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## INFORMATION TECHNOLOGY AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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### ABSTRACT

*This study ascertained the impact of Information Technology on the Performance of Selected Deposit Money Banks in Anambra State, Nigeria. Survey research design method was adopted in this study to obtain sample opinions of respondents. The Spearman rank order Correlation Coefficient was used to test the hypothesis at 5% level of significance between observed and expected frequency. Some of the major findings were that information Technology had a positive significant effect on Performance and Liquidity of deposit money banks in Ekwuluobia metropolis, Anambra state. The recommendations based on the findings were that: The introduction of ICT has improved DMBs performance within the banking system. Hence, electronic banking activities should be enhanced to continue to enforce improved DMBs performance within the banking system in Ekwuluobia, Anambra state, Nigeria.*

**Keywords:** Information Technology, Bank's performance and Liquidity.

## Introduction

Before the introduction of information and communication technology in banking in Nigeria, the transaction of financial services, especially in banks was difficult and stressful; hence, the low performance level of banks in Nigeria as compared to foreign banks (Edwin et al., 2014). There has been a rapid adoption of information and communication technology tools in improving banking operations through the use of Short Message Services [SMS], Internet, online banking and real time settlement. Despite the perceived benefits of ICT in the financial sector, certain challenges emanating from human, operations and technical constraints are still being experienced (Nwakoby et al., 2018). Banks that have adopted information and communication technology adopted their strategies to affect the new relationship between information and communication technology and banking system. In this battle for competitive advantage and customer satisfaction, the emphasis is seen to be on the speed. Information and communication technology plays an important role yet not all banks seem to embrace it.

The impact of information and communication technology on the performance of deposit money banks in Nigeria have been examined by previous literature such as Aggreh, Malgwi, and Aggreh (2020).

From the reviewed empirical literatures, it was observed that most inferential statistics utilized by various scholars relied on CAMEL ratings and multiple-regression without comparing independent groups. The study however adopted independent-sample t-test that enabled the researcher compare different independent groups and also conducted the effect size statistics that provides an indication of the magnitude of the differences between the groups (and not just whether the difference could have occurred by chance). More so, most of the previous studies relied the use of ATM transactions, IT capability, perceived compatibility and IT security to proxy ICT adoption and neglected other core banking ICT related variables such as internet (web) transactions and mobile payments transaction. In addition, the use of branch expansion (which is a very important proxy for bank performance) was not given much attention by previous studies. Filling these gaps is the major justification for this paper.

In this research, there was no enough time for conducting the study due to costs in transportation and difficulty in getting adequate replies from banks due to the secrecy of banks.

From the reviews of empirical literatures, the findings were not based on whether ICT has enhanced the profitability and liquidity and ascertainment of the degree of acceptance of information and communication technology in various banking sectors. It focused mainly on the usage of ATM, POS and other ICT facility tools and also on the positive effects of ICT in banking sectors in Nigeria. The study intends to examine the effect of information and communication technology on performance of deposit money banks. Specifically, the study examines;

1. How information and communication technology has affected the performance of deposit money banks in terms of efficient, profit, interactive with customers and of course reporting.
2. If ICT has enhanced the liquidity of Nigerian banks.

## CONCEPTUAL REVIEW

### Information and communication Technology

Information and communication technology simply refers to as the gathering, storing, manipulating, and transferring of information. It is the automation of the process, controls, and information production using computers, software, telecommunication and ancillary equipment such as Automated Teller Machine and Debit Cards. It is a term that generally covers the harnessing of electronic technology for the information needs of a business at all levels. ICT is a synergy between computers and communication devices and forms an important part of the modern world. Thus, the most significant shortcomings in the banking industry today is a wide spread failure on the part of senior management in banks to grasp the improvement of technology and incorporate it into their strategic plans (Roger, 2016). It is imperative that all these innovations aimed at having a competitive edge are related to the profitability of banks (Akombo, 2011). According to Yousafzai (2012), ICT banking adoption is a complex and multifaceted process and joint consideration of customers' personal, social, psychological, utilitarian and behavioural aspects is more important than adoption itself and will ultimately result in the intended behavior.

### Application of ICT in the banking sector

In this section, the researcher is brief about apps and applications which are to be used by the public, academic, agriculture and banking sector in Nigeria.

