

Article

Implications of Electronic Banking on Commercial Banks' Performance in Nigeria (2000-2017)

Ekele, Jacob Samuel¹ and Ukpata Ijuo Sunday^{2,*}

¹National Examinations Council, (NECO), Nigeria

²Federal University Wukari, Nigeria

* Author to whom correspondence should be addressed. Email: ukpata@yahoo.com

Article history: Received 6 February 2020, Revised 20 June 2020, Accepted 25 June 2020, Published 15 July 2020.

Abstract: This study is on the implications of E-banking on Commercial Banks' Performance in Nigeria between 2000 and 2017. Electronic Banking System is seen to be an innovative service delivery mode that offers diversified financial services like cash withdrawal, funds transfer, cash deposits, payment of utility and credit card bills, cheque book requests, and other financial enquiries. This has in a way altered the services rendered by the Nigerian commercial banks over the years; hence this study seeks to examine the implication of the advent of electronic banking into the Nigerian banking industry between 2000 and 2017 in Nigeria. The study made use of secondary data sourced from the Central Bank of Nigeria statistical bulletin and the National Bureau of Statistics between 2000 and 2017. Using the Panel regression techniques; the study revealed that there is a significant relationship between e-banking services and the performance of commercial banks in Nigeria. However, it was observed that the commercial banks are yet to maximize the opportunities provided by e-banking system in Nigeria. The study, therefore recommended that the commercial banks should raise the level of integration of e-banking into their operations beyond the present basic level of transactions.

Keywords: Banking, Technology, Electronic, Internet, Finance

1. Introduction

The advent of information and communication technology (ICT) has altered completely the mode of doing business transactions all across the nations of the world Nigeria inclusive. It is such that many

of these business operations can be easily transacted or done electronically. The banking industry in Nigeria is also not left out of this information and communication technology (ICT) revolution in the world. (Oluma, Abdullahi and Madu, 2016).

According to Anibuze (2006), electronic banking started in the mid-1980s with technologically driven product which has influenced more technological advances. He further stated that what used to be termed electronic data process (EDP) has been transformed into electronic banking through information technology. He emphasized that “this change in technology reflects on equivalent transformation to use of computer from the use of paper flow bringing about a reduction in the unit cost and replacement of the manual process of writing with computer processing and is today focused on electronic product and service delivery”. All these being in line with today’s modern international banking climate.

Suffice to say that, the Nigerian banking industry has witnessed a lot of changes since the mid-1980s and this is reflected in the increased volume and complexity of operations, increased innovations and varieties in products and services delivery. These developments have not only been technologically driven, but have influenced more technological advances. (Dabhollear, 2000). Information technology, which is the foundation of modern electronic banking, through desktop computers and terminals, provide tools for delivery of new products and innovations characterized by Automated Teller Machines (ATM) and Credit Cards. Information technology (IT), through electronic banking, is rapidly changing how banking is done all over the world. The banking industry has witnessed significant advancement in technology just like any other sector (Omonu, 2015).

In the meantime, the e-banking services is not without some accompanied implications, it is also important to note that modern day banking services placed more emphasis on the usage of technological innovations to improve service delivery and high level of customer’s satisfaction. This explains why we experienced high level of job insecurity among employees in the modern day industry. This dehumanizes the work organization which is one of the shortcomings of Business Process Improvement (BPI). Hence, the study looks at the implications of e-banking on commercial banks performance in Nigeria.

1.2. Concept of Electronic Banking Services

The Oxford Advanced Learners Dictionary defines electronic banking as something that is operated and based on electronics; it then goes further to define it as a science and technology of electronic phenomena, devices and system as in computer, radio, etc. It can therefore be deduced that the meaning of electronic banking is the banking business which is carried out using electronic devices and systems or done electronically so as to provide a speedy and accurate financial service.

However, according to Abaenewe, Ogbulu, and Ndugbu, (2013) electronic banking is the conduct of banking business electronically which involves the use of information communication

technology to drive banking business for immediate and future goals. Electronic Banking System is seen to be an innovative service delivery mode that offers diversified financial services like cash withdrawal, funds transfer, cash deposits, payment of utility and credit card bills, cheque book requests, and other financial enquiries (Onyedimekwu and Oruan, 2013).

Similarly, Imiefoh (2012) sees electronic banking as an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. That is, automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. E-banking generally implies a service that allows customers to use some form of computer to access account-specific information and possibly conduct transactions from a remote location like home or workplace (Odulaja, 2012).

1.3. Bank Performance

By bank performance, generally it implies whether a bank has fared well within a trading period to realize its objectives. One of the documents that explain this is presumably the published financial statements. According to Rose (2001), a fair evaluation of any bank's performance should start by evaluating whether it has been able to achieve the objectives set by management and stockholders. Certainly, many banks have their own unique objectives. Some wish to grow faster and achieve some long-range growth objective, others seem to prefer quiet life, minimizing risk and conveying the image of a sound bank, but with modest rewards to their shareholders Rose, (2001).

Ordinarily, stock prices and its behaviour are deemed to reflect the performance of a firm. This is a market indicator and may not be reliable always. However, the size of the bank, the volume of deposit and its profitability could be deemed as more reliable performance indicators. For the purpose of this study, profitability indicators, precisely the Return on Equity Capital (ROE) and the returns on Assets (ROA) are used to assess bank performance.

These ratios are indicators of management efficiency, and rate of returns. According to Rose (2001), these profitability measures vary substantially over time and from one banking market to another. The ROE and ROA are popularly in use today. Nikolai and Bazley (1997) posit that the amount of net income earned in relation to total assets is an indicator of how efficiently a company uses its economic resources. They further stressed that when the ROE is higher than the ROA, the company has favourable financial leverage.

The Structural Adjustment Programme (SAP) initiated in 1986 by the Babangida's administration brought to an end the kind of banking services rendered by the first generation of banks, which have been described as "Arm Chair Banking". The SAP changed not only the structure but also the content of banking business. Just as the number of banks grew tremendously from 40 in 1985 to 125 in 1991, the SAP made possible the licensing of more banks and which posed more threat to existing

ones and the more aggressive the marketing techniques adopted by them. In the process of the intense competition, adoption of electronic banking was seen as a necessity to maintaining a good competitive position, whereas, e-banking stormed the British Banking scene in the late sixties. Nigeria started the long and tortuous journey in November, 1990 when Societe Generale bank launched their first Automated Teller Machine.

1.4. Development of Electronic Banking

Electronic banking is not one technology, but an attempt to merge several different technologies but each evolving in different ways (Onodugo, 2015). The first applications of the computer age within banks are the use of mainframes and minicomputers. These were used to process data such as customer accounts, bank inventories, personnel records, and accounting packages. At that period, technology was used as a support tool for banking operations, and the idea of direct customer services was less clear. Technology was then used to assist staff in doing their work faster, more conveniently, and with less human errors.

According to Kondabagil (2007), the first visible face of electronic banking, Automated Teller Machine (ATM), came into commercial use in 1968. The ATM, later evolved from being a mere currency dispenser into a multifunctional device that enables customers to conduct a whole range of transactions from account management, fund transfer, to bill payments. In the latter half of the 1990s, with the development of the Internet and the World Wide Web (WWW), customers could bank from the comfort of their homes (Salehi and Alipour, 2010) and since then, as affirmed in Offei and Nuamah-Gyambrah (2016), the banking industry has been undergoing changes, in form of innovative use of information technology and development in electronic commerce.

For this reason, the emergence of e-banking can be said to be one of the advantages of e-commerce in relation to the needs of business to conduct easy, quick and precise banking operations (Hoseini and Dangoliani, 2015). With the e-banking system, settlement of transactions either national or international level is speedup; thereby bridge the gap between customer and the bank. Most of the services are being offered through several distribution e-channels with activities ranging from balance inquiry, cash withdrawals, bill payments, fund transfer, electronic payment, and loan applications, among others (Agwu and Carter, 2014).

1.5. Empirical Literatures

Several authors have conducted investigation on the impacts of Information and Communication Technology (ICT) on the banking sector in the Nigerian economy. Taiwo and Agwu (2017) in their study on the role of e-banking on operational efficiency of banks in Nigeria put forward that with the proliferation of the internet, coupled with the growing acceptance of the digital lifestyle and the world

becoming increasingly addicted to e-business, the trend of cash transactions is now giving way to electronic payment system. Considering the rapid spread in the adoption of electronic banking as a channel for performing various bank transactions among banks in Nigeria, their study investigated the roles e-banking adoption has played in the performance of organizations using a case study of commercial banks in Nigeria. Hence the objective of the study was to determine the role of e-banking on the operational efficiency of commercial banks in Nigeria. In pursuance of this objective, primary data were obtained by administering questionnaires to staff of four purposively selected banks (Ecobank, UBA, GTB and First bank).

Pearson's correlation was used to analyse the results obtained using the Statistical Package for Social Sciences (SPSS) and it was observed that banks' operational efficiency in Nigeria since the adoption of electronic banking has improved compared to the era of traditional manual banking system. This improvement was noticed in the strength of banks, revenue and capital bases, as well as in customers' loyalty. It was concluded that the introduction of new channels into their e-banking operations drastically increased bank performances, since the more active customers are with their electronic transactions the more profitable it is for the banks.

Agboola (2001) studied the impact of computer automation services and discovered that electronic banking has tremendously improved the services of some banks to their customers in Lagos. His study was however restricted to the commercial nerve centre of Nigeria and concentrated only on six banks. He made a comparative analysis between the old and the new generation banks and discovered the rate of adoption of the automated devices. Agboola (2001) seems to be indifferent as to whether e-banking enhances banking performance and whether the e-banking services are fully utilized. He only focused on which bank has implemented e-banking services in Lagos State. This study therefore was intended to cover that missing gap.

1.6. Theoretical Review

Here, we attempted to bring to the fore some related theories that dwell on the subject matter of Information and Communication Technology (ICT), and its relevance to E-banking.

