

The Effects of Computerized Accounting System on the Performance of Banks in Nigeria

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Abstract

Computerization in Nigerian commercial banks has now become widely spread. However, the fact that computerization has gained acceptance in Nigerian banking sector does not mean that an improvement in bank performances has occurred over the years of adoption of computerized system. Apparently, the study aims at examining the effects of computerized accounting systems on bank performance in Nigerian banking sector. Convenience sampling method was adopted to arrive at sample size of 50 covering Guaranty Trust Bank Plc, Wema Bank Plc and First Bank Plc. The study variables consist of both dependent variable and independent variable, with Computerized Accounting System being the dependent variable and banks profitability as independent variable and customer service delivery respectively being the dependent variables. Data collected were analyzed using correlation analysis. Results show that computerized accounting system has a positive effect on bank's profitability and as well customer patronage. The study therefore recommends that computerized accounting systems should be adopted by all banks in Nigeria because it has a lot of advantages and benefits and government power supply should be replaced with inverters for the purpose of powering the computers used in their operations so as to prevent power outage which may result in data loss on the computer.

Keywords: Computer accounting, Profitability, Commercial Banks, Customers Patronage

Background to the Study

Today's business environment is very dynamic and undergoes rapid changes as a result of technological innovation, increased awareness and demands from customers. Business organizations, especially the banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and Communication Technology (ICT) is at the centre of this global change curve. Laudon and Laudon, (1991) contend that managers cannot ignore Information Systems because they play a critical role in contemporary organization. They point out that the entire cash flow of most fortune 500 companies is linked to Information System. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. ICT directly affects how managers decide, how they plan and what products and services are offered in the banking industry. It has continued to change the way banks and their corporate relationships are organized worldwide and the variety of innovative devices available to enhance the speed and quality of service delivery.

Harold and Jeff (1995) contend that financial service providers should modify their traditional operating practices to remain viable in the 1990s and the decades that follow. They claim that the most significant shortcoming in the banking industry today is a wide spread failure on the part of senior management in banks to grasp the importance of technology and incorporate it into their strategic plans accordingly. Woherem (2000) claimed that only banks that overhaul the whole of their payment and delivery systems and apply 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. The banking industry in Nigeria has witnessed tremendous changes linked with the developments in ICT over the years. The quest for survival, global relevance, maintenance of existing market share and sustainable development has made exploitation of the many advantages of ICT through the use of automated devices imperative in the industry. This study evaluates the response of Nigerian banks to this new trend and examines the extent to which they have adopted innovative technologies in their operations and the resultant effects.

Types and Principles Of Computerized Accounting System

Generally, there are two major types of Accounting System;

- Manual Accounting System and
- Computerized Accounting System.

Manual Accounting System

According to free online Merriam, manual system is a system in which the accountant or the book-keeper is required to post business transactions to the general journal, general ledger and worksheet by hand. This process can be computed by either using actual paper journal and ledger sheets or by creating these sheets in a computer program such as excel it is considered manual because each transactions is entered into the systems individually. A manual accounts system, if developed correctly can deliver timely and accurate information. In many ways, particularly for the smaller business, in a well designed manual accounting system the advantages outweigh the disadvantages. The manual system, though requires a greater understanding of how to book keep, can be easier to manage, once the key concepts of double entry book keeping have been learnt. The basic book keeping skills needed, once mastered, apply to all the books of account and can be applied to any business, whether you are setting up a manual accounting system for a plumber, website designer or even a book keeping business, the fundamentals are the same. A disadvantage of a manual accounting system is the likelihood of human error, however those errors manifest themselves. Errors in addition, transposition of figures, incorrect recording of a transaction, incomplete recording of a transaction, - where only one side of the double entry is recorded - are all quite common mistakes and can prove to be quite difficult to locate without a good deal of experience in accounting. Another obvious disadvantage is the likelihood of damage to the records themselves. It might seem an obvious downside, but the records in a paper based accounts system are susceptible to damage by water, fire and other perils. In addition where there exists many transactions to record in a business the sheer volume of transactions can be a disadvantage of a manual accounting system

Computerized Accounting System

Ama (2004) defines this system as a system that uses specialized machines called calculators and computer in gathering information. It is technically known as Electronic Data Processing (EDP) Accounting System.

A computerized accounting system also allows analysis of the stored information. This is particularly crucial in the crafting of business and strategic plans especially as competition in the specific business or industry heats up. A computerized accounting system will work with whatever type of business. This is because any business in general, whether it produces products or delivers services, has a basic structure: input, process and output. There are uniform reporting requirements and accounting principles to comply with and use.

A computer-based accounting system processes data in basically the same manner as does a manual system. Transactions are initially recorded manually on source documents, the data from these source documents are then key – punched into punched cards, which can be read by the computer. The computer process the information and performs such routine tasks as printing journals, posting to ledger accounts, determining account balances and printing financial statements and other reports.

A computerized accounting system according free online Merriam is system which allows the user to enter the transaction into the program once and all accounts are updates as necessary for e.g. of your bags N1000 worth of office supplies with a combination of N500 cash and N500 credit instead of going to each accounting and posting the transaction with a computerized system you would check office suppliers cash and the selected account payable account and the transactions automatically would post to the account.

Principles of computerized accounting systems

In the course of recording, classifying and summarizing financial data, there may arise cases where the exercise of discretion becomes very essential. Some practical principles have been developed to help accountants in the exercise of such judgment, the four basic principles of accounting are important because they provide the conceptual guidelines for application of the basic accounting system. Also they give the measurement, recording and reporting phases of the accounting information processing cycle. They include:

- Historical Cost Principle
- Revenue Recognition Principles
- Matching principles
- Full-disclosure principles.

The introduction of computerized accounting systems provide major advantages such as speed and accuracy of operation, and, perhaps most importantly, the ability to see the real-time state of the company's financial position. In my experience I have never seen a business that has upgraded to a computerized accounting system return to paper based accounting systems. A typical computerized accounting package will offer a number of different facilities. The primary objective of an accounting function in an organization is to process financial information about the activities of the organization and prepare financial statements at the end of the accounting period. The modern method of accounting is based on the system created by an Italian monk *Fra Luca Pacioli*. He developed this system over 500 years ago. This great and scientific system was so well designed that even modern accounting principles are based on it (deSantis, 2010).

In the past, in order to draw a report by the directors and auditors, many businesses maintained their

records manually in books (Journal, Cash Book, Special Purpose Books, and Ledgers, among others) – hence the term “bookkeeping” came about. This method of keeping manual records was cumbersome, slow, and prone to human errors of translation. Those days, due to the small volume of accounting data, accountants found it quite manageable using the manual system. At the turn of the millennium, internationalization of economic trade and globalization of businesses have been on the ascendancy. Businesses are going international for various reasons which include: the presence of cheap resources overseas, better tax regulations, trade liberalization, and other favorable legal requirements. Other businesses are expanding internally. All these activities have bearing on the accounting procedures and processes of an organization. With a substantial increase in the volume of accounting transactions and increase in exposure of information to errors due to complexity of these accounting systems, there was a need for a system which could store and process accounting data with increased speed, storage, and processing capacity. This led to the development and introduction of accounting software packages.

The adoption of computerized accