Information and communications Technology (ICT) adoption and Nigerian Banks performance

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ABSTRACT

The use of ICT in the banking industry is now a global phenomenon. For over a decade now, Nigerian banks have imbibed ICT culture. Hitherto financial and business transaction in Nigeria is largely cash based. This study examines the role of ICT in banking operational activities, appraise the impact of ICT on the sectors performance, determine the level of customers' satisfaction and identify the problems with the use of ICT. It was found that ICT devices is knowledge driven process, and the procedure calls for certain level of literacy and training; but greed, ignorance, low moral value and unethical behavior have been responsible for fraud and abuses that underpin the success of ICT devices. Graphs from time Series analysis showed the performances of the 24 recapitalized Nigeria banks on pre and post ICT mass deployment basis and it was discovered that performance has not dramatically improved as expected, though better. This means a lot of work should be done on public mass enlightenment, intensification of training on ICT, moral value and ethical behavior for banks staff and hiring of dedicated people in the banking industry. Also there is a need to intensify research and development work on engineering and reengineering of soft and hardware, especially in a consortium and partnership between Banks, Academic and Research Institutions that will create a synergy effect and beneficial symbiotic relationship in ICT training and performance otherwise investment on ICT capital will be a drain.

Introduction

Nowadays, bankers no longer sit in their offices, but reach out for the customers, market the business of banking aggressively and give prompt personalized and effective service, all in an attempt personalized and effective service; all in an attempt to beat others in the competitive market. The financial intermediaries are electronically equipped for the daily operations. The banking industry embraces the use of ICT in order to have share of increasing volume of commercial business and activities both locally and internationally. It also assists commercial activities by providing convenient, versatile and secured means of wealth accumulation, distribution and settlement to all stakeholders. Banking is the pivot around which national and international economic activities revolve (Etim, 2001).

The volume of work in Nigeria banking industry in terms of products and services as well as number of customers is now increasing at the alarming rate. For instance in 1995, the Lagos Clearing House of CBN worked for 247 days, cleared and settled 5,934,668 cheques amounting to N433,634 million; compared with 256 days worked in 2006 clearing 7,759,559 cheques amounting to N7,332,141.53 million. Accounting to CBN, since recapitalization, there has been mass deployment in ICT services and products in the Nigerian banking industry owing to competition, availability of fund and the need to satisfy customers need. (CBN 2007).

Before the introduction of ICT into the Nigerian Banking Sector, the general operation was cumbersome. Staff and customers depend endless hours in the banks to effect a simple transaction. Therefore, growth in the financial sector was stunted. (Ekiran (2000), Idowu, (2005).

Since the adoption of ICT however, incidences of fraud and abuse in the banking industry have been on the increase; cases of faceless looters abound. For instance, between 1996-2005, reported cases of computer fraud in the financial market, according to NDIC reports, rose from 606 to 943. The amount involved rose from, 601m to 12,919m. This may be traced to greed, misconceptions, deceits and abuse of automation process and procedure. (NDIC, 2005).

Statement of the problem

The global financial dynamism and growing use of ICT in the financial sector is a welcome development. The use of automation in the Nigeria Banking Industry started with Societte Generale Bank in 1982 (Ovia 2001), but mass proliferation started in 2005 (CBN 2007). The intention was to enhance banks performance in terms of efficient and effective service delivery and returns on investment. However the effect of the adoption of ICT has not being conclusive. Bamidele- (2006) opined that ICT allowed the banks to offer her clients a wider range of products and improvement on timing and quality of service delivery. But Hassan (1997) and NDIC (2005) contend that the debut of ICT in the Nigerian banking industry has increased the level of fraud and other unethical behavior among banks' staff. This notwithstanding, the banks has been and will continue to import, deploy, and use a wide range of durable consumer electronics, computers and ICT gadgets. The question therefore arise where should emphasis be placed for improvement, on ICT labour or ICT capital?

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Objectives of the study

The main objective of the study is to appraise the impact of ICT on banking sector performance and efficiency e.g. Profitability, Earning per Share and Cost Efficiency ratios

Hypothesis

This study tests the hypothesis that ICT has significantly improved the performance of the banks owing to ICT adoption.