**Mobile Apps and Applications:** Most of the banks are trying to modernize their existing banking with the use of available ICT advancement applications. Hence, most of banks now have designed their own colorful websites and along that they have design and development of mobile enabled apps and applications to effective reach to customer, especially young generations whoever always interconnecting with smart phones.

**E-Wallet:** A smart type of electronic card which is used for online transaction via computer, laptop, smart phone or other smart electronic devices. It needs to be linked with the bank accounts to make digital transactions. This application component stores information and encryption of the data where personal banking information provided by the customer, which includes: Name, postal address, mode of payment, money to be paid, debit or credit card details.

**Web-Pages:** Nowadays, individual web-pages (website), information or service portal and access gateways are becoming very essential to all banks to showcasing information about personal, public, academic and service oriented information. It acts as reflection mirror of internal and external functions and activities have been carried out by the respective co-operative banks and providing information as changing needs of customers. As observed that most of the co-operative banks do not have well informative web pages to know banking services; accounts provision, type of loans, interest and recovery mode and access facilities provide by consult banks. Hence, all banks should design well customer interface webpage for each bank or community entities. Then, these websites, information portals, gate-ways, blogs, networking sites and individual news channels and other information dissemination channels have provisions promoting the extended range of information resources and services with break the traditional systems of co-operative banks.

**Internet/Net banking:** Net banking similarly known as online banking, internet banking and also mobile banking. It is determined that bank-on-finger or bank-on- hand or bank-on-pocket. Now- a-days, most of the scheduled or non-scheduled banks have been facilitate this kind of personal banking service for all individuals and groups. Net banking system enables

customers or institutes access to all banking services and facilities; funds transfer, digital payment, shopping, online market and other financial services. This service of the bank radically improves the performance of a bank, offers greater convenience to customer in term to make use of banking services when needed. Hence, all the co-operative banks should give foremost priority for providing net-banking facility to view account balance, bank statement, checking banking transactions and funds transfer on loan or making payment.

**Mobile Short Message Service (SMS) and Mail Alert Service:** Short message service (SMS) Banking services may use either push and full message alert; deposit, transfer, loan dues, shopping, etc, changing the regulation of banks and security alert for account use and misuse. This alert service provided by all financial institutions and also academic institution to track account on the move with instant alerts through over the phone or e-mail. The customers receive alerts on their numb withdraw or deposit money from the bank or ATM and also these alerts are sent by bank when the customer online or net banking account is tried to login by self or somebody else. Not all co-operative banks are yet to provide alert service. Hence, all co-operative banks should have a rethink and made compulsory to provide alert services to customers in all banks.

**Automatic Teller Machine (ATM), Mobile ATM, Micro ATM:** This service provides customers to withdraw money, check balance, transfer money, update phone number and other personal details through the use of ATM cards. Mobile ATM is an ATM machine inbuilt vehicle started by most of the private and few more nationalized banks which travels round the village or city or some selected areas of the city, to provide services for customers who are not able to come to the bank for money or others. Banks always monitor these vehicles through GPS System. Whereas; Micro ATM is a customer doorstep mobile arrangement cum-mobile ATM platform. The device seems to look like a card swiping machine which is work handheld point of sale (Pos) particulars which can be specifically using to disburse money cash in remote areas of the country and its works are remotely connected to their core banking system through this machine.

**Bankers automated clearing services:** Which involves the use of magnetic ink character reader (MICR) for cheque processing. MICR is a system that provides encoding of cheques and document with characters in magnetic ink so that they can be electronically read. It is capable of encoding, reading and sorting cheques for timely clearing.

**Automated payment systems:** Which includes products such as automatic teller machine-ATM (a remote cash dispenser that assists customers to have access to withdrawal outside the banking hall), plastic cards(such as credit cards ,debit cards, and store value cards that store electronic cash to use for online and off line micro payments) and electronic funds transfer-EFT(an electronic tool used to effectively transfer the value of exchange process for goods and services, ideas or information from one bank account to another account in another bank).

**Automated delivery channels:** which include interactive television and the internet. The device enables customers to carry out transactions with their banks through connection between the customer's terminals in their homes or offices and the bank's computer system. VSAT (very small aperture terminal) is a satellite communications system that serves home and business users. Customers with such terminals are able to contact the bank and get any form of information; on bank balances, deposits into and withdrawals from accounts through this medium.