Theory of Technology Acceptance Model (TAM):

The Technology Acceptance model (TAM) is that which was founded by Devis (1986) as the adaptation of the Theory of Reasoned Action (TRA) which models on how users come to accept and use a technology.

The concept of the model is that, when the user has an intention to act, he/she will be free to act without limits. In practice, constraints such as time, environmental or organizational limit and unconscious habits will limit the freedom to act (Bagozzi, et al, 1992).

According to Bagozzi, et al, (1992) maintained: "Because new technologies such as personal computers are complex and an element of uncertainty exist in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes toward usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strings to learn to use the technology evolve. Thus, actual usage may not be a direct or immediately consequence of such attitudes and intentions" (Bagozzi, et al, 1992).

TAM suggests that perceived usefulness and perceived ease of use determine an individual's intention to use a system with intention to use serving as a mediator of actual system use. Perceived usefulness is also seen as being directly affected by perceived ease of use Venkatesh, and Morris (2003). Bagozzi, et al, (1992) found that subjective norm did not significantly affect intentions and therefore omitted it from the original TAM depicts the original.

1.7. Problems and Gaps in Literature

In the course of reviewing previous studies, it was observed that most of the reviewed literatures dwelt on e-banking and performance of the banking industry in Nigeria. Hence, this study is unique in this regard in that it is considering the implications of e-banking on commercial bank performance in Nigeria. In addition, the study highlighted some of the implications associated with the introduction of the e-banking facilities to the banking sector in Nigeria. Besides, the study covers the period between 2000 and 2017 characterised by continuous and unbroken democratic government which has brought relative stability to policy design and implementation, as such the study in a way doubles as an appraisal of the implications of e-banking and performance since return to democratic government in Nigeria.

The new millennium brought with it new possibilities in terms of information access and availability simultaneously, introducing new challenges in protecting sensitive information from intruders while making it available to others. Today's business environment is extremely dynamic and experience rapid changes as a result of technological improvement, increased awareness and demands Banks to serve their customers electronically. Banks have traditionally been in the forefront of adapting technology to improve their products and services (Aladwani, 2001).

1.8. Research Questions

The following research questions were raised to guide the study based on the objective of the study:

- I. Is there any relationship between e-banking services and the profitability of Nigerian banks?
- II. Are Nigerian banks maximizing the use of electronic banking services to enhance their speed of service?

- III. Are challenges like protecting sensitive information, password insecurity and internet failure associated with the use of e-banking facilities by commercial banks in Nigeria?
- IV. Does the use of electronic banking enhance the return on investment by Commercial bank shareholders?

1.9. Objectives of the Study

The main objective of the study is to examine the implications of electronic banking on commercial banks performance in Nigeria; specifically, the study seeks to:

- I. Investigate the relationship between electronic banking and Corporate Performance of Nigerian banks.
- II. Examine whether banks are maximizing the electronic banking services in their performances.
- III. Investigate the challenges associated with the use of e-banking facilities by commercial banks in Nigeria
- IV. Find out if electronic banking enhances the return on investment of shareholders of commercial banks in Nigeria.

1.10. Research Hypothesis

The following hypotheses were formulated in null form to be tested based on the research questions and objectives of the study:

- H₀₁:** There is no significant relationship between e-banking services and the profitability of Commercial Banks in Nigeria.
- H₀₂:** The electronic banking services available are not being significantly maximized by Nigerian banks in their speed of service.
- H₀₃:** Challenges like protecting sensitive information, password insecurity and internet failure are not associated with the use of e-banking facilities by commercial banks in Nigeria.
- H₀₄:** Electronic banking is not significantly related to return on investment of shareholders

2. Methodology

2.1. Research Design

The research design adopted in this study is ex-post facto. Time Series Annual data on personnel costs, profit after tax, staff training cost and pension benefit were extracted from the audited financial statements of eight deposit money banks in Nigeria for the period 2006 – 2016. This method is considered appropriate because it will be used to establish whether, and to what degree of effect that exist between two or more quantifiable variables (Oneme, 2010). Research design provides the

framework for finding solution to any problem under study. In this line, OSUALA (2010) is of the opinion that the choice of research design is determined by the focused objectives of the study. In addition, the result from the test of hypotheses can be used to generalize the findings of the study to the entire population.

2.2. Population of the Study

The population of the study constitutes the entire commercial banking industry and its staff. However, the impossibility of including all the members of the population makes sampling imperative. As a result, the study concentrated on about 40% of the existing 21 post merger mega banks i.e. eight (8) banks; they include Diamond Bank Plc, First Bank Plc, Fidelity Bank Plc, Guaranty Trust Bank, United Bank for Africa Plc, Union Bank Plc, Skye Bank Plc, Zenith Bank Plc and their customers formed our focus for this study. To have a fair representation and for proper coverage of these banks, the study was extended to incorporate the six (6) regions in Nigeria. Therefore, the study take into consideration these selected banks in some selected state capitals on regional bases. These state capitals are; South-west: Lagos, South-south: Port-Harcourt, South- east: Enugu, North-central: Kogi, North-west: Kaduna, North-east: Bauchi. These states were selected due to proximity and concentration of bank operation and activities.

2.3. Source of Data

Based on the nature of the study, data collection was based on secondary data. The study sourced data from Statistical Bulletin of the Central Bank of Nigeria (CBN), Federal Office of Statistics (FOS) and Annual Abstract of Statistic of the National Bureau of Statistic (NBS). The source of data for the study is secondary source because it requires the time series data of the banks' net income (profitability) as proxy for performance, annual investment in electronic enhancing facilities, annual investment in operational cost and annual investment in other assets for the selected banks for the period between 2000 and 2017.

2.4. Technique for Analysis

We made use of the Panel or pooled Ordinary Least Square (OLS) technique to estimate the values of the parameters Beta, B_1 and B_2 . Besides, we used the student's t-values obtained to determine the statistical significance of the parameter estimates and the test of goodness of fit for the model using the R^2 technique. This enabled us to know the percentage of variations between the dependent variable and the explanatory variables. Then, this procedure was followed by the f-statistic test to determine the overall significance of the multiple regression models and the Durbin –Watson test for the presence or absence of auto-correlation.

Model Specification

MODEL ONE

$$NetIncomet = a + \beta 1 Annuictcost + \beta 2 AnnuOpercost + \beta 3 Annucostasset + ei$$

Where:

a	=	Intercept
Netincomt	=	Corporate performance at time t measured by Net income.
Annubprcost	=	Annual ICT Cost
AnnuOpercost	=	Annual Operating Costs
Annucostasset	=	Annual Cost on Other Assets
e_i	=	Error Term

2.5. Decision Rule

Accept Null Hypothesis (H_0) if the t-values obtained for the parameter estimates is greater than 2 at the 5% significant level, otherwise reject the Null Hypothesis.

That is, in order to test the significance of the relationship of the variables identified by the hypothesis above, the study will use the rule of thumb of 2 at the 0.05 or 5% level of significance. The study accepts the alternative hypothesis if the t value obtained is greater than 2 and at significant level of 5%; otherwise, it rejects such a hypothesis.

The study uses tables to present the summary of data collected from the respondents and descriptive statistics also known as simple percentage statistics was used to analyze the all the data presented in tabular form. This intuitively takes care of the third stated objectives.

2.6. Description of Research Variables

The research variables employed in this study are those of interest rate since it has direct bearing and impact on commercial bank deposits in Nigeria.

2.7. Test of Validity and Reliability of Instruments

The validity and reliability of instruments used is such that can be described as truly reliable since it involves the use of software to carry out the analysis; and also valid to the extent that the obtained results were made possible by the software as well. As such, it can be relied upon for the purpose of analysis and for prediction.

3. Results and Discussions

3.1. Presentation of Results

In the analysis of our model, in which Bank net income served as the dependent variable while annual investment in electronic enhancing facilities, annual investment in operational cost and annual investment in other assets serve as the independent or explanatory variables, we obtained the following results for the pooled Ordinary Least Square (OLS) multiple regression models. Please note that the result presented below have their details in software form at the appendices.

3.1.1. Ordinary Least Square (OLS) results

The pooled multiple regression result is as presented below:

$$\begin{array}{l} \text{NETINC} = 112.52 + 0.6473 \text{ EBKINV} + 0.9963 \text{ OPCOST} + 0.0661 \text{ INVASS} \\ \text{S.E} \quad \quad (295.31) \quad \quad (0.1188) \quad \quad (0.2398) \quad \quad (0.0964) \\ \text{t} \quad \quad \quad (0.3810) \quad \quad (5.447) \quad \quad (4.1551) \quad \quad (0.685) \\ R^2 = 0.63, \quad F\text{-stat} = 28.99 \text{ (Prob.: 0.00)} \quad d.w. = 1.55 \quad N = 132 \end{array}$$

(See full E-views software results at appendix 1)

3.1.2. The Panel Multiple Regression Model result interpretation

The above presented panel regression results show that the statements of hypotheses were promptly responded to by the result.

Recall our statement of hypotheses one, which is given as thus:

Hypothesis 1

H₀: There is no significant relationship between e-banking and the performance of the Nigerian Banks

The panel regression model shows that the t-values for the ICTINV which is 5.45 and more than 2, given the rule of thumb at the 5% level of significant. We can conclude that it is statistically significant, since it is greater than the rule of thumb of 2. This means that investment in ICT in the banking sector has impacted greatly on bank performance in Nigeria. As such, we reject the Null hypothesis one that there is no significant relationship between ICT and the performance of Nigerian banks and accept the alternative that there is a significant relationship between ICT and the performance of Nigerian banks.

Hypothesis 2

H₀: The electronic banking services available are not being significantly maximized by Nigerian banks in their performance

Using the R² value of 0.63 implies that the multiple regression models have explained about 63% of the variations between the dependent variable and the independent variables in the model. This implies that opportunities in e-banking are not significantly maximized by Nigerian banks. Since it can

only account for about 63% variation in terms of maximization and that there are several aspect of e-banking services that are yet to be utilized by the Nigerian banks. That is, about 37% are yet to be utilized or maximized.