Significance of the study

It is expected that this study will help to expand knowlerstanding of the relevance of ICT in the banking industry development for proper Corporate Planning and IT strategy, which are necessary cornerstones for adequate and workable theories and practices in financial sector. In addition, a system or mechanism is only as good and as reliable as people running it. The study is therefore expected to inform on where more effort should be intensified, whether on ICT capital or ICT if service delivery and performance are to be genuinely enhanced in the banking industry.

The study principally focused on the contribution of ICT to the Nigerian Banking Industry performance from 1999-2008. Covering all banks operating in Nigeria prior and post 2005 recapitalization with a view to determine the benefits, constraints, limitation and satisfaction associated with the adoption of ICT in the banking industry. This will also reveal whether the use of ICT has been maximized and has optically contributed to banking sector performance and development otherwise identify the area that needs tidying up.

Literature Review

Performance studies have been going on as an academic field since the 1970s. Performance study measures achievement by comparing actual with target performance i.e. what an individual or company set out to do and what it actually did. Achievement is measured in terms of effectiveness and efficiency. This is why many organizations set standards: even observers and customers expectations about upcoming and unfolding processes i.e. standards, goals, targets, against which actual performance is compared. Any short fall is reviewed and worked on via to gain competitive advantage. (Agboola, 2006).

There is a close relationship between performance and productivity theories. Whereas productivity is based on effectiveness, performance is based on efficiency. Effectiveness is about completing a task leading to a specific goal i.e. what an organization set out to achieve, efficiency is accomplishing this task within a specified amount of time. Productivity theory can therefore modeled as:

= (Creative Energy + Focus + Motivation + Aptitudeb h + Ideal time)
     (Difficulty + Distraction)

In a survey of 38 Sub-Sahara African countries carried out by Gelbard and Leite (1999) the following issues were examined:

i) Market structure and competence of financial system
ii) Range of financial products available in the market
iii) Institutional environment (framework) under which the financial system operate.
iv) Degree of integration with foreign financial market
v) Degree of financial freedom or liberation
vi) Degree of sophistication of monetary policy instrument

The summary of their finding is that Africa is nowhere in financial matter, hence the frantic effort being made by all stakeholders. It is primarily through the spontaneous response to customers demand that financial intermediation stimulates teal economic activities. However, the study takes the level of literacy and technology exposure being enjoyed in the advanced economy for granted whereas ignorance and high level of illiteracy are factors for poor economic performance in sub-sahara Africa (except South Africa).

Some scholars have investigated the impact of ICT on productivity and development (Daveri, 2000), Black and Lynch(2000). They found a positive relationship between ICT capital and economic development. Both Black and Lynch on further enquiry on interaction between ICT and other factors within firms and financial institutions concluded that two main changes must be implemented by firms adopting these new technologies. Higher demand for skilled workers and work place reorganization (re-engineering), in order to make the use of computers and related technologies more productive, firms need a well educated labour force (able to use or to learn how to use computers efficiently).

The global financial development has seriously influenced Nigeria Financial sector. The advent of automation (ICT) has encouraged the development of various products in financial markets; especially the banking sector, with products likes: e-money, e-divided and e-payment; in fact most transactions this day are handled electronically even administration and credit management. (lagace, 2003).

The development of ICT has affected the world so much that the tendency is towards making the whole world – single financial space i.e. technologically financial global village where the distance, geographical location and territorial boundaries become irrelevant as along as there is power supply at both ends but the competence of the bank staff in handling ICT has been suspect because of the abysmal performance of most ICT devices products and services evident by increasing level of abuses and fraud.

According to Adewoye (2007), the evidence on the impact of IT investment on bank productivity is mixed; despite this, financial institutions have spent, billions of naira on information technology having their products and service basically supported by IT (Woherem 1997, Brynjolfsson and Hitt 2000). In financial services industry, Computers application have led to significant products proliferation and speedy delivery (Litchtenberg, 1995).