### **Effects of ICT on the performance of Nigerian Banks**

ICT helps banks improve the efficiency and effectiveness of services offered to customers and enhances business processes, managerial decision making, and workgroup collaborations, which strengthens their competitive positions in rapidly changing and emerging economies.

Balogun (2016) confirms that ICT is a concept that is having a remarkable effect on almost entire aspects of the human endeavours. Developing countries are increasingly being faced with the challenges of technological advancement and the constant proliferation of technologies. Information and communication technology have contributed to the distribution channels and networking of Nigerian banks. He also affirms that ICT involves the application of principles to engage physical component in processing, distributing, producing, transforming information to achieving an intended goal. ICT gadgets includes: telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media.

Information and communication technology affects financial institutions by easing enquiry, saving time and improving service delivery. In recent decades, ICT by commercial banks has served to streamline operations, improve competitiveness and increase the variety and quality of services provided.

According to Ukah (2013), Nigerian banking industry has become highly ICT-based and is reaping the benefits of a technological revolution as evidenced by its application in most of its operations. Many commercial banks are making huge investments in technology to maintain and upgrade their infrastructure, in order not only to provide new electronic information based service, but also to take timely advantage of new off-the-shelf electronic services such as online retail banking which is making it possible for very small institutions to take advantage of new technologies at quite reasonable costs.

ICT facilitates the networking of commercial bank branches and to other banks within the outside nation. It offers a quicker rate of inter-branch transactions as the consequence of distance and time are eliminated. In Nigeria, ICT usage especially in the banking sector has considerably improved even though it may not have been as high as those observed for advanced countries. Information and communication technology has provided self service facilities from where prospective bank customers can complete their account opening documents directly online.

Furzaneh (2012) in their research say that customers are encouraged to utilize ICT banking at first priority, increasing the customer arousal by ICT advertisements to use. ICT banking creates a positive attitude towards the bank's brand, which in turn is the key factor in ICT banking effectiveness. It assists the customer to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards.

Today, a variety of ICT products are increasingly being used in the banking industry of the less developed countries in response to increased sophistication of the customers and greater competition emanating from the increased globalization of the financial services industry. These products include Automated Teller Machines (ATM), telephone banking, electronic funds transfer, debit cards, electronic cash, electronic fund transfer at point of ale, local area network, wide area network, etc (Agboola,2006).

### **Empirical Studies**

In order to determine the factors influencing customer's choice of banks in Nigeria, Maiyaki and Mokhtar (2010) evaluate the effect of availability of electronic banking facilities among others. The study adopted a survey study of 407 banks customers in 33 private and public

organizations in Kano in the Northern part of the country, they found that the availability of electronic banking facilities such as ATM, online banking and telephone banking do not have a significant influence on customers banks choice decision. This result was rationalized on the ground that ICTs have become widely diffused in the Nigerian banking sector that is all firms in the industry have embraced the ICT ideology. Agbolade, (2011) analyzed the information and communication technology and banks profitability in Nigeria. Using a primary data sourced through a structured questionnaire administered to selected banks in south-west Nigeria and the ordinary least square approach econometric techniques. The data analysis showed that a positive correlation exists between ICT and banks profitability in Nigeria. It recommends that more attention has to be directed towards the use of information and communication technology in banking operations. Binuyo and Aregbeshola (2014) assessed the impact of ICT on commercial bank performance in South Africa. The analysis of the data was done using the panel environment using the orthogonal transformation approach. The finding of the study indicates that the use of ICT increases the return on capital employed as well as the return on assets of the South African banking industry. The study recommends that banks emphasize policies that will enhance proper utilization of ICT equipment rather than additional investment. Balogun (2016) conducted a research on the impact of information technology on organizational performance in Nigerian banking industries. Two null hypotheses based on sets of questionnaires distributed to selected banks employees performance. Chi-square was used to test hypotheses. The findings revealed that technological innovation influenced banks employee's performance, customer's satisfaction and improvement in bank's profitability. It recommends effective management of technological innovation for improved employees performance, Customer's satisfaction, and Sustainable profit, increased return on investment and to promote competitiveness in the Nigerian banking industry. Okanta (2019) evaluated the effects of information and communication technology on the Nigerian economy: Evidence from the banking sector. However, using the Breusch Godfrey (BG) dynamic modeling to remove serial auto correlation, the paper revealed that only the mobile banking payment component positively and significantly affected the gross domestic product. On the basis of the findings, the researcher recommended that the central bank of Nigeria, banks and stakeholders should collaborate to strengthen the information and communication infrastructures and security systems in the country to reduce frauds, make the environment user friendly and improve public confidence. Aggreh, Maigwi, and Aggreh (2020) examined the ICT investment and banks financial performance in Nigeria. The study utilized a longitudinal research design, covering all the 11 deposit money banks listed on the Nigerian stock exchange with secondary data for the period 2010-2017 financial years. The study adopted a dynamic framework in the analysis by the estimation of lead variables of ICT investment. The findings of the study revealed that ICT investment does not always result in instantaneous positive effects on financial performance in the immediate period. The study recommends that banks should improve their ICT investments while engaging quality staff training. Olawale, Gift, and Olusegun (2023) researched on the financial innovation and bank financial performance: Evidence from Nigerian deposit money banks. This study considers the causal effect of innovation on commercial bank performance via Granger Causality test. The usage of ATM, mobile banking, credit and debit cards, online banking and Agency banking have a positive short run and long run substantial effect on deposit money bank's performance in Nigeria except NEFT and NIBSS. The findings revealed financial innovation impact on financial performance of DMBs in Nigeria except NEFT, NIBSS intent payment because of low value of transaction and high charges in the banking sector.

