Cashless Banking Transactions and Economic Growth of Nigeria

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Abstract: The objectives of this study is to ascertain the impact of automated Teller Machine (ATM) transaction value, point of sales terminal, internet banking and mobile banking transaction value on economic growth of Nigeria. The quantitative design using ordinary least- square (OLS) method of multiple regression analysis was employed. However, secondary data for this study was obtained from CBN annual report and federal office of statistics. The ordinary least square method is used to test the significance of the data. Vector Error Correction test (VERC) model was applied to test the hypotheses arising from the research objectives. Also some tests, using Augmented Dickey Fuller (ADF) unit root and Johansen's Co-integration tests, were executed to establish the validity of the model assumptions. The result of findings shows that only point of sales terminal was significant to economic growth while automated teller machine, mobile banking and internet banking are insignificant to economic growth within the period under study. Therefore, the insignificant contributions of these instruments are as a result of user's ignorance and bank's inability to distribute the product effectively in the country. Meanwhile, government and bankers should put more effort in infrastructure development and aggressive public awareness campaigns.

Key words: Cashless Banking · Economic Growth · Nigeria · Automatic Teller Machine

INTRODUCTION

Today's financial system is the product of century of innovations. The financial system started as barter economy and has moved through various stages of development in response to limitations inherent in evolving financial system. Ajayi and Ojo [1], stated that changes will definitely continue to occur in the financial system in response to social and technological advancement. This situation has led to a shift from old cash handling system to cashless society which is vogue worldwide. To this end, the world has witnessed an upsurge of electronic payment using cashless banking instruments meant to facilitate trade exchange of payment system.

Before the introduction of cashless banking instrument into Nigeria banking system, customers have to walk into the banking hall to make their transaction of all kinds. They had to queue up and spend more hours to talk to a teller to make their transactions and other inconveniences caused by these long-queues discourage most customers. Edit (2008), [2], define electronic banking as the system by which transactions are settled electronically with the use of electronic gadgets such as automated Teller Machine (ATM), Point of Sales (POS) terminals, GSM phones, V-cards etc handled by e-holders, bank customers and stakeholders. Electronic banking is the application of computer technology to banking especially the payment. (deposit and transfers) aspects of banking. It is the system of banking with an electronic communication network which permits online processing of the same day credit and debit transfers of funds between member institutions of a clearing system, [3].

Thus, before the introduction of cashless instrument, the uses of raw cash transactions was said to have bred armed robbery and corruption through the cash and carry syndrome usually linked with the swift movement of Ghana must go bag by some unscrupulous individuals. Today cashless instrument allows money to be sent by one party in a destination of another party located differently through transfer agent while the sender may have paid physical cash at the money transfer agency, the cash does not move phycially, what move is information.

The cashless banking instrument includes Automated Teller Machine (ATM), Point of Sales (POS) terminal, Wider Area Network (WAN), Digital Wallet (DW), Information Filling System (IFS), Micro Chip e-plant, Credit and Debit Card, Internet Banking, mobile payment,

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some banks offer home banking whereby a person with a personal computer (PC) can make transaction either with direct connection or by accessing a website, through cashless banking instrument bank customer can check deposit move money from one account to another, pay bill, set up new account, request for loan and invespare cash any time of the day or night which reduces the cost of banking is a banking method whereby transaction can be done without necessary carrying a physical cash a means of exchange of transaction but rather with the uses of credit and debit card payment for goods and services. The cashless banking instrument initiative of the Central Bank of Nigeria (CBN) is a move to improve the financial terrain but the long-run sustainability of the policy will be a function of endorsement and compliance by end-users [4].

According to CBN [5], the policy is expected to reduce cost incured in maintained cash-base economy by 90% upon its full implementation and enhance economic growth in Nigeria. This study aims at ascertaining the impact of cashless banking instrument on Nigerian economy.

As earlier pointed out, cashless banking instrument is a driving force that is changing the landscape of Nigeria's economy. The developments in cashless banking instrument and other financial innovations are constantly binging new challenges to Nigeria economy.

There is often delay in payment of cheques which led to the adoption of cashless banking instrument. The adoption of cashless banking instrument which suppose to ease banking transaction rather or resulted to woes to customers. Most customers complain of time wasted in banks, this occurs when there is power failure in banks resulting to slowdown in operation.