Methodology

The study employed secondary sources of information for data collection. Secondary data was collected from the CBN Statistical Bulletin and CBN Annual Reports to determine the effect of ICT on banking sector operations and performance in Nigeria from 1999 to 2008. The CBN being the regulator of the banking sector keeps the most authentic record on operations and performance of banks in Nigeria.

Data Analysis

The main analytical tools used for this work in providing clues to the objectives behind this research work and test the formulated hypothesis were: Descriptive statistics, Trend analysis and Anova.

Descriptive Statistics

Descriptive statistics such as frequency distribution table were used to present performance statistics. These were sufficed for the objective of the study.

Trend analysis

Within the period of time frame under study 1999-2008 the effect of ICT on banks performance, customers' confidence and satisfaction despite various constraints was investigated by looking at the banks' performance; i.e trend analysis of performance prior mass deployment of ICT in the banking industry (1999 – 2004) and post mass ICT deployment (2005 – 2008). Using principally Deposit Base, Level of Liquidity, Profitability, Earning per Share, Return on Assets, Return on Equity and ICT cost efficiency as the Yardsticks.

Table 4.1. Clearing House Statistics 1999 -2008

Year	Bank	Number of cheques cleared	Amount cleared (N'Million)	Number of working days	No of Banks	Total number of Branches
1999	476350.9	8,620,745	1413125.5	250	54	2185
2000	702104.5	10,297889	2095478.1	249	54	2193
2001	947182.9	10,193,442	2256381.7	251	90	2193
2002	1157111.6	5,339,419	2325719.1	252	9	3247
2003	1437296.2	12,526643	8928410.1	248	89	3493
2004	1661085.1	13,997,898	10996044.7	256	89	3493
2005	2036089.0	14,638,511	13915416.0	248	25	3492
2006	324166.5	14,927414	16492064.0	247	25	300
2007	5001570.5	19,895,613	28111190.4	246	25	3660
2008	7960167.0	30,172925	43357416.0	251	24	3897

Source: CBN Bulettin 2002, 2004, 2006, 2008,CBN Banking operation and Supervision report; 2000, 2004, 2006, 2008.

Table 4.4. Number and Value of ICT Related Frauds: 1999-2008

Year	Number	Value N'm
1999	182	6.3
2000	403	2.9
2001	943	11.24
2002	796	12.91
2003	850	9.39
2004	1133	8.31
2005	1229	10.61
2006	1193	4.83
2007	1553	10.01
2008	1974	24

Source: NDIC Annual Report 2007, National Book of Abstract 2008
And CBN Annual Report 2008

Table 4.2. Banks Earnings and Profitability 1999 – 2008

Indicators	1999 Amount N' Billion	2000 Amount N' Billion	2001 Amount N' Billion	2002 Amount N' Billion	2003 Amount N' Billion	2004 Amount N' Billion	2005 Amount N' Billion	2006 Amount N' Billion	2007 Amount N' Billion	2008 Amount N' Billion
Interest income	40	197	296	386	349	412	340	339	1178	1787
Interest expenses	18	89	131	168	154	188	147	135	562	808
Net interest income	22	108	165	218	195	224	193	203	616	979
Non-interest	15	84	117	118	161	184	159	171	577	700
Operating income	37	193	282	336	356	418	352	375	1193	1679
Operating Expenses	28	132	186	250	282	322	290	270	786	1072
Profit before Tax	24	60	96	86	74	96	72	108	407	607

Source: Authors Computation and CBN Bank Operations and Supervision, report 2000-2008

Table 4.3. Efficiency of Nigeria Banks 1999-2008

Efficiency measures	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Interest margin	40	54.02	55.74	56.48	55.87	55.87	54.37	60.15	52.25	54.8
Return on Asset	2.6	343	4.73	3.47	2.67	3.12	1.85	1.61	3.89	3.95
Return on Equity	28	4762	55.81	36.6	25.52	27.35	12.97	10.6	23.84	22.01
Cost Efficiency Ratio	77.9	75.53	65.96	49.6	49.02	77.03	39.97	71.43	65.9	31.77
Earnings per share	22k	38k	42k	31k	24k	25k	15k	16k	10k	9k

Source: Authors' Computation and CBN Bank Operation and Supervision, report 2000-2008

Anova

Furtherance to trend analysis, variance in the banks' performance, between pre and post mass adoption and deployment of ICT in Nigerian banks will be determined, and analysed.

Discussion and findings

Effectiveness of the Usage of Banking ICT Facilities

A review of Table 4.1 revealed the usage of the ICT devices in the bank is now popular, coverage and standard of operation is improving. The data also showed that ICT assisted banking operations in Nigeria, in coping with increased volume of work. Over the years, the deposit base, number of working days, number of cleared cheques, value of cleared cheques, number of products and services and number of bank branches despite mergers and acquisition have increased tremendously. ICT has assisted the banks in reacting to and reaching customers needs on time. It has helped cope with varieties of work anywhere. According to CBN reports, we cannot be talking about banking dynamism aggressiveness and performance today without mentioning ICT's contribution to the banks operational activities (CBN, 2008).

See table 4.1 (Clearing House statistics).

From the ten years (1999 – 2008) financial performance indicators of the banks, the CBN was of the opinion that the recapitalization exercise of 2005 brought (CBN, 2007). On the surface, the performance of Nigerian banking institutions has consistently improve since 2004, tough there was a slight fall in 2005 due to grappling with new capital structure and reorganization of operation process, operating income and profit before tax had been unstable within 1999 and 2004 but from 2004 there was explosion in performance as displayed in the tables, 4.2 and 4.3. Operating income and profit before tax had been increasing steadily. (See table 4.2)

According to CBN Banking Operation Reports (1999 – 2008) concerning the efficiency of Nigerian Bank, we are not yet there, aside from ROA that shows some level of picking up, both ROE and EPS had been undulating and falling. Most importantly cost efficiency ratio towards the end of the ICT era had nose dived which means, expenses for running the banks are not yert justified by the size of the return. (see table 4.3). The situation has to improve if we must maximize the benefit of ICT.

From all indication, deposit base and customer base of most banks are increasing that is banking activities is expanding, customer confidence is improving and customers participation and satisfaction is rising but amidst this, the general returns and efficiency indicator fall short of expectations which means the benefits of deployment of ICT has not being maximized. This is as displayed in Table 4.3

Constraints Associated with the Use of ICT in the Nigeria Banking

It has been found, that the use of ICT in banking industry in Nigeria is gaining ground (Ivia 2005), but that some facrots are inhibiting the maximization of its benefits. Unless these factors are removed or reduced full benefits of ICT in the banking industry will be mirage (Sanusi, CBN 2006).

Amidst this growing importance of ICT to the banking industry is the increase in the level of the much dreaded risk. Fraud! Bank frauds (mostly aided by ICT) in the recent time are as given in Table 4.4.

In the CBN 2008 annual report there were 1974 reported cases of attempted fraud and forgery involving 24.5 billion, US $ 1.4 million, #451,075.0 and #2,635.0 compared with 1553 reported cases involving 8.8 billion US $ 591,487.8 #35,390.8 and #12,410 in 2007, as a result of mass deployment of ICT in

the occurrence of fraud and abuses of automation. ICT also facilitate cross border fraud and technology abuse (Adewoye, 2007).

A review of operational data and statistics from secondary source as found in table 4.1 over a ten year period showed that the embarrassment of ICT has assisted the banking industry in their daily operations. Judging by increased volume, size and coverage of operation, it demonstrated acceptability and preferred mode of operation. The trend analysis as portrayed by tables 4.2 – 4.3 and fig 4.1 showed that activities are growing and operations in post ICT mass deployment era (2005 – 2008) is more robust than era ICT mass deployment era (1999 – 2005). From the above submissions, the null hypothesis will be rejected because definitely operations modality have changed and improved. The Nigeria banking industry has become more effective and efficient in operational decisions as a result of application and installation of ICT devices and products, though there are areas to be worked upon, going by the level of ignorance, unethical increasing and increasing fraudulent practices.
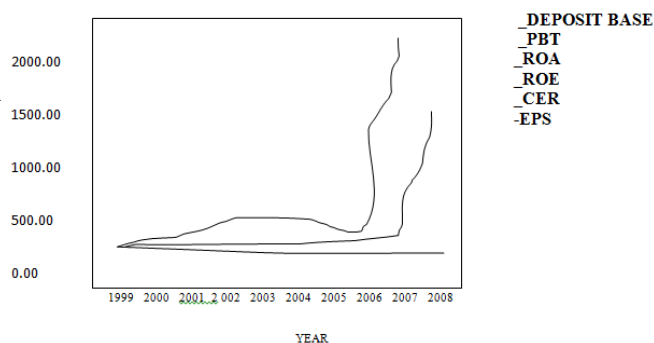

Fig 4.1. Time Series Graph of Banks Performance (Efficiency)

Summary

This study has evaluated the contribution and constraints of ICT adoption in the Nigerian Banking Industry and concluded that ICT has enabled the banking industry to be more efficient and offer its client better range of products and improved quality of service delivery. According to Nnama and Ajayi (2005) the use of ICT e.g. ATM, MICR EFTOPS, value/smartcard and Internet/mobile Banking has revolutionized the banking sector all over the world. The phenomenal growth in commence and financial development has a large input of technology (ICT). Bearing in mind that the two critical factors of banking automation are mainly competition and customer satisfaction. Technology has influenced banking procedure and transaction phenomenally. A look at the number of bank branches in 1999 to 2008 showed an increase of over 58/5 i.e. 2180 to 4758 branches, but ICT efficiency gave the credit away table 4.3.

A total asset and liabilities jump from N2.03 billion in 2002 to N15,343 billion in 2008 and profit before tax of N86 billion in 2002 to N607 billion in 2008. All these could not have been possible without adequate technology back up provided by reliability, efficiency and timelessness found in ICT. It is not only that commerce is booming, banking is improving in Nigeria Courtesy of ICT.

Conclusion

The conclusion here is that though ICT has been tremendous help to stakeholders in Nigerian Banking Industry, from analyzed data there are improvements, on operations, performance, acceptance, satisfaction and confidence but there are serious issues to contend with and many areas to tidy up

such as unethical behavior and mass illiteracy giving room to fraudulent practices.

It is evident that improvement and growth in the Nigeria Banking Industry requires ICT investment (Capital and Labour) to bring about total factor performance and productivity growth. But with rampant complaints, abuse and abysmal performance of the ICT products and services despite huge financial investment on hard and software (capital), ICT labour becomes a suspect, their level of competence, orientations value system, training and exposure could be concluded as inadequate . Investment in ICT capital is not as important as having skilled-ICT staff (Labour) because it is the staff that will educate the public, operate the system, package and introduce a service or product. To get the best out of the gadgets and to assist in the operational activities and performance, the "ICT labour" must be well motivated and acquire necessary skill i.e. training, otherwise an efficient system with deficient, incompetent or "illiterate" staff will result into effective or deficient products and services i.e poor deliveries and consequently poor performance.

Recommendation

A large capital base, greater investment and state of art technology does not guaranteed excellence or availability or all necessary human resources, but tough and though staff selection and training policies must be imbibed. Training and massive public enlightenment must be intensified, this will emoliorate ignorance. When everybody knows his right, they will demand and fight for it, as countless fraudulent activities goes on daily on e-banking e.g ATM and other ICT innovations unreported and unattended because of ignorance in procedure.

There is a need to serious supervision and management of super highways to forestall the activities of yahoo fraudsters. Synchronization, interconnectivity and interoperability of various ICT products and devices must be seriously monitored and controlled.

Also, funding of the tertiary and research institution should be improved to forestall obsolete training and equipment. The need for intensified research and development work on engineering and reengineering of soft and hardware especially as a consortium and partnership within Bank, academic and Research institutions will create a synergy effect and beneficial symbiotic relationship on ICT, training and performance. Automation of Banking industry should not be seen only as business or investment development but matter of national interest and integrity.

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