## **METHODOLOGY**

Survey research design was considered suitable for this study and used to obtain sample opinions of respondents. The survey research design is relevant to this study because it enables information to be systematically gathered in a research work and also planners and administrators use the survey research design as a quick and effective means of baseline information for policy decisions especially in the areas of education, population, communication and employment. This is broken down into methods and sources of data collection, sampling techniques, method and instrument of data analysis.

### **Sources of Data**

The data generated for this study were from questionnaire which administered personally by the researcher to the respondents drawn from staff of the 11 commercial banks in Ekwuluobia metropolis, Anambra State. The questionnaire were analyzed, using percentage response, the part B were analyzed, using 5point likert scale ranking and above was considered acceptable. The options were: Strongly agreed, Agreed, Disagree, Strongly disagree and Undecided.

### **Population of the study**

The 11 commercial banks staff in Ekwuluobia metropolis constitutes the population parameter of this study. The entire staff 11 commercial banks staff in Ekwuluobia metropolis are too big to capture an approximately over 120 staff. The sampling technique used for the study is Quota approach since all the respondents in the population will not be given equal chance of being selected.

### **Sample size Determination**

The researcher therefore selected three (3) departments including operations, counter (cash) and marketing department of the 11 commercial banks staff in Ekwuluobia metropolis of Anambra state for questionnaire distribution.

The population was drawn from the total staff strength of the 11 commercial banks staff in *Ekwuluobia* metropolis which are over 225.

### **Data Analysis Technique**

The researcher used closed ended type of questionnaire. The questionnaire had two sections; section A, elicited personal data of the respondents and section B proffered closed ended questionnaire on the research study.

The first category contains questions about Information and Communication Technology in Deposit Money Banks. The second category contains questions on Operational efficiency of Deposit money banks, Customers Satisfaction of deposit money banks, Performance of Deposit money banks, Liquidity of Deposit money banks.

The Spearman rank order correlation coefficient was used to test the hypothesis at 5% level of significance between observed and expected frequency.

## **DATA ANALYSIS**

### **Test of Hypotheses**

Spearman rank order correlation co-efficient was used to test the relationships between variables under study. The obtained results are shown in tables 1 and 2. Significant relationships have been so indicated.

### Hypothesis One

**H<sub>01</sub>:** There has not been any significant change through information and communication technology on the performance of Nigerian banks.

**H<sub>1</sub>:** There is significant change through information and communication technology on the performance of Nigerian banks.