The main objective of this study is to ascertain the impact of cashless banking instrument on economic growth in Nigeria. The specific objectives are to ascertain the impact of value of ATMs transaction on economic growth in Nigeria, to ascertain the impact of value of Point of Sales (POS) terminal transaction on economic growth in Nigeria, to examine the impact of value of mobile banking services on economic growth in Nigeria and to determine the impact of internet banking services value on economic growth in Nigeria.

Literature: Cashless banking instrument have long been recognized to play an important role on economic growth on a basis of their ability to create liquidity economy through financial intermediation between savers and products that accelerate settlement of transcation and in

the process reduce cash intensity in the financial system, encourage banking cultures and catalyses economic growth.

Morufu and Taibat [6], used qualitative survey to ascertain banker's percepitions of cashless instrument in Nigeria banking system. The result suggest that bankers in Nigeria perceive cashless instrument as a tools for minimizing inconvenience, reducing transaction cost, atlering customers queuing pattern and saving customers time. Olajide [7], used theories to investigate cashless banking in Nigeria and its impact on economy, he find out that cashless banking instrument will boost the economy on the long-run.

James [8], used Statistical Package for Social Science (SPSS) to investigate the acceptance of e-banking Nigeria. The result shows that acceptance of e-banking in nigeria is significantly influence by age, education background, income and percieved enjoyment. Egwali [9], used customers acceptance theory to investigate customer's perception of security indicators on online banking site in Benin Nigeria, he find out that security indicators (SI) are not very effective at alerting and shielding users from revealing sensitive information to fool-ebanking site in nigeria. Lasser and Lassar, used qualitative survey to investigate factors influencing the users of e-banking in European countries they discovered that consumer innovativeness and personal characteristics are the key determinates of online banking.

Olatokum and Igboinedion (2009), used diffusion of innovation (DOI) theory to investigate the adoption of automated teller machine ATMs in Nigeria, they founded out that the constraints: relative advantage, complexity, observability, compatability and trailability were positively related to attitude of the use of ATMs cards inNigeria. Olorunsegun (2010), [10], used sample techniques to study the impact of cashless instrument in the Nigeria banking system. He find out that banks has an effective cashless instrument which improved its customer's relationship and satisfaction.

Manjaki and Mokhtar (2010) employed a survey of 407 banks customers in 33 organizations in Kano State, the effect of availability of cashless instrument. The study reveals the availability of cashless instrument such ATMs, online banking, telephone banking etc. do not have influence on customers bank choice decision. Madueme (2010) studied the impact of ICT on economic growth in Nigeria banks employing a survey of 13 banks based on CAMEL rating and transcendental logarithm functions of banks. It was revealed that the efficiency value obtained through the CAMEL rating system were

higher during post adoption era than before adoption and estimated that 1% increase in ICT capital on avearge leads to 0.9185 naira increase in bank output post ICT adoption era.

Lustsik [11], explores the implementation of techniques of activity-base-costing (ABC) in the economic sectork, example of Estonia banks in order to analyzed the cost structure for tradition on cashless instrument. The mothodology and empirical part of the study were based on hans banks analysis and statistical reports as well as on hans bank's internal documents that stipulate rules for cost allocation and limit cost calculation, the finding of the study revealed that addition economic growth on transaction effect via cashless instrument. It assumed that cashless instrument on banking services have higher economic growth as absolute unit cost number are lower than those of free collected from client.

Carrallio and Siegel [3], investigated the return on investment for online banking services on analysis of financial account aggregation using calculation of earning before interest and tax (EBIT) and the Net Present Value (NPV) for period of five years. The sample covers three basic banks size according to the number of its online account: medium those with 2.8 to 6.0 millions online accounts and large banks, those with 8.8 to 16 millions online accounts, they concluded that account aggregation is a compelling technology that should became a commodity in the sense that most important banks will provide it and it will represent no more a differentiated competitive advantage.

Kolodinsky and Gabor (2008) used diffusion innovation theory to investigate the consumer payment choices, paper, plastic or electronic, they find that increase in income and education also elicit a positive effect on adoption of electronic banking regardless of the technology. Pikkaramen (2004) used technology acceptance model to investigate consumer acceptance of online banking, the study find that perceived usefulness and perceived ease of use of online banking among other factors significantly effects the use of e-banking. Therefore above study indicate that, there is a negative impact between cashless banking instrument on economic growth in th short-run and positive impact on the long-run.

