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The Effect of Information Communication Technology and Financial Innovation on Performance on Nigerian Commercial Banks (2001 – 2013)

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Abstract
This study examined the Impact of Information and Communication Technology and financial innovation on the performance of commercial banks in Nigeria, using conveniently selected eleven Commercial Banks in the country. The study used the banks' annual data and Central Bank of Nigeria facts book over the period 2001 to 2013. The study applied ordinary least square (OLS) in its analysis to ascertain the impact of E-Banking services and ATM on the performance of commercial banks in Nigeria. The findings of the study indicate that an increase in banks' profitability performance increases commercial banks' Return on Equity (ROE). Investments in e banking services and ATMs do not really improve banks' performance. The study recommends among other things that more emphasis should be on corporate governance and policies that will increase proper and efficient utilization of financial innovation gadgets rather than simply acquiring additional investments.
Keywords: e-banking, Information Communication Technology, and Automated Teller machines

INTRODUCTION

The importance of Information and Communication Technology (ICT) and Innovations in banking system cannot be over emphasized. An ICT innovation has become an indispensable tool to improve the human lives and connect the nations of the world. The last decade has seen ICT dramatically transforming the world, enabling Banking innovations and productivity increases; connecting people and communities; improving standards of living and creating employment opportunities across the globe.

Information and Communication Technology has become global tool for any Banking system to reach global markets. Thus every Banking system 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. The use of sophisticated technology based on automation and interconnection of computers and other electronic devices are becoming the norm rather than exception. 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) observes that the Banking system has moved into an era of menu-driven ultra-robust specialized software programmes called Banking system applications and these applications can carry out virtually all Banking system functions relying heavily on information collection, storage, processing and transfer. Similarly, Woherem and Adeogri (2000) rightly says that only banking systems 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. Banking system should therefore re-examine their service and delivery systems in order to properly position themselves within the framework of the dictates of the dynamism of information and communication technology. The advancement in ICT has played an important role in improving service delivery standards in the financial system like the banking industry (Abubakar and Rasmaini 2012). This has allowed for banking innovation and financial innovation.

Banking innovation is the unanticipated improvement in the array of Banking products and instruments that are stimulated by unexpected change in customer needs and preferences, tax policy, technology and regulatory impulses (Bhattacharyya & Nanda, 2000). The developments in the Banking sector have not only led to the increase in the number of Banking institutions, but also the development in level of sophistication with new payment systems and asset alternatives to holding money. This has resulted mainly from technological advancement and increase in competition as the number of institutions increase. Developments in payment systems have started to create close substitutes for hard currency, thus affecting a core part of banking.

Financial innovation in the banking industry has been spurred on by the forces described by Noyer (2007) particularly in terms of new distribution channel systems, such as internet and mobile banking. As the industry has provided more ways for consumers to access their accounts, they have added significant costs to each institution. Banks are therefore considering new ways to drive revenue through their distribution system among which is the drive to increase the customer share of wallet. The share of wallet is the portion of a customer's entire Banking relationship that any particular bank has with the customer.

Akin to ICT is the concept of globalization. The world is seen as a global village which turned the markets and economies in like manner. Globalization has caused intense competition in the banking industry,

worldwide (Nzotta and Okereke, 2009 and Thiel, 2001). The phenomenon called globalization has significantly intensified competition in the banking sector in three particular aspects viz: banks face pressures from a wide and diverse range of competitors; the regulatory environment has become less protective of the banking sector; and competition has become global in nature (Abdulsalam, 2006).

In order to tap the potential benefits of ICT and Banking innovation, Banks deploy ICT based banking products and services such as automated teller machine (ATM), internet banking, mobile banking solutions, point of sale terminals, computerized Banking accounting and reporting, human resources solution among others. In spite of these, there is a debate about whether and how the ICT adoption improves commercial banks performance especially in Nigeria. This study aims to answer determine the impact of E-banking services on banks Return on Equity; and the effect of Automatic Teller Machine (ATM) on commercial Banks Net profit. The formulated hypotheses formulated in null format are: E- banking services has no positive and significant impact on the performance of commercial banks in Nigeria; and Automatic Teller Machine (ATM) has no positive and significant effect on the performance of commercial banks in Nigeria.

This work is further divided into seven sections: the introduction; conceptual framework; theoretical framework; empirical review; research methodology; data presentation and analysis; and summary of findings, conclusion and recommendations.

CONCEPTUAL FRAMEWORK

According to Wikipedia (the free encyclopaedia), Banking innovation refers to the creating and marketing of new types of securities. Questions may arise, why does Banking innovation occur? Economic theory has much to say about what types of securities should exist, and why some may not exist (why some market should be incomplete) but little to say about why new types of securities should come into existence. Some types of financial innovation are driven by improvement in computer and telecommunication technology. For example, Paul Volcker suggested that for most people, the creation of the ATM was a greater Banking innovation than asset backed securitization. Other types of financial innovation affecting the payment system include credit and debit cards and online payment system like paypal (e- banking service). These types of innovations are notable because they reduce transaction costs. Households need keep lower cash-in-advance constraints then these kinds of Banking innovation can contribute to greater efficiency and performance.

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. It consists of harnessing electronic technology for the information needs of businesses at all levels. In addition, Longley and Shain (1992) defines 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. 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).

The use of information and communication technology in banking operations is called electronic banking. Ovia (2001) says that Electronic banking is a product of e-commerce in the field of banking and Banking 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 customers who shop in different e-shops. 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) refers to technologies people use to share, distribute, and 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; 2001). ICTs represent a

cluster of associated technologies defined by their functional usage in information access and communication, of which one embodiment is the Internet.

Ojokuku and Sajuyigbe (2012) identified the following Information and Communication Technology banking products:

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 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.

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.

Point of Sale (POS) 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.

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.

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 Banking 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.

Mobile Banking: Mobile Banking refers to provision and availing of banking - and Banking 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.

THEORETICAL FRAMEWORK

A modified form of Solow's (1957) neoclassical growth model is adopted in this work. Essentially, aggregate output (Y) is modelled as a simple function of IT capital services (KIT), other capital services (KOTH), include labour (L), and a multifactor productivity term (MFP). Technological change is embodied in the MFP variable. A number of neoclassical assumptions are imposed, including perfect competition, constant returns to scale, no adjustment costs, equal returns to all types of capital, and Hicks-neutral technological change. The growth in labour productivity is given by: $\Delta(Y/L) = \alpha_1\Delta (KIT/L) + \alpha_2\Delta (KOTH/L) + \Delta MFP$

Where Δ denotes a growth rate, and

α represents the income shares.

Technological progress is measured by the Solow residual or ΔMFP.

Porter (1985) explains that competitive advantage grows fundamentally out of the value a firm is able to create for its buyers that exceeds the firm's cost of creating it. In this sense, value is what buyers are willing to pay, and superior value stems from offering lower prices than competitive price for equivalent benefits or providing unique benefits that more than offset a higher price. To achieve sustainable profit, therefore, a firm needs sustainable advantage, in either cost or differentiation (Porter, 1985). These two basic types of source of competitive advantage combined with the scope of the firm's activity lead to three known generic strategies – cost leadership, differentiation strategy and focus strategy – for achieving above – average performance in an industry. This research work adopted Porter (1985) competitive advantage grows model.

EMPIRICAL REVEIW

Irechukwu (2000) lists some banking services that have been revolutionized through the use of ICT as including account opening, customer account mandate, and transaction processing and recording. ICT products in use in the banking industry include automated teller machine, smart cards, telephone banking, MICR, electronic funds

transfer, electronic data interchange, electronic home and office banking (Akpan, 2008 and Johnson, 2005). Agboola (2001) studied the impact of computer automation on the banking services in Lagos and discovered that electronic banking has tremendously improved the services of some banks to their customers in Lagos. Aragba-Akpore (1998) investigated on the application of information technology in Nigerian banks and pointed out that IT is becoming the backbone of banks' services regeneration in Nigeria. He cited the Diamond Integrated Banking Services (DIBS) of the Diamond Bank Limited and electronic smart card accounts (ESCA) of All States Bank Limited as efforts geared towards creating sophistication in the banking sector. Ovia (2000) discovered that banking in Nigeria has increasingly depended on the deployment of information technology and that the IT budget for banking is by far larger than that of any other industry in Nigeria. He contended that the on-line system has facilitated internet banking in Nigeria as evidenced in some of them launching websites. He found also that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is domiciled. Woherem (1997) discovered that since 1980s Nigerian banks have performed better in their investment profile and use of ICT systems, then the rest of the industrial sector of the economy.

Acharya, Kagan, Lingam, and Gray (2008) examines the impact of web design features of a community banks' performance using a sample of 55 community banks with online services in the five mid western states of the United States of America. The authors utilized both primary and secondary data by applying multiple regression models. The results show that banks with higher usability of ICT perform significantly better than those with low ICT usability. Egland, Frust, Nolle and Robertson (1998) conduct a study and found no evidence of major differences in performance of electronic banking in the US subject to two caveats:

1. This result may not be the case for all the banks.
2. Such result is open to change over time as banks become more severe in the use of innovation.

Sullivan (2009) also found no systematic evidence that multi-channel banks in the 10th Federal Reserve District were either helped or harmed by having transactional web sites. These finding were among the previous findings of Sathye (2005), for the credit unions in Australian banks for the period of 1997 to 2001, shows that electronic banking has not proved to be a yard stick for performance enhancing tool. According to Haq (2005) banks' existence depend on their ability to achieve economies of scale in minimizing asymmetry of information between savers and borrowers.

RESEARCH METHODOLOGY

The data were extracted from the banks' annual reports and CBN Factbooks covering the period 2001 – 2013. The data comprises of net profits, total assets, return of equity, ATM machines and e- banking services of eleven selected commercial banks in Nigeria, namely; Access Bank Plc., Diamond Bank Plc,, Eco Bank Plc, Fidelity Bank Plc, First Bank of Nigeria Plc, GTbank Plc, Sterling Bank Plc, Union Bank of Nigeria Bank Plc, United Bank for Africa Plc, Wema Bank Plc and Zenith Bank Plc. The variables of interest included net profit, ICT innovation, shareholders' funds, total asset, and return on equity. They were not comprehensively provided by all the banks. Thus, the banks whose data were accessibly were targeted for the purpose of this study.

The variables captured in the model specified in this study were:

Dependent variable: Bank Performance – this variable has often been measured using return on asset (ROA) and return on equity (ROE). Return on asset is defined as net income after tax divided by total assets. This ratio is an indicator of managerial efficiency; it indicates how capable the management of the banks has been converting the bank's assets into net earnings, while return on equity is measured as net income after tax divided by total equity capital. It measures the rate of return to the shareholder. In this study return on equity is our proxy for the bank performance.

Independent variables: The explanatory variables in the model are:

i. **Profit after Tax (PAT):** This was measured as profits realized by the bank after tax.
ii. **ATM:** This variable was measured by the number of ATM used by each bank.
iii. **E-banking services (ebserv):** The total number of e-banking services available in each bank was used.

We therefore states that: $BP = f(PAT, ATM, ebserv)$ ..... (1)

$\text{Log}BP = \text{Log}\beta_0 + \text{Log}\beta_1 PAT + \text{Log}\beta_2 ATM + \text{Log}\beta_3 ebserv + \mu$ ..... (2)

Where,

BP = Bank performance
β_0 = Constant parameter
PAT = Profit after tax
ATM = Number of automated teller machines
ebserv = number of e-banking services
μ = Error term

Using regression techniques i.e ordinary least square approach, and e-view software, the available data were analysed. The input data from 2001- 2013 are presented in appendix I. Our a priori expectations are shown

in Table 1.

Table 1 A Priori Expectations

Independent Variables	Expected Signs
Net Profit	+
ATM	-
E-banking services	-

DATA PRESENTATION AND ANALYSIS

The least square estimation output data were shown in Table 2.

Table 2 Least Square Estimation

Variable	Coefficient	Std. Error.	t- statistics	Prob.
EBSERV	0.166274	1.079751	0.153993	0.8778
ATM	-0.012380	0.018205	-0.6800037	0.4976
PAT	1.65	1.95	8.441417	0.0000
C	10.45794	10.58629	0.987876	0.3249

R-Squared	0.379986	Mean dependent var	24.00570
Adjusted R-Squared	0.362014	S.D. dependent var	79.42834
S.E of Regression	63.44260	Akaike info criterion	11.17249
Sum squared residual	555445.0	Schwardz criterion	11.27608
Log likelihood	-793.8328	Hannan-Quinn criterion	11.21458
F-statistic	21.14387	Durbin-Watson stat	1.488170

Source: Computer analysis using E-View

The analysis shows that the coefficient (0.1662) for E banking services shows a positive influence on banks performance, but it is not statistically significant, this finding indicates that investment in e banking services does not increase commercial banks performance.

The analysis shows that the coefficient (-0.01238) related to ATM's usability is negative and not statistically significant. This finding indicates that the use of ATM's does not enhance commercial banks performance in Nigeria. ATM does not have significant effect on the performance of commercial banks.

Table 3 summarizes the outcome of the model parameters on a priori ground.

Table 3: A Priori Expectations

Independent Variables	Expected Signs	Observed Signs	Remarks
Net Profit	+	+	Conform
ATM	-	-	Conform
E-banking services	-	+	Does not conform

All the independent variables except E-banking services conformed to economic theory

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

The findings are summarized as follows:

i. Banking innovations do no really improve performance in the Nigerian Commercial Banks.

ii. The E banking services shows a positive influence on banks performance, but it is not statistically significant. This finding indicates that investment in e banking services does not necessarily increase commercial banks performance proportionately.

iii. The ATM's usability is negative and not statistically significant. This finding indicates that the use of ATM's does not necessarily influence commercial banks performance in Nigeria. It may result to liability on the side of the host banks.

CONCLUSION

Investments towards banking innovation do not simply improve commercial banks' performance in Nigeria. Prudent management of banks' fund and increasing customers' base will contribute significantly to the banks' performance.

In addition, profit after tax serve as prime factor indicating commercial banks performance in Nigeria; however, better proxy to measure commercial banks performance are return on equity and return on assets.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are postulated:

a. Since the findings of this study indicate that investments in banking innovation do not simply translate to improve commercial banks performance, banks should give emphasis on efficient utilization of the banking innovation or e- banking services equipment such as credit and electronic cards to pay at retail

outlets, points of sales (POS), phone banking, electronic payment debit, cash withdrawal machines that becomes Automated Teller Machines (ATM), home banking, internet banking, mobile banking, personal digital assistant banking rather than purchase of additional machines.

b. For commercial banks in Nigeria to actually reap the benefit of banking innovation more campaigns and orientation of clients need to be pursued to create awareness for them to patronize the facilities. Acceptance of these facilities will consolidate the gains from investing in them.

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Appendix I Input data: ATM, Profit after tax, Return on equity and E-banking service (2001 to 2013)

BANK	BID	YEAR	S.F	PAT(Naira)	ATM	ebserv	ROE (%)
ACCESS	1	2001	919493000	77743000	0	5	0.08455
ACCESS	1	2002	1343704	-55245000	0	5	-41.114
ACCESS	1	2003	2365356	556573000	0	5	235.302
ACCESS	1	2004	2702830	637473000	0	5	235.8539
ACCESS	1	2005	14071324	501515000	0	6	34.64092
ACCESS	1	2006	28893886	737149000	34	6	25.51228
ACCESS	1	2007	28384891	6083439	71	6	0.21432
ACCESS	1	2008	171860665	16056464	95	7	0.093427
ACCESS	1	2009	185188124	20814216	154	7	0.112395
ACCESS	1	2010	175370457	11068121	190	7	0.063113
ACCESS	1	2011	197042209	16708255	305	9	0.084795
ACCESS	1	2012	186789000	174543656	481	11	0.093443
ACCESS	1	2013	17250000	19654421	502	13	1.139387
DIAMOND	2	2001	47372580	1689618	25	4	0.035667
DIAMOND	2	2002	53003546	1478175	25	4	0.027888
DIAMOND	2	2003	1152663000	65776000	35	4	0.57066
DIAMOND	2	2004	883414000	903411000	41	4	1.022636
DIAMOND	2	2005	2510279	2509810	50	4	0.999813
DIAMOND	2	2006	222833154	3977059	150	4	0.017848
DIAMOND	2	2007	320419399	7086770	164	4	0.022117
DIAMOND	2	2008	62566918	12821074	165	4	0.020492
DIAMOND	2	2009	650757117	-8174413	180	4	-0.01256
DIAMOND	2	2010	6522455	548402560	180	4	84.07916
DIAMOND	2	2011	-22187848	722965977	180	4	-32.5839
DIAMOND	2	2012	326111000	726112330	180	4	2.22658
DIAMOND	2	2013	138850000	914663220	180	4	6.58742
ECO	3	2001	2522540	716071000	0	4	283.869
ECO	3	2002	2945733	553725000	0	4	187.9753
ECO	3	2003	3518887	816815000	0	4	232.1231
ECO	3	2004	4413327	854439000	0	4	193.6043
ECO	3	2005	25762863	1368174	0	4	0.053106
ECO	3	2006	132091706	3558591	52	4	0.02694
ECO	3	2007	311395894	7449777	104	4	0.023924
ECO	3	2008	432466245	2130461	163	4	0.004926
ECO	3	2009	355662000	-4588000	185	4	-0.0129

KEYS: S.F: Shareholders' fund; PAT: Profit after tax; ATM: Number of automated teller machine; ROE: Return on equity; ebserv: Number of banking innovation

Contd. over leaf

Input data: ATM, Profit after tax, Return on equity and E-banking service (2001 to 2013) contd.

BANK	BID	YEAR	S.F	PAT(Naira)	ATM	ebserv	ROE (%)
ECO	3	2010	206817600	21091040	191	4	0.101979
ECO	3	2011	233493760	33094400	191	4	0.141736
ECO	3	2012	206000000	454860000	196	4	2.208058
ECO	3	2013	41000000	235710000	198	4	0.574902
FIDELITY	4	2001	1300533	400661000	0	8	308.0745
FIDELITY	4	2002	1915211	539242000	0	10	281.5575
FIDELITY	4	2003	2515423	856885000	0	10	340.6524
FIDELITY	4	2004	3519624	913604000	0	10	259.5743
FIDELITY	4	2005	9776922	1305854	0	10	0.133565
FIDELITY	4	2006	25664717	3218617	32	10	0.12541
FIDELITY	4	2007	30101287	4714283	56	12	0.156614
FIDELITY	4	2008	136371740	13356301	89	14	0.09794
FIDELITY	4	2009	435666000	1557000	112	15	0.003574
FIDELITY	4	2010	154371740	14256301	134	18	0.9235
FIDELITY	4	2011	165371740	15356421	168	18	0.9286
FIDELITY	4	2012	166433223	15356422	173	18	0.921514
FIDELITY	4	2013	167000000	15432113	173	18	0.924079
FIRST	5	2001	18170000	5066000	50	5	0.278811
FIRST	5	2002	19406000	4776000	65	5	0.26109
FIRST	5	2003	27006000	11010000	73	6	0.407687
FIRST	5	2004	41605000	11483000	104	8	0.276
FIRST	5	2005	48726000	13234000	280	10	0.2716
FIRST	5	2006	64277000	17383000	650	10	0.270439
FIRST	5	2007	83627000	20636000	729	10	0.246762
FIRST	5	2008	351854000	36679000	818	10	0.104245
FIRST	5	2009	337405000	12569000	904	10	0.037252
FIRST	5	2010	32123000	1962444	1090	16	0.061092
FIRST	5	2011	47462000	2463543	1090	16	0.051906
FIRST	5	2012	472432244	3231145	2310	18	0.068394
FIRST	5	2013	350710000	4522556	2317	18	0.128954
G. TRUST	6	2001	4026177	1503694	15	13	0.373479
G. TRUST	6	2002	8016492	2187059	23	13	0.27282
G. TRUST	6	2003	9638925	3144182	26	15	0.326196
G. TRUST	6	2004	11754406	4125832	35	15	0.351003
G. TRUST	6	2005	33643184	5433748	60	17	0.161511
G. TRUST	6	2006	40549833	8590265	160	18	0.211845

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Input data: ATM, Profit after tax, Return on equity and E-banking service (2001 to 2013) contd.

BANK	BID	YEAR	S.F	PAT(Naira)	ATM	ebserv	ROE (%)
G. TRUST	6	2007	47324118	13193759	170	18	0.278796
G. TRUST	6	2008	160008886	21169477	185	20	0.132302
G. TRUST	6	2009	1065504345	23687567	200	21	0.022231
G. TRUST	6	2010	112550545	32685776	215	23	0.024599
G. TRUST	6	2011	531563000	370038000	215	23	0.027806
G. TRUST	6	2012	424332700	384009800	281	28	0.904973
G. TRUST	6	2013	332350000	432234500	281	30	1.30054
STERLING	7	2001	531563000	370038000	0	5	0.6966132
STERLING	7	2002	664454000	39810000	0	4	0.059914
STERLING	7	2003	831688000	178923000	0	4	0.215132
STERLING	7	2004	1243294	1545077	0	4	1.242729
STERLING	7	2005	2966726	-4820558	0	4	-1.62487
STERLING	7	2006	26319328	961645000	45	4	36.5376
STERLING	7	2007	26800395	620658000	50	6	23.15854
STERLING	7	2008	6523153	236502923	55	6	36.25592
STERLING	7	2009	-6660406	205640827	60	6	-30.8751
STERLING	7	2010	4178493	259579523	68	6	62.12276
STERLING	7	2011	6686473	504427737	68	6	75.44003
STERLING	7	2012	286489980	516534667	68	6	1.802976
STERLING	7	2013	321740000	540907790	68	6	1.681195
UBA	8	2001	9067000	1269000	15	3	0.139958
UBA	8	2002	10627000	1566000	23	3	0.14736
UBA	8	2003	14901000	3280000	32	3	0.220119
UBA	8	2004	19533000	4525000	32	3	0.231659
UBA	8	2005	19443000	4525000	42	4	0.253099
UBA	8	2006	48535000	11550000	83	4	0.237973
UBA	8	2007	167719000	21441000	112	4	0.127839
UBA	8	2008	1673333	40825000	142	4	24.39742
UBA	8	2009	1548281	2375000	182	4	1.533959
UBA	8	2010	2167000	1432632	253	4	0.661113
UBA	8	2011	-16385000	1655465	340	4	-0.10104
UBA	8	2012	132240000	1734356	344	6	0.131152
UBA	8	2013	259540000	1843556	348	6	0.0771032
UNION	9	2001	13786000	5035000	0	4	0.365226
UNION	9	2002	30302000	4726000	0	4	0.155963
UNION	9	2003	32730000	6600000	0	4	0.20165

Contd. over leaf

Input data: ATM, Profit after tax, Return on equity and E-banking service (2001 to 2013) contd.

BANK	BID	YEAR	S.F	PAT(Naira)	ATM	ebserv	ROE (%)
UNION	9	2004	39732000	8341000	0	4	0.209932
UNION	9	2005	43215000	9783000	0	7	0.22638
UNION	9	2006	100500000	10802000	35	7	0.107383
UNION	9	2007	102706000	13329000	56	7	0.129778
UNION	9	2008	25739000	26855000	83	7	1.043358
UNION	9	2009	-281173000	-281373000	190	7	1.009711
UNION	9	2010	-135894000	118016000	198	7	-0.86844
UNION	9	2011	301173000	301173000	204	7	1
UNION	9	2012	160087090	323469000	251	7	2.020581
UNION	9	2013	188000000	423227000	256	7	2.251207
WEMA	10	2001	619554000	675015000	0	4	1.089518
WEMA	10	2002	1481667	778864000	0	4	525.6674
WEMA	10	2003	1477775	1527311	0	4	1.033521
WEMA	10	2004	967148000	1555460	0	4	0.001608
WEMA	10	2005	844285000	4451625	0	6	0.005273
WEMA	10	2006	20540001	-6601961	120	6	-0.32143
WEMA	10	2007	25182705	2554098	150	6	0.101423
WEMA	10	2008	128906575	-57738739	150	6	-0.44791
WEMA	10	2009	142785723	-2094692	160	6	-0.01467
WEMA	10	2010	203144627	16238533	168	6	0.079936
WEMA	10	2011	210144627	16538533	168	6	0.078701
WEMA	10	2012	256708800	21564490	168	6	0.840037
WEMA	10	2013	410000000	464700000	168	6	1.133415
ZENITH	11	2001	21044627	16538533	25	5	0.424547
ZENITH	11	2002	3504013	1026658	32	5	0.292995
ZENITH	11	2003	4424186	1548555	53	5	0.35002
ZENITH	11	2004	5190768	1548555	67	5	0.298329
ZENITH	11	2005	42100031	7143266	84	5	0.169674
ZENITH	11	2006	100642511	11619227	102	7	0.11545
ZENITH	11	2007	114586090	18779804	123	7	0.163893
ZENITH	11	2008	344348245	51992239	245	7	0.150987
ZENITH	11	2009	335570000	20603000	267	7	0.061397
ZENITH	11	2010	350414000	20603000	303	7	0.009513
ZENITH	11	2011	360868000	37414000	373	7	0.103678
ZENITH	11	2012	462900000	100600000	384	7	0.217326
ZENITH	11	2013	509300000	953200000	384	7	1.871588

Source: Banks' Financial Statement of Various Years and CBN Fact Books

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