATMs must display the charge a fee and the amount on or near the terminal screen. Check with your institution and at ATMs you used for more information about these fees.

Web/Internet Banking

Online banking is also known as Internet banking or web banking, is any banking transaction that can be carried out on the internet.It offers customers almost every service traditionally available through a local branch including deposits, transfers, and online bill payments. Virtually every banking institution has some form of online banking, available both on desktop versions and through mobile apps. With online banking, consumers aren't required to visit a bank branch to complete most of their basic banking transactions. They can do all of this at their own convenience, wherever they want at home, at work, or on the go. Convenience is a major advantage of online banking.

Point-of-Sale (POS) Machine

A point of sale system is a payment device that enables customers to pay with their credit or debit cards at a sale or purchase location. Retail payment, cashless payments, cash back balance investigation, air time vending, loyalty,

redemption, and other services are all possible with it. POS involves a computer terminal in retail stores that will transfer funds instantly from the bank deposit of the store in which customer is making a purchase in the process the computer will verify that customer has sufficient funds to cover the purchase and will inform the customer of the new bank balance. The customer can also arrange for overdraft of the bank, so that instant loans (up to a present limit) can be made.

Mobile Banking

This refers to the use of a smartphone or tablet instead of a desktop computer to conduct financial transactions, check the balance, and use other services. A mobile banking app usually allows you to access similar, (although sometimes slightly fewer), features that you would find when online banking, but it must be done on a smartphone or tablet.

Statement of Hypotheses:

$H0_1$: There is no significant relationship between automated teller machine (ATM) and the growth of the Nigerian economy.
$H0_2$: There is no significant relationship between web/internet banking (WEB) and the growth of the Nigerian economy.
$H0_3$: There is no significant relationship between point of sale (POS) and the growth of the Nigerian economy.
$H0_4$: There is no significant relationship between mobile banking (MOB) and growth of the Nigerian economy.

Theoretical Framework

Based on the literature, the theoretical framework of this study is ***Technology Acceptance Model and Diffusion of Innovation (DOI) Theory.*** Technology Acceptance Model (TAM) is a philosophy of information management that models how people embrace and use technology that promotes economic development. When consumers are faced with new technologies, the model indicates that a variety of variables influence their decision about how and when to use it. Diffusion of Innovations theory aims to illustrate how, why, and at what pace new ideas and technologies spread through cultures. Gabriel Trade (1890) proposed this idea, which was popularized by Everett Rogers, a professor of rural sociology, in his 1962 book Diffusion of Innovations. Diffusion, he explained, is the mechanism by which an innovation is transmitted to participants of a social structure over time through specific channels. Among others, Hogarth et al (2008) used this idea. The implication of these two theories is that the earlier the people of this country accept agent banking, the earlier it improves business activities and in turn encourage economic growth in the country.

Empirical Review:

Over the years, many authors have in one way or the other investigated the introduction of electronic banking and its implications on the economy in both developed and developing countries.

Olatokun and Igbindion (2009) investigated the adoption of Automatic Teller Machines in Nigeria using diffusion of innovation (DOI) theory. The constructs Relative Advantage, Complexity, Observeability, Compatibility, and Trialability were found to be positively linked to attitudes toward ATM card usage in Nigeria. To investigate the effect of electronic banking in the Nigerian banking system.

Olorunsegun (2010) used a cluster sampling technique. He discovered that a bank has an efficient electronic banking system that has improved the usability and profitability of its customers.

James (2012) investigated the acceptance of E-banking in Nigeria using the Statistical Package for Social Sciences (SPSS). The findings show that Age, Educational Background, Income, Perceived Benefits, Perceived Ease of Use, Perceived Danger, and Perceived Enjoyment all have a major impact on e-banking acceptance in Nigeria.

Morufu and Taibat (2012) used a qualitative survey to find out how Nigerian bankers felt about financial inclusion. According to the findings, Nigerian bankers see electronic banking as a method for reducing customer

inconvenience, lowering transaction costs, changing customer queuing patterns, and saving customers banking time.

METHODOLOGY

This analyses the scientific methods that are employed in showing the relationship between financial innovation and efficiency of commercial banks in Nigeria. For the purpose of this research and for appropriate collection and analysis of data, the ***Ex-Post-Facto*** research design is used which demonstrates the relationship between the independent and dependent variables. It is a research tool for demonstrating cause and effect relationship by analysing past occurrences or events and already existing data obtained from the annual reports, (Olannye, 2006). The study covers Nigeria, the data used are basically time series data and spanning from the year 2009-2019 which is a period of eleven years (11) years, from Central Bank of Nigeria (CBN) Statistical Bulletin for the period under review.