Ezeoha [12], used descriptive survey to examine regulating internet banking in Nigeria problem and challenges. He find out that internet banking in Nigeria is slowly been embraced by customers because internet practice in Nigeria has been abused by cyberfraudsters who used real and deceptive banking website to tool users and set their information and funds.

Newstead [13], examined cashless payment and economic growth and fund a link between cashless payment and pace of economic growth. The study revealed that cashless payment volumes are growing twice as fast in developing economic. Omotunde (2012) studied the impact of cashless on economic growth in Nigeria using survey design through administration of questionaire and fund that cashless policy will increase employment, reduce cash related robbering thereby reducing cash related corruption and attract more foreign investors to country.

Thus among e-payment channels in Nigeria only ATMs contribute positively to economic growth while other e-payment channels such as web payment, POS terminals and mobile payment contribute negatively to real GDP per capital and trade per capital. Nonetheless, there are other factors that bear much relevance on effectiveness of e-payment system, level of literacy and technological development in the country among others determine the effectiveness of e-payment system and hence successul implementation of cashless economy, [14].

Synaboha (2013) studied the effect of cashless banking in nigeria economy and find that banks has the best means of usage because a significant positive relationship existing between cashless banking and Nigeria served as proxy for economic growth, while explanatory variable include the value of ATMs and cheques transaction over real GDP as proxy for cash penetration, value of POS terminal transaction over real DP as proxy for card payment, mobile and web payment over real GDP as proxy for other e-payment channels and finally as interest rate as control variable. It was seen that a significant positive relationship was funded between e-payment system and economic growth (real GDP per capital and trade per capital) in Nigeria e-payment system was found to contribute positively to economic growth 92% in term of GDP per capital and 96% in terms of trade per capital respectively, other factors remain constant.

The study derived heavily from the Innovation Diffusion Theory (IDT). It is an idea, practices or object that is perceived as new by an individual or another unit of adoption [15]. Diffusion in the other hand is the process by which an innovation is communicated through a certain channel over a time among the member of a social system [16]. Therefore, the IDT theory argues that potential users make decision to adopt or reject an innovation.

Methodology: The quantitative design using ordinary least- square (OLS) method of multiple regression analysis was employed. The methodology is employed because of its relative importance and properties. The research will use e-view statistical package to run the regression while excel worksheet was used to calculate the percentage growth.A time series data was largely obtained from Central bank of Nigeria (CBN) Annual Report, World Bank and Federal Office of Statistics.

The study is quantitative research in which the variables are time series that group into dependent and independent variable. The dependent variable that form major basis for the study is economic growth (GDP) whereas independent variables are automated Teller Machine (ATM), point of sales (POS), Mobile Banking (MOB) and Internet Banking (INTS).

The research adopted multiple regression analysis in order to test the objective and hypotheses. The functional relationship was structurally expressed as thus:

$$GDP = F(ATM + POS + MOB + INTS) \tag{1}$$

$$GDP = bo + b_1TAMt + b_2POSt\ b_3MOBt + b_4INTSt + et \tag{2}$$

Data generated from secondary sources was subjected to unit root test evaluation using augmented Dickey fuller test. Descriptive test was carried out to determine the characteristic of the research variables (mean, standard deviation and variance).

RESULTS

Presentation of Unit Root Test Result: The first point or issue of analysis in this chapter is to conduct the unit root test so as to test the stationarity of the variables using the augmented dickey fuller (ADF) test. The augmented dickey fuller results comprising of the test static and the critical values as originally generated are presented in the table below.

The results of the unit root test for stationary are presented in Table I above it can be seen that all the variables are stationary at level and are integrated in the order of one. We conclude that there exist a long run relationship between the variables.

Regression Result: In this study, mathematical relationship between the variables are estimated. Available data onGross Domestic product, (GDP), Automated Teller Machine (ATM), Point of Sales (POS), Mobile banking (MOB) and Internet services (INTS) were collected and used for the purpose of this analysis. Multiple regression models is formed to capture the assumed relationship between these variables.

From the regression results above, the intercept is 92.02708. This shows that if all explanatory variables were held constant, GDP will be 92.02708 all things being equal. The coefficient of ATM is -0.01598 and P=0.2856. This indicates that is ATM negatively relatively related to GDP (a naira increase in ATM will reduce GDP by □1590). The coefficient of the POS is 3.87608 and P=0.1272. This indicate that POS is positively related to GDP (a naira increase in GDP is followed by an increase in POS by □38761). The coefficient of MOB is -0.299069 and P=0.6082. This indicates MOB negatively related to GDP (a naira increase in MOB will decline GDP by □38781). The coefficient of INTS is -0.021990 and P=0.9469. This indicates INTS is negatively related to GDP (a naira increase in INTS will decrease GDP by □219900).

The higher the value of R^2, the higher the percentage of variation of the dependent variable, the better the R^2 of the regression plane to the sample observation while if closer to zero, the goodness of fit becomes worse. The value of R^2 lies between 0 and 1, therefore the closer the value to 0 or 1, it becomes worse or better respectively. Coefficiencies of determination (r^2) value of 0.632240 implied that 63.22% variations in GDP can be accounted for by ATM POS, MOB and INTS while leaving the remaining 32.88% variations to be explained by exogenous variables. This also confirms the real positive relationship

Table I: Unit Root Test Result.

Variable	Adf Statistical Level Form	Lag	1% Critical Value	5% Critical Value	10% Critical Value	Order of Co-integration
GDP	-5.184800	2	-4.582648	-3.320969	-2.801384	1(1)
ATM	1.878632	1	-4.420595	-3.259808	-2.771129	1(1)
MOB	-1.476384	1	-4.420595	-3.259808	-2.771129	1(1)
POS	0.528878	1	-4.420595	-3.259808	-2.771129	1(1)
INTS	-1.050301	1	-4.420595	-3.259808	-2.771129	1(1)

Source: Author's estimation using E-view 7.0

Table 2: Regression Result

VARIABLE	Coefficient	Std. Error	t-Statistic
C	92.02708	1.124611	81.83012
ATM	-0.015398	0.012882	-1.195298
POS	3.876058	2.120943	1.827516
MOB	-0.299069	0.547233	-0.546511
INTS	-0.021990	0.314258	-0.069973

Source: Author's estimation using E-view 7.0
$R^2 = 0.632240$; Adjusted $R^2 = 0.338032$; F = 2.148; DW = 1.8497

between the variable. The adjusted (r^2) value of 0.338032 furthers affirms the good fitting on the regression plane by the dependent variable proxy by GDP.

The joint influence of the explanatory variable is statistically significant at 5 percent level of significant Durbin Watson for Autocorrelation (1.8497) indicate the presence of positive autocorrelation specifically at 5% level of signaficant.

Having done a critical analysis of the data collected for this research work, it was discovered that there is a negative relationship between ATM MOB, POS, INTS and Gross Domestic Product (GDP) as shown by the T statistics test. The whole model was statistically insignificant as its f-calculated value of 2.148 is lower than the f-tabulated value of 5.19 at 95% confidence level and degree of freedom (4,5). We therefore accept hull hypothesis H0 and accept the alternate hypothesis HA in all hypothesis and conclude that cashless banking instrument have no significant impact on Economic growth in Nigeria.

CONCLUSION

From evidence regarding the link between the cashless banking instrument and economic growth, however, some are in support of a positive link others do not find any empirical evidence to support of such conclusion. Thus some of the studies are in support of negative influence between payment system and economic growth. In line with the above controversy, the researcher employ Nigeria data to provide further empirical evidence on the role of cashless instrument in the realization of economic growth in nigeria as the world best economy in the year 2020.

Using the ordinary least square regression analysis, this study has helped in highlighting the specficic role of the major indicators of the payment system, which are relevant in testing the financial sectors and economic growth. The major indicators of the cashless banking are ATM, POS, MOB and INTB. These served as the explanatory variables while GDP at the current usage was used as a proxy for economic growth.

The result indicates that total usage of the cashless instrument are negatively related to economic growth. This implies that implies that increase in total uses of payment instrument will bring about decrease in economic growth while POS, mobile banking have less or no impact on the economic growth in Nigeria. This implies that increase in ATM, POS mobile banking service along with internet banking and other infrastructures will bring about increase in economic growth other things being equal.

The development of innovative cashless banking has the potential to transform the economic activities to achieve economic growth, if an effective cashless banking instrument can be developed. Both the government and CBN have a great role in the introduction, development and maintenance of cashless banking in Nigeria economy through policies, finance, infrastructure development and massive campaign for the awareness and acceptance of cashless banking among Nigerians. Above all, Nigerians have a greater role in accepting the cashless banking transactions, making use of it, with the belief that it would improve their financial activities and boost economic growth. High GDP under the cashless banking system would attract, encourage and build confidence of foreign investors, tourist and analysts, which would on long run lead to further growth and improvement of our economy.

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