

## **Impact Of Information And Communication Technology On Nigerian Banks Operations A Study Of United Bank For Africa (UBA) Plc**

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**ABSTRACT :** *This study examined the impact of information and communication technology on the Nigerian banks operations in term of speed of banking operations, and efficient service delivery, workers' performance and bank's profit level, using United Bank for Africa (UBA) Plc. as a case study. The survey research design was used in this study. It involved the use of a self-designed structured questionnaire in collecting data from selected United Bank for Africa (UBA) Plc staff through simple random sampling method. The population of this study comprised all staff of UBA Plc while the sample size was fifty (50) respondents randomly selected from ten (10) purposively selected branches within Osun State. Data collected were analyzed using Simple Regression Analysis with the aid of Statistical Package for Social Sciences (SPSS) software version 20. The result showed the usage of ICT contributed significantly to the speed of banking operations, and efficient service delivery, workers' performance and bank's profit level with ( $\beta = 0.764, t = 8.194, P < .01$ ), ( $\beta = 0.348; t = 2.572; P < .05$ ), and ( $\beta = 0.635, t = 4.382; P < .01$ ) respectively. It was then recommended that the banks should embark on more effective training for the workers, in order to further enhance their performance. And also management of banks should procure quality ICT gadgets that will enhance efficiency and customers' retention.*

**KEY WORDS:** *ICT, ATM, Mobile Banking, Card System, and UBA*

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### **I. INTRODUCTION**

Information and communication technology has become global tool for banking industry to reach global markets. The use of ICT in banks has become a global phenomenon and every bank must be ICT compliance in order to survive in global competitive environment. The introduction of ICT has changed manual and traditional forms of doing business and is being replaced by the sophisticated technology that is based on automation and interconnection of computers and other electronic devices. For instance, ledger books, paper invoice, printed materials and business trips are being replaced with online billing and payments, elaborate website with product information and real-time teleconferencing across continents and time zones (Ojokuku and Sajuyigbe, 2012). Ovia (2001) said that the banking industry has moved into an era of menu-driven ultra- robust specialized software programmes called banking applications and these applications can carry out virtually all banking functions relying heavily on information collection, storage, transfer and processing. Woherem and Adeogri (2000) claimed that only banks that overhaul the whole of their payment and delivery systems and apply Information communication technology (ICT) to their operations are likely to survive and prosper in the new millennium. He advises banks to re-examine their service and delivery systems in order to properly position them within the framework of the dictates of the dynamism of information and communication technology. Abubakar and Rasmainsi (2012) observed that Information and communication technology has become the heart of the banking sector, which is the heart of every robust economy. The advancement in Technology has played an important role in improving service delivery standards in the Banking industry. In its simplest form, Automated Teller Machines (ATMs) and deposit machines now allow consumers carry out banking transactions beyond banking hours. With online banking, individuals can check their account balances and make payments without having to go to the bank hall. This is gradually creating a cashless society where consumers no longer have to pay for all their purchases with hard cash (Josiah and Nancy, 2012).

The bank reforms in Nigeria are pursued with a view to make the sector realize its objectives in advancing the economy( CBN, 2006) as cited in Osabuohien, (2008). It is expected that the impact of these reforms will be enhanced with the use of ICT because it will create some form of competitive advantage and improve banking services through accuracy and efficiency in their transactions.

## **II. LITERATURE REVIEW**

### **2.1 Concept Of ICT And A Perspective Of Nigerian Banks**

The revolution in ICT has made the banking sector changed from the traditional mode of operation to presumably better ways with technological innovation that improves efficiency. According to Mejabi (2008), information and communication technology is a general term that describes any technology that helps to produce, manipulate, store, communicate and/or disseminate information. Microsoft Encarta 2009 defined information and communication technology as the processing of data via computer: the use of technologies from computing, electronics, and telecommunications to process and distribute information in digital and other forms. Information technology combines the technology of computers and communications to provide information processing services throughout the office or around the world. Sajuyigbe and Alabi, (2012) posited that ICTs encompass technologies that can process different kinds of information (audio, video, text, and data), and facilitate different forms of communications among human agents, and among information systems.

Information and communication technology is a term which generally covers the harnessing of electronic technology for the information needs of businesses at all levels, (Anderson, 1990). In addition, Longley and Shain (1992), defined information and communication technology as the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronic based combination for computing and telecommunication. While an information system (IS) is a group of formal process that together collects, retrieve, process, store and disseminate information for the purpose of facilitating planning, control, coordination and decision making in organizations. Information and communication technology on the other hand provides the technical solutions identified in the (IS) information system; including the networks, hardware and software (Accad , 2009). Ovia, (2001)conceived of information and communication technology to broadly encompass the information that business creates and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information. In addition to computers, the data recognition equipment, communication technologies, factory automation and other hardware services are involved. Traditionally, telephone, radio and television were referred to as media technology.

The use of information and communication technology in banking operations is called electronic banking. Ovia, (2001) argued that Electronic banking is a product of e-commerce in the field of banking and financial services. In what can be describe as Business-to-consumer (B2C) domain for balance enquiry, request for cheque books, recording stop payment instruction, balance transfer instruction, account opening and other forms of traditional banking services. Banks are also offering payment services on behalf of their customer who shop in different e-shops. The use of ICT has delivered a wide range of value added products and services to bank customers (Ojokuku and Sajuyigbe, 2012). The use of information technology in banking operations is called electronic banking. Josiah and Nancy, (2012) observed that there are positive impacts of e-banking on bank turnover and profitability and to a lesser extent on employment, most notably when e-commerce is part of larger business strategies of bank. The use of e-banking can contribute to improved bank performance, in terms of increased market share, expanded product range, customized products and better response to client demand. Only banks that use their technology resources effectively have the opportunity to secure real competitive advantage in this fast changing industry through real product or service differentiation.

. Information and Communication Technologies (ICTs) may be viewed in different ways. The World Bank defines ICTs as “the set of activities which facilitate by electronic means the processing, transmission and display of information” (Alu, 2002). ICTs “refer to technologies people use to share, distribute, gather information and to communicate through computers and computer networks” (Laudon and Laudon, 2001). ICTs can be described as a complex varied set of goods, applications and services used for producing, distributing, processing, transforming information (including) telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media” (Laudon and Laudon; 2010). ICTs represent a cluster of associated technologies defined by their functional usage in information access and communication, of which one embodiment is the Internet.

## **2.2 Electronic Banking And The Common Banking Products**

Ojokuku and Sajuyigbe (2012) identified the following ICT banking products:

### **2.2.1 Point of Sale terminals:** POS terminals handle cheque verifications, credit authorization,

cash deposit and withdrawal, and cash payment. This enhances electronic fund transfer at the point of sale (EFTPOS). EFTPOS enables a customer's account to be debited immediately with the cost of purchase in an outlet such as a supermarket or petrol station. It consists of the accumulation of electronic payment messages by the retailer, which are subsequently passed on to appropriate institutions for processing. The purchase price is debited on the buyer's account and credited on the seller's account.

**2.2.2 The Card System:** The card system is a unique electronic payment type. The smart cards are plastic devices with embedded integrated circuit being used for settlement of financial obligations. The power of cards lies in their sophistication and acceptability to store and manipulate data, and handle multiple applications on one card securely. Depending on the sophistication, it can be used as a Credit Card, Debit Card and ATM (Automated Teller Machine) card.

**2.2.2.1 A credit card:** This is a payment card issued to users as a system of payment. It allows the cardholder to pay for goods and services based on the holder's promise to pay for them. The issuer of the card creates a revolving account and grants a line of credit to the consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user.

**2.2.2.2 A debit card:** This is also known as a bank card or check card is a plastic payment card that provides the cardholder electronic access to his or her bank account(s) at a financial institution. Some cards have a stored value with which a payment is made, while most relay a message to the cardholder's bank to withdraw funds from a payee's designated bank account. Online debit cards require electronic authorization of every transaction and the debits are reflected in the user's account immediately. The transaction may be additionally secured with the personal identification number (PIN) authentication system; some online cards require such authentication for every transaction, essentially becoming enhanced automatic teller machine (ATM) cards.

**2.2.3 Automated Teller Machine (ATM):** An ATM device allows a bank customer to withdraw cash from his account via a cash dispenser (Machine), and the account is debited immediately. A fundamental advantage is that it needs not to be located within the banking premises. It is usually in stores, shopping malls, fuel stations etc. It saves customers time in service delivery as an alternative to queuing in bank halls, customers can invest such time saved into other productive activities. ATMs are a cost-efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers.

### **2.2.4 Mobile Banking**

Mobile Banking refers to provision and availing of banking- and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information.

## **2.3 Adoption Of ICT In United Bank For Africa (UBA) Plc.**

United Bank for Africa which was merged with Standard Trust Bank Plc in August, 2005 and later acquired Continental Trust Bank Plc and Trade Bank Plc in December, 2006 respectively, has over five hundred (500) branches in different parts of Nigeria. This made it to be the bank with the highest number of branch networks and first to reach one trillion naira in balance sheet (UBA, 2007). UBA is the clear leader in the deployment of solutions across electronic channels in West Africa. As at 30 September 2008 it has 1,256 ATMs, 3,296 POS machines deployed. Outside of Nigeria, they had a further 55 branches and 76 ATMs. During 2008, UBA processed 10% of the total value of all POS transactions in Nigeria. In 2008 UBA also pioneered the deployment of cheque-deposit ATMs into the Nigerian market. In May 2009, UBA again pioneered the first cash deposit ATM in Nigeria. These successes will be extended to the rest of Africa. UBA is the largest e-banking footprint in Nigeria (Interswitch 2007). UBA is the largest Nigerian bank by assets, deposits, and

branch, ATM and customers (Interswitch 2007).UBA remains the only bank in Nigeria with a full electronic platform for payroll administration for corporate clients. Going beyond payment of salaries, corporate organizations are given a convenient, secured electronic alternative to managing employees. Some of the banks e-banking services include: U-Direct, U-Mobile, EMS, Bank Collect, Pay Direct, U-Pay, SMS/E-Mail Alerts, U-Dividend monitor, E-Dividend, Dubai Visa Solution, Etranzact, Schools Online, EduPortal. Achievement UBA has maintained a consistent and solid financial performance in its long history. They have a history of leading and pioneering innovations in the Nigerian financial sector. The following are parts of the bank's landmark achievements: UBA is the first Nigerian bank to offer an IPO following its listing on the Nigerian Stock Exchange in 1971. UBA is the only sub – Saharan African bank (ex-RSA) with a branch in USA (New York)- set up in 1984. UBA was the first Nigerian Bank to introduce a Cheque Guarantee Scheme known as UBACARD in 1986. With consideration to the foregoing, the objective of this study is to examine the impact of ICT on Nigerian banks operations with special reference to United Bank for Africa (UBA) Plc. Specifically, the objectives were to examine the impact of usage of ICT on enhancement in speed of banking operations and efficient service delivery, improvement on workers performance and inducement in bank's profit level.

### III. RESEARCH QUESTIONS

Does usage of ICT in bank enhances banking operations and efficient delivery?

Does usage of ICT in bank improves workers performance?

Does usage of ICT in bank increases bank profit level?

#### 3.1 Model Specification

Model is on the impact of ICT on the operations of the banks. It relates to the usage of ICT (ICTU) to some variables believed to measure the performance of the banks such as enhancement in speed of banking operations and efficient service delivery (SOSD), improvement on workers performance (WOPM) and inducement in bank's profit level (BNPL). This model seeks to capture the impacts that ICT usage will have on banks operations.

It is being represented thus:

$$(Xi) = f(\text{ICTU}, \mu)$$

This can be further be expressed as:

$$(Xi) = \lambda_0 + \lambda_k \text{ICTU} + \mu$$

Where;

$Xi$  : vector of the dependent variables i.e enhanced in speed of banking operations and efficient service delivery (SOSD), improved workers performance (WOPM) and induced bank's profit level (BNPL).  $\lambda_0$  is constant while  $\lambda_k$  (K=1,2,3) shows the variations in dependent variables with respect to independent variable. The a priori is given as  $\lambda_k > 0$ .

#### 3.2 Methodology

##### 3.2.1 Research design and Sources of Data

The survey research design was used in this study. It involved the use of a self-designed structured questionnaire in collecting data from selected United Bank for Africa (UBA) Plc staff through simple random sampling method. The population of this study comprised all staff of UBA Plc while the sample size was fifty (50) respondents randomly selected from ten (10) purposively selected branches of UBA plc in Osogbo, Ile-Ife, Ilesa, Ede, and Ejigbo respectively. The participants were drawn randomly from different departments of the ten selected UBA Plc branches. The selection was done in such a way as to include all categories of workers (senior and junior staff) and to cut across gender. The instrument used in this study was a close-ended questionnaire designed by the researchers. The response format was in likert form with indications ranging from strongly agree (5) to strongly disagree (1). In order to establish the reliability of the research instrument, a test - retest method was used. The result of the reliability test was 0.80 showing that the instrument is reliable. In confirming the facts and contents validities of the instrument, it was given to experts for verification. Data collected were analyzed using Regression analysis with the aid of Statistical Package for Social Sciences (SPSS) software version 20.