Hypothesis 3

H0: Challenges like protecting sensitive information, password insecurity and internet failure are not associated with the use of e-banking facilities by commercial banks in Nigeria

From the coefficient of determination (R^2) value of 63%, it also implies that the potentials of electronic banking are not yet fully maximized. Part of which could have resulted from Network failure, Password problem and the need to protect sensitive information. And as rightly observed in the reviewed literatures some users still have their reservations as a result of the aforementioned factors. Therefore, we reject the null hypothesis that Challenges like protecting sensitive information, password insecurity and internet failure are not associated with the use of e-banking facilities by commercial banks in Nigeria.

Hypothesis 4

Ho: Electronic banking is not significantly related to return on investment of shareholders in Nigeria by Commercial banks

Based on the fact that there is a positive relationship between Bank net income and investment in ICT facilities, it suggests that electronic banking is significantly impacting on the return on investment of shareholders in the selected banks. In that, the more the bank net income the more the fund that is available to shareholders. Therefore, we reject the null hypothesis that Electronic banking is not significantly related to return on investment of shareholders in Nigeria by Commercial banks

The F-Stat value of 28.99 is more than the critical value of 5.72 even at the 1% level of significance and Degree of freedom. Since the F-stat value of 28.99 is greater than the critical value of 5.72, it implies that our panel multiple regression models in the overall are very significant. Even the probability value validated this result. The Durbin-Watson value of 1.55, suggests the absence of negative or positive autocorrelation. This suggests that the result is valid.

3.2. Discussion of Findings

This study found that the electronic banking system could enhance the performance of commercial bank in Nigeria in term of efficiency of banks. The above is also found to be true of the test of the hypothesis, which shown that there is a significant relationship between ICT and the performance

of Nigeria banks, since the panel regression model show that the t- value for the ICT INV which is 5.45 and more than 2, given the rule of thumb at the 5% level of significance.

The findings of Oluma, Abdullahi and Madu (2016) in their study of “Economic” implication of electronic banking on selected businesses in Nasarawa state Nigeria” agrees in totality with my findings using another method and sampling technics. They employed the use of survey reach design, and employing chi-square as tool for the analysis of their data.

However, Abaenewe, Ogbulu, Onyemachi and Ndugbu (2013) in their empirical study of electronic banking and bank performance in Nigeria, has a different view with this finding as their result review that there is no significant difference between pre and post returns on assets (ROA) of Nigeria banks of e-banking . Here, the implication of their finding is that electronic banking adoption has not significantly improved on the return of assets of Nigeria banks. This study disagrees with their position because efficiency has been enhanced with the introduction of electronic banking and return on asset investment will improve with time. This find cold have differ given period of study, where a lot of factors could have played out within this period.

Also, Nwachukwu, Nwaneri and Ogbueli (2015) in their study of critical analysis of electronic banking of Nigeria, concluded that “electronic banking is not a bed of roses in the nation’s banking industry” as he argued further that “The acquisition of high technology in the information technology department in most banks leaves much to be in difference as to whether or net electronic banking has enhance the performance of banks in Nigeria; as they concluded that a weak economy cannot sustain the standard of electronic banking system in place now unless there is a deliberate sound policy to put the country economy on strong footing.

4. Conclusions

The increasing use of e-banking has caused the integration of various economic units in a way that has made banking operations to be highly ICT inclined and to benefit immensely from the gains in technological revolution. An empirical analysis was carried out to find out the roles e-banking plays in enhancing the mode of operations of some selected banks in Nigeria employing primary data. The data were analyzed with regression technique. The study established that e-banking was found to impact positively the speed of banking service delivery, as well as productivity and profitability.

Adoption of e-banking has influenced the content and quality of banking operations. From all indications, e-banking presents great potential for business process reengineering of Nigerian Banks. Investment in information and communication technology should form an important component in the overall strategy of banking operators to ensure effective performance. It is imperative for bank management to intensify investment in ICT products to facilitate speed, convenience, and accurate

services, or otherwise lose out to their competitors. The banking industry in Nigeria presents ICT providers alike with great opportunity to market their innovations. Success in this area however depends on how they can customize their services to appeal to the ready minds of various stake holders in the industry.

5. Recommendations

Drawing from the study objectives and findings, we recommend the followings:

- 1) The Nigerian banks need to integrate all types of Information and Communication Technology into the main stream of banking operations to maximally experience a positive impact on their performance. The current reliance on front office applications above will translate into serious problems in the future if proper synergy is not made between the front-office and other applications.
- 2). As it was rightly observed, Nigerian banks are not yet maximizing to the fullest the opportunities the e-banking currently presents, as such, for effective exploration of these opportunities/potentials, there is need for more synergy among Nigerian banks in order to solve the problem relating to effective use of Information and Communication Technology so as to enhance bank performance. Banks with larger asset base, guarantees ability to completely leverage the use of Information and Communication Technology to overcome the Information and Communication Technology related problems and will be able to acquire latest Information and Communication Technology applications as well as knowledge to manage Information and Communication Technology effectively. The Nigerian Banks will also be placed at the level of international standard in terms of Information and Communication Technology applications and the use of Information and Communication Technology as a source of improving performance.
- 3). It is also recommended that identified challenges that have constituted phobia to other would users of electronic banking should be tackled headlong towards ensuring that the use of the electronic banking is void of insecurity of sensitive information, password problem and internet failure challenges. All of these problems can be dealt if the banks go for modern equipment and facilities that are designed to tackle these forms of challenges.
- 4). Finally, it is recommended the shareholders interest should be taking into account by ensuring that their return on investment is not jeopardized. As such, it is recommended that there must be continuously positive return of the investment on ICT by the various banks.

Enquiries into the role of Information and Communication Technology on corporate performance have been a ceaseless academic endeavor in many countries. It started in America in the early 1970s

when early Information and Communication Technology applications started making some impacts on corporate performance and when a lot of corporate organizations started investing in Information and Communication Technology. These enquiries spread from America to Europe, Asia, and Latin America and to other parts of the world.

This study dwells on the implication of e-banking on bank performance in Nigeria, where we found that electronic banking have impacted positively on banking operation in Nigeria. However, further studies in this area can look at the challenges associated with the use of electronic style of banking in Nigeria and possibly make suggestion on how to overcome identified challenges.

References

- Abaenewe, ZC., Ogbulu, OM. and Ndugbu, MO. (2013). Electronic Banking and Bank Performance in Nigeria, *West African Journal of Industrial & Academic Research*, 6: 23-34.
- Abubakar A. (2014). The Effects of Electronic Banking on Growth of Deposit Money Banks in Nigeria. *European Journal Business Management*, 6: 79 - 89.
- Adewoye, JO. (2007). Impact of Information Technology Investment on Banking Operation in Nigeria. *International Business Management*, 1: 70-78.
- Adewuyi ID. (2011). Electronic Banking in Nigeria: Challenges of the Regulatory Authorities and the Way Forward; *International Journal of Economic Development Research and Investment*, 2: 55-64.
- Aduda, J., & Kingoo, N. (2012). The relationship between electronic banking and financial performance among commercial banks in Kenya. *Journal of Finance and Investment Analysis*, 1: 99-118.
- Agboola, AA. (2003). Information Technology, Bank Automation and Attitude of Workers in Nigerian Banks. *Journal of Social Science*, 7: 215-222.
- Agboola, AA. (2001), Impact of Electronics Banking on Customers Service in Lagos, Nigeria. *Ifè Journal of Economics and Finance*, 6: 78-90.
- Agboola AA. (2006). Electronic payment systems and tele-banking services in Nigeria. *J. Internet Banking Comm.* 11: 1-10.
- Agwu ME., Carter AL. (2014) Mobile phone banking in Nigeria: benefits, problems and prospects. *Intern. J. Bus. Comm.* 3: 50-70 Available at: <http://www.ijbcnet.com>
- Agwu ME., Murray PJ. (2014). Drivers and inhibitors to e-Commerce adoption among SMEs in Nigeria; *Journal of Emerging Trends in Computing and Information Sciences*, 5:192-199
- Agwu ME., Murray PJ. (2015) Empirical study of barriers to electronic commerce adoption by Small and Medium scale businesses in Nigeria. *Intern. J. Innovation in the Digital Economy, (IJIDE)*, 6: 1-19.

- Ahmed A. (2010). Effects of Electronic Banking Facilities, Employment Sector and Age-Group on Customers' Choice of Banks in Nigeria; *Journal of Internet Banking and Commerce*, 15: 45-54.
- Asia N., Mbabazi M., Jaya S. (2015). E-Banking And Performance Of Commercial Banks In Rwanda A Case Of Bank Of Kigali; *European Journal of Accounting Auditing and Finance Research*, 3: 25-57.
- Alangrenen, S. (2007). *The Age of Turbulence: Adventures in a New World*.
- Al-Hawari, M. and Tony, W. (2006). The Effect of Automated Service Quality on Australian Bank Financial Performance and the Mediating Role of Customer Satisfaction. *Market Int. Plan*, 24:127-147.
- Al-hajri, S. (2008). The adoption of e-banking: The Case of Omani Banks, *International Review of Business Research Papers*. 4: 120-128
- Al-Smadi, MO. and Al-wabel SA. (2011). The Impact of Electronic Banking on the Performance of Jordanian Bank, *Journal of Internet Banking and Commerce*, 16: 23-32.
- Amu CU. & Nathaniel CN. (2016). E-Banking and Commercial Bank Performance in Nigeria: A Cointegration and Causality Approach, *International Journal of e-Education, e-Business, e-Management and e-Learning*, 6: 175-185.
- Anibueze, OA. (2006). *Banking Practice in Nigeria*. Lagos: Hiymark Educational Publisher.
- Atiku, SO., Genty, KI., & Akinlabi, BH. (2015). Effect of Electronic Banking on Employees' Job Security in Nigeria; *European Journal of Humanities and Social Sciences*; 4: 21-32.
- Central Bank of Barbados (2002). *Guideline for Electronic Banking*
- Cain, P. (2004). *Automating Personnel Records for Improved Management of Human Resources: The Experience of Three African Governments in Reinventing Government in the Information Age*, R. Heeksed, London: Routledge. Pp. 135-150.
- Carison, J. Furst, K. Land, W. and Nolle, D. (2001). Internet Banking Market Development and Regulatory Issues. *Society of Government Economist Conference 2000*. Washington D.C. Available Online at <http://www.occ.treas.gov/netbank/SGEC2000pdf>.
- Central Bank of Nigeria (2007): *Economic Report for the First Half of 2007*, a publication of central bank of Nigeria, Abuja. Website: <http://www.cenbank.org>.
- Csonka, P. (2009). Internet Crime, The Draft Council of Europe Convention on Cyber-Crime. A *Response to the Challenge of Crime in the Age of the Internet Security Report*, 16: 5-18
- Chemtai F. (2016). The effects of electronic plastic cards on the firm's competitive advantage: A case of selected commercial banks in Eldoret town, Kenya. *Intern. J. Sci. Educ. Stud.* 2: 29-39.
- Daly, J. and Miller, R. (2006). Corporations' use of the Internet in Developing Countries, *International Finance Corporation, Discussion Paper*, World Bank Washington, D.C.