**Table 1: ICT and DMBs Performance**

			Correlations	
			Banks adopt Information communication technology for organizational purposes	Banks generate high returns
Spearman's rho	Banks adopt Information communication technology for organizational purposes	Correlation Coefficient	1.000	.856**
		Sig. (2-tailed)	.	.000
		N	90	90
	Banks generate high returns	Correlation Coefficient	.856**	1.000
		Sig. (2-tailed)	.000	.
		N	90	90

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source: Field Survey, 2023**

The correlation coefficient between ICT and DMBs Performance was as follows: ( $r = 0.856$ ,  $P < 0.05$ ). This correlation is significant at 0.05 level of significance and the strong relationship shows significant influence of ICT adoption on DMBs performance of 11 commercial banks in Ekwuluobia metropolis, hence, establishing a relationship between the two variables. Consequently, hypothesis ( $H_{01}$ ) that states that there has not been any significant change through information and communication technology on the performance of Nigerian banks, Ekwuluobia, Nigeria is rejected. Therefore, there is significant change through information and communication technology on the performance of Nigerian banks, Ekwuluobia, Nigeria.

### Hypothesis Two

**H<sub>02</sub>:** Information and communication technology has not enhanced the liquidity of Nigerian banks.

**H<sub>2</sub>:** Information and communication technology has enhanced the liquidity of Nigerian banks.

**Table 2: ICT and DMBs Liquidity**

			Correlations	
			Banks adopt Information communication technology for organizational purposes	Assets of banks and individuals can be easily converted into cash
Spearman's rho	Banks adopt Information communication technology for organizational purposes	Correlation Coefficient	1.000	.816**
		Sig. (2-tailed)	.	.000
		N	90	90
	Assets of banks and individuals can be easily converted into cash	Correlation Coefficient	.816**	1.000
		Sig. (2-tailed)	.000	.
		N	90	90

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source: Field Survey, 2023**

The correlation coefficient between ICT and DMBs liquidity was as follows: ( $r = 0.816$ ,  $P < 0.05$ ). This correlation is significant at 0.05 level of significance and the strong relationship shows significant influence of ICT adoption on DMBs liquidity of 11 commercial banks in Ekwuluobia metropolis, hence, establishing a relationship between the two variables.



Consequently, hypothesis (Ho<sub>2</sub>) that states that Information and communication technology has not enhanced the liquidity of Nigerian banks, Ekwuluobia, Nigeria is rejected. Therefore, Information and communication technology has significantly enhanced the liquidity of Nigerian banks, Ekwuluobia, Nigeria.

## **DISCUSSION AND CONCLUSION**

The information and communication technology and performance of Deposit Money Banks form the basis of this research. The research has two hypotheses which were subjected to testing for the determination of the impact of information and communication technology on performance of deposit money banks, Ekwuluobia, Anambra state, Nigeria. Four hypotheses were stated and output gotten to make decision based on the findings.

The hypothesis one result further revealed that ICT adoption influences Banks performance within the banking system. The spearman ranking order correlation coefficient further established a significant relationship at  $p = 0.00$  which is less than the significance level of 0.05. Finally, the second hypothesis further proves that ICT adoption significant affects Banks liquidity within the banking system.

The findings prove that the introduction of information communication technology has necessitated and ensured the improved performance of the commercial banks in Ekwuluobia metropolis. This result is in line with the essence of introduction of ICT in the banking activities of deposit money banks in Nigeria and improvement of service delivery to customers in Nigeria. The result affirms the earlier position of Olawale, Gift, and Olusegun (2023) who established that the introduction of financial innovation impacted on financial performance of DMBs in Nigeria. This is further supported by Adebola (2018) and Woldu, and Belay (2020) who both revealed that information communication technology improved the customer satisfaction and employee performance of commercial banks. However, the findings of the study is contradicted by Appiahene, Missah, and Najim (2019) who revealed that the commercial banks are yet to maximize the opportunities provided by e-banking system in Nigeria. Furthermore, Aggreh, Maigwi, and Aggreh (2020) revealed that ICT investment does not always result in instantaneous positive effects on financial performance in the immediate period. This contradicted empirical works were addressed by the result of the findings by showcasing that information communication technology had significant impact and related with the performance of commercial banks in Ekwuluobia metropolis of Anambra State in Nigeria.

## **Recommendations**

Based on the findings of this study, the following recommendations were made;

1. The introduction of ICT has improved DMBs performance within the banking system. Hence, electronic banking activities should be enhanced to continue to enforce improved DMBs performance within the banking system in Ekwuluobia, Anambra state, Nigeria.
2. The evolvement of ICT should be enshrined such that the need for physical cash should be reduced if not eliminated so as to foster banks continuous liquidity.

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