## ANALYSIS OF DATA AND RESULT INTERPRETATION

Table 1: Summary of Regression Result Model

Dependent Variables	Constant	ICTU	R	R <sup>2</sup>	Durbin Watson
<b>SODS</b>	0.955	0.775			
<b>T-value</b>	2.179	8.194	0.764	0.583	1.873
<b>P-value</b>	0.034	0.000**			
<b>WOPM</b>	2.970	0.350			
<b>T-value</b>	4.709	2.572	0.348	0.121	1.176
<b>P-value</b>	0.000	0.013*			
<b>BNPL</b>	2.108	0.537			
<b>T-value</b>	3.707	4.382	0.535	0.286	0.956
<b>P-value</b>	0.001	0.000**			

Note: \*P<.05, \*\*P<.001

Table 1 shows the results from the estimation of the dependent variables (SODS, WOPM and BNPL) that were related to ICTU. The usage of ICT (ICTU) contribute significantly to the speed of banking operations, and efficient service delivery (SODS), workers' performance (WOPM) and bank's profit level (BNPL) with ( $\beta = 0.764$ ,  $t = 8.194$ ,  $P < .01$ ), ( $\beta = 0.348$ ;  $t = 2.572$ ;  $P < .05$ ), and ( $\beta = 0.635$ ,  $t = 4.382$ ;  $P < .01$ ) respectively. In terms of contribution, ICT usage accounts for about 58.3%, 12.1% and 28.6% variations in speed of banking operations, and efficient service delivery (SODS); workers' performance (WOPM) and bank's profit level (BNPL). This result conformed with Osabuohien (2008) who carried out an empirical analysis on the anticipated role of ICT has in enhancing the operations of selected Nigerian banks in the light of current reforms. He discovered that the usage of ICT in banks has positive and significant impacts on the speed of operations and service delivery, productivity and profit level of the banks. This result also agreed with the finding of Ojokuku and Sajuyigbe (2012) who asserted that the ICT usage by banks has enhanced banking operations through effective and efficient service delivery.

#### 4.1 Discussion Of Findings

The objective of this study is to examine the impact of information and communication technology on the Nigerian banks operations in term of speed of banking operations, and efficient service delivery, workers' performance and bank's profit level, using United Bank for Africa (UBA) Plc. as a case study. The study discovered that ICT usage in banks has positively impacted on the speed of banking operations and efficient service delivery to customers. This could be attributed to the fact that all the branches surveyed have ATMs, operate telephone banking, internet banking, personal computer banking, branch networking, and electronic transfer, and these have helped and facilitated improved service delivery by employees of United Bank for Africa (UBA) Plc. This has resulted in higher levels of efficiency in service delivery, and is supported by the research findings of Agboola (2001) that online banking allows customers to get their current account balance at any time. This study found that the usage of ICT contributed significantly to the workers' performance. Due to increase in technology usage in the banking industry, workers performance increases day-by day. And ICT is becoming an indispensable part of modern day banking services. Banking industry is also one of the industries that adopt technology which helped in providing better services to customers. This study also revealed that adoption of ICT in banking industry has tremendously helped banks to improve its profit levels. This result is in line with previous studies (Hernando and Nieto, 2007; Siam, 2006; and Khrwish and Al-Sa'di, 2011) who asserted that a marginal change in the level of the investment and adoption of ICT in the banking industry will result to a proportionate increase in the profit level.

#### IV. CONCLUSION AND RECOMMENDATIONS

The survey as presented on this work examined the impact of ICT on Nigerian Banks operations with special reference to UBA Plc. On the basis of the findings of this study, it can be concluded that the adoption of ICT in Nigerian banking sector has helped tremendously to improve the productivity of bank workers, leading to efficiency and effectiveness of operations and service delivery. This study also found that the usage of ICT in banking system will boost bank's profit levels significantly and also customer-relationship will be enhanced. Customers can access their account throughout the week as well as outside working hours to make withdrawal without going to the banking hall and this will engendered higher customer satisfaction. It was then recommended that the banks should embark on more effective training for the workers, in order to further enhance their performance. And also management of banks should procure quality ICT gadgets that will

enhance efficiency and customers' retention, among others was pointed out. This will ensure quality service delivery and productivity.

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