Data Analysis Techniques and Model Specification:

Data Analysis Techniques: Descriptive statistics and Ordinary Least Square (OLS) is carried out to test the hypotheses. E-Views 9.0 is used as the statistical tool for this study.

Model Specification: To evaluate the effectiveness of agent banking on Nigerian economy. Thus, the functional relationship between agent banking and growth of Nigerian economy are expressed as follows:

RGDP = *f*(ATM, WEB, POS, MOB,)……..3.1

$RGDP_t = \beta_0 + \beta_1 ATM_t + \beta_2 WEB_t + \beta_3 POS_t + \beta_4 MOB_t + \mu$.....3.2

Where;

RGDP = Real Gross Domestic Product

ATM = Value of transaction on Automated Teller Machine

WEB = Value of transaction on Web/internet banking

POS = Value of transaction on Point of Sales

MOB = Value of transaction on mobile banking

μ = Stochastic disturbance or error term

β_0 denotes the constant term, β_1 β_2 β_3 and β_4 are slope coefficients representing

Parameters to be estimated and μ is the disturbance term assumed to be purely random.

On apriori expectation $\beta_1, \beta_2 \beta_3 \beta_4 > 0$.

DATA PRESENTATION AND ANALYSIS OF RESULTS

The study empirically investigates the relationship between agent banking and the growth of Nigeria economy. The data used were obtained from CBN Statistical Bulletin. The variables used in the model include: Real Gross Domestic Product (RGDP) as dependent variable, Automated Teller Machine (ATM), Mobile Banking (MOB), Point-of-Sale terminal (POS) and Web/internet banking (WEB) as independent variables proxy for agent banking.

TABLE 4.1: EXTRACTED EFFICIENCY PARAMETERS FOR AGENT BANKING AND THE GROWTH OF NIGERIAN ECONOMY.

PERIOD	REAL GROSS DOMESTIC PRODUCT (RGDP) N'BILLION	AUTOMATED TELLER MACHINE (ATM) N'BILLION	MOBILE BANKING (MOB) N'BILLION	POINT-OF-SALE (POS) N'BILLION	WEB/INTERNET BANING (WEB) N'BILLION
2009	49,856.10	548.60	1.27	11.03	84.15
2010	54,612.26	399.71	6.65	12.72	25.05
2011	57,511.04	1,561.74	18.98	31.02	59.61
2012	59,929.89	1,984.66	31.51	48.01	31.57
2013	63,218.72	2,828.94	142.80	161.02	47.32
2014	67,152.79	3,679.88	346.47	312.07	74.04
2015	69,023.93	3,970.25	442.35	448.51	91.58
2016	67,931.24	4,988.13	756.90	759.00	132.36

2017	68,490.98	6,437.59	1,102.00	1,409.81	184.60
2018	69,799.94	6,480.09	1,830.70	2,383.11	404.60
2019	71,387.83	6,512.60	4,371.55	3,204.76	478.13

Source: Central Bank of Nigeria Statistical Bulletin, 2009– 2019.

The data were first of all analyzed using descriptive analysis. Also, ordinary least square (OLS) was carried out.

Descriptive Statistics

Table 1 below present a descriptive statistics of the time series data of the dependent and the independent variables. The essence of this is to indicate the level of disparity among the variables.

Table 4.2: Descriptive Statistics Result

	RGDP	ATM	WEB	POS	MOB
Mean	63537.70	3581.108	146.6373	798.2782	822.8345
Median	67152.79	3679.880	84.15000	312.0700	346.4700
Maximum	71387.83	6512.600	478.1300	3204.760	4371.550
Minimum	49856.10	399.7100	25.05000	11.03000	1.270000
Std. Dev.	7100.241	2319.650	153.5399	1087.734	1309.164
Skewness	-0.700249	0.024303	1.387683	1.294326	2.016704
Kurtosis	2.175332	1.616418	3.385816	3.272787	6.052426
Jarque-Bera	1.210674	0.878470	3.598607	3.105453	11.72677
Probability	0.545891	0.644529	0.165414	0.211670	0.002842
Sum	698914.7	39392.19	1613.010	8781.060	9051.180
Sum Sq. Dev.	5.04E+08	53807778	235745.1	11831644	17139096
Observations	11	11	11	11	11

Source: Extracted from E-View 9 Output Result.