- Dabhollear, PA. and Bagozzi, R. (2002). An Attitudinal Model of Technology based self-service. *Journal on Academic Market Science*. 30: 184-201.
- Davis, FD. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. Massachusetts, United States: Sloan School of Management, Massachusetts Institute of Technology.
- DeYoung, R., Lang, WW. and Nolle, DL., (2007), How the Internet affects output and performance at community banks, *Journal of Banking & Finance*, 31: 1033-1060
- Ekwueme CM., Egbunike PA., Okoye A. (2012). An empirical assessment of the operational efficiency of electronic banking: Evidence of Nigerian banks. *Review of Public Administration and Management*, 1: 76 -110
- Ernest, S. and Fadiya, B. Cashless Banking in Nigeria: Challenges, Benefits and Policy implication. *European Scientific Journal*, 8: 23-35.
- Ewubare DB., Tuaneh GL. (2016). Impact of electronic banking instruments on monetary policy efficiency in Nigeria. *Academy Of Management and Economics*, 1: 1-5.
- Hassan SU., Musa AM., & Farouk A. (2013). Electronic Banking Products and Performance of Nigerian Listed Deposit Money Banks, *American Journal of Computer Technology and Application*, 1: 138-148.
- Hoseini A, Dangoliani SK (2015). Investigating the effect of electronic banking services quality on the customer satisfaction. *J. Intern. Econ. Bus.* 1: 37- 42.
- Hossain MM., Irin D., Islam MS, Saha S. (2015). Electronic-banking services: A study on selected commercial banks in Bangladesh. *Asian Business Review*, 3: 53-61.
- Idowu, PA. (2002). The Effect of Information Technology on the Growth of Banking Industry in Nigeria. *Journal of Social Science*, 12:18-20.
- Imiefoh, P. (2012), Towards Effective Implementation of Electronic E-Banking in Nigeria, *An International Multi-Disciplinary Journal*, 6: 290-300.
- Joseph, A. and Beatriz, J. (1997). Service Quality in Education: A Student Perspective. *Qual Assurance, Education*, 5:15-21.
- John OA. & Rotimi O. (2014). Analysis of Electronic Banking and Customer Satisfaction in Nigeria; *European Journal of Business and Social Sciences*, 3:14-27.
- Khrawish HA., Al-Sa'di NM. (2011) The impact of e-banking on bank profitability: Evidence from Jordan. *Middle Eastern Finance and Economics*, 13: 142-158
- Kondabagil J. (2007). *Risk Management in Electronic Banking: Concepts and Best Practices*. Singapore: John Wiley and Sons Pte Ltd. pp. 10-18