The table above shows the descriptive statistics of the variables used in our analysis. The table shows that between 2009-2019, the mean value of Real Gross Domestic Product (RGDP), Automated Teller Machine (ATM), Web/internet banking (WEB), Point-of-Sale terminal (POS) and Mobile Banking (MOB) are 63537.70, 3581.108, 146.6373, 798.2782 and 822.8345 respectively. The descriptive analysis also revealed that all the variables were normally distributed as observed from the Jarque-Bera probability.

ORDINARY LEAST SQUARE (OLS)

TABLE 4.3

Dependent Variable: RGDP
Method: Least Squares
Date: 08/26/20 Time: 23:01
Sample: 2009 2019
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	51394.01	3397.067	15.12894	0.0000
ATM	4.122991	1.010526	4.080045	0.0065
WEB	1.261129	43.69124	0.028865	0.9779
POS	-7.264358	9.455147	-0.768297	0.4715
MOB	3.637256	2.802487	1.297867	0.2420
R-squared	0.909702	Mean dependent var		63537.70

Adjusted R-squared	0.849504	S.D. dependent var	7100.241
S.E. of regression	2754.453	Akaike info criterion	18.98278
Sum squared resid	45522082	Schwarz criterion	19.16364
Log likelihood	-99.40529	Hannan-Quinn criter.	18.86877
F-statistic	15.11175	Durbin-Watson stat	1.961624
Prob(F-statistic)	0.002746		

Source: Extracted from E-View 9 Output Result.

$RGDP_t = \beta_0 + \beta_1 ATM_t + \beta_2 WEB_t + \beta_3 POS_t + \beta_3 MOB_t + \mu$

Thus, using the absolute values of all the variables, the estimated parameters of the regression model is:

$RGDP_t = 51394.01 + 4.122991ATM + 1.261129WEB - 7.264358POS + 3.637256MOB + \mu$

The estimated model shows that there exists positive relationship between RGDP and ATM, WEB, MOB; hence, the estimated result revealed that a unit change/increase in transaction with ATM, WEB and MOB will boost the growth of the Nigerian economy in the value of 4.122991%, 1.261129%, and 3.637256% respectively. While POS have a negative relationship with RGDP hence, a unit change will lead to a decrease in RGDP by -7.264358%.

The coefficient of determination (R^2) is $R^2 = 0.909702$ which is 90.9702%. This implies that about 90.97% of the regression model was explained by the independent/explanatory power while 9.03% was unexplained and has been taken care off by the stochastic disturbance term or error term μ.

The Durbin-Watson statistic shows that there is absent of autocorrelation or serial correlation in the residual as its value of 1.961624, approximately 2 which is equal to the Durbin-Watson value of 2 (2 = 2).

The F-statistic of the regression output stood at 15.11175. This implies that the regression plane is statistically significant.

Comparing Sign P-values with the chosen level of significance (0.05), it is observed that P-value 0.0065 for ATM is less than the chosen level of significance 0.05 (5%), hence, the null hypothesis for ATM is rejected. while the P-values 0.9779, 04715 and 0.2420 for WEB, POS and respectively are greater than 0.05 chosen level of significance, hence their null hypotheses are accepted . But for the overall level of significance, the Prob.(F-Statistic) 0.002746 which is the overall level of significance is less than the 0.05 level of significance; hence, our null hypotheses are rejected and alternative accepted.

CONCLUSION

Based on the result of the analysis, the study concludes that agent banking has a significant influence on the Nigerian economy.All the variables exhibited a positive relationship with RGDP except for POS which have a negative relationship with RGDP. ATM is significant (0.0065< 0.05) at the individual level of probability. The overall Pro(F-Statistic) of 0.002746 shows that the variables are statistically significant. Therefore, agent banking has a positive and significant impact on the Nigeria economy.

Hence, the application of Agent Banking will in no doubt enhance customers' accessibility and profitability of banks (most especially the ATM), thereby leading to economic growth of a nation, Nigeria in particular. The study, therefore, recommends the following:

The transition from our traditional banking system to an agent banking system will necessitate some change and a great deal of effort and sensitization, especially among low-income customers who are currently deeply ingrained in the use of cash and see it as a convenient and easy way to receive and make payments at any time. Regulators should require that the services offered use technical standards that will allow for interoperability at

low cost in the future. This will maximize flexibility to allow for market entry while also ensuring that future interoperability will be feasible, both from a technical and financial perspective.

Agents should not just be used by customers to access their bank accounts and transfer money: they should also offer a range of other services including payment of salaries and payment of benefits.

There should be increase in the number of point-of-sale terminals (POS) machines in the country particularly in the remote or rural areas where there is no physical structure of banking halls in order to harness the full benefits of the banking system.

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