- Kujur T., Shah MA. (2015). Electronic banking: Impact, risk and security issues. *Intern. J. Engin. Manag. Res.* 5: 207-212
- Lee JW. (2010). The role of demographics as the Perceptions of Electronic Commerce Lee MC (2009). Factors influencing the adoption of internet banking: An integration of TAM.
- Maiyo, J. (2013), *The Effect Of Electronic Banking On Financial Performance Of Commercial Banks In Kenya*, Unpublished MBA Project University of Nairobi.
- Microsoft (2003). *Electronic Business Issues for World Trade*, Microsoft Corporation, White Paper, USA.
- Malhotra, P. and Singh, B. (2010). Experience in Internet Banking and Performance of Banks, *International Journal of Electronic Finance*, 4: (<http://www.inderscience.com>)
- Ngango A., Mbabazize M., Shukla J. (2015). E-Banking and Performance of Commercial Banks in Rwanda A Case Of Bank Of Kigali; *European Journal of Accounting Auditing and Finance Research*, 3: 25-57.
- Nikolai L. and Bazlay J.D. (1997). *Intermediate Accounting*, South-Western College Publishing, Ohio.
- Nwachukwu O., Nwaneri D. and Ogbuchi A. (2015). Critical analysis of Electronic Banking in Nigeria: *European Scientific Journal, Special Edition* 1: 122-136.
- Obiri-Yeboah K, Kyere-Djan R, Kwarteng KA (2013). The role of information technology on banking service delivery: A perspective from customers in Ghana. *Intern. J. Innov. Res. Manag.* 2: 1-12.
- Offei MO, Nuamah-Gyambrah K (2016). The contribution of electronic banking to customer satisfaction: A case of GCB bank limited– Koforidua. *Intern. J. Manag. Inform. Technol.* 8: 1-11.
- Ogunsola, LA. and Aboyade, WA. (2005). Information and Communication Technology in Nigeria Revolution or Evolution. *Journal of social Science*, 11: 7-14.
- Okechi O., Kepeghom OM. (2013). Empirical evaluation of customers' use of electronic banking systems in Nigeria. *Afri. J. Comp. ICT*, 6: 7-20.
- Okoro, AS. (2014). Impact of electronic banking instruments on the intermediation efficiency of the Nigerian economy. *International Journal of Accounting Research*, 1(6): 14-21.
- Olorunleke, K. (2010). Technology and Service Quality in Banking Industry. *International Business Management* 4: 209-221.
- Oluma B., Abdullahi M. and Madu S. (2016) Economic Implications of Electronic Banking on selected Businesses in Nassarawa State, Nigeria: *European Journal of Business and Management*, 8:16-25.
- Omotunde, M., Sunday, T., & John-Dewole, AT. (2013). Impact of cashless economy in Nigeria. *Greener Journal of Internet, Information and Communication Systems*, 1: 040-043.

- Onay, C., Ozsoz, E. and Helvacioğlu, AD. (2008). The impact of Internet Banking on bank profitability - the case Turkey, *Oxford & Economics Conference programme*, June 22-24.
- Oni AA., and Ayo CK. (2010). An empirical investigation of the level of users' acceptance of e-banking in Nigeria. *J. Intern. Banking and Comm.* 15: 1-13.
- Onodugo IC. (2015). Overview of electronic banking in Nigeria. *Intern. J. Multidiscipl. Res. Dev.* 2: 336 -342.
- Ovia, J. (1997). New Technologies and Performance Enhancement. *International Business Journal*, 2: 17-20.
- Oyewole OS., Abba M., El-maude JG. and Arikpo A. (2013). E-banking and Bank Performance: Evidence from Nigeria. *International Journal of Scientific Engineering and Technology*, 2:766-771.
- Qureshi, TM, Zafar, MK and Khan, MB. (2008). Customers Acceptance in Developing Economics. *Journal of Internet Banking and Commerce*, 13: 6-8.
- Rogers, E.M. (1995), *Diffusion of Innovation* 4th Edition. New York, The Free Press
- Rose, PS. (2001). *Commercial Bank Management*; 5th Edition McGraw-Hill Irwin 345-456.
- Salehi M, Alipour M (2010). E-banking in emerging economy: Empirical evidence of Iran. *Intern. J. Econ. Finan.* 2: 201-209
- Sanusi, J. (2003). Central Bank of Nigeria's Standpoint of Anti-Money Laundering Compliance, Speech at the *Conference on Anti Money Laundering in ECOWAS: Bringing the Anti-Money Require in Compliance with International Standards*, Lagos, Nigeria, March 17, 2003.
- Siam, AZ. (2006). Role of the Banking Services on the Profits of Jordanian Banks, *American Journal of Applied Science*, 3: 1999-2004
- Smith, R. Holmes, M. and Kaufmann, P. (1999). *Nigerian Advance Fee Fraud: Trends and Issues in Crime and Criminal Justice*, No 121, Australian Institute of Criminology, Canberra. Available on Online at <http://www.aic.gov.au>.
- Sullivan, RJ. (2000). How Has the Adoption of Internet banking Affected Performance and Risk of Banks? A look at Internet Banking in the 10th Federal Reserve District, *FRB Financial Industry Perspectives*, 1-16
- Surendran P (2012). Technology acceptance model: A survey of literature. *Intern. J. Bus. Soc. Res.* 2: 175-178.
- Taiwo, JN & Agwu, M. (2017). The role of e-banking on operational efficiency of banks in Nigeria; Basic Research. *Journal of Business Management and Accounts*, 6: 01-10.

- Ugwueze, AC., Nwezeaku NC. (2016). E-Banking and Commercial Bank Performance in Nigeria: A Cointegration and Causality; Approach. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 6: 65-74.
- Whinstone, A. (2005). Planning for Competitive use of Information Technology in Multinational Corporations. *AIB UR Region Conference Paper*.
- Woodford, M. (2003). *Interest & Price: Foundation of a Theory of Monetary Policy*. Princeton: University Press.
- Yang, Z. (2001). Consumer Perception of Service Quality in Internet based Electronic Commerce. *Proceedings of the EMAC Conference*, May 8 – 11, Beignes, p.110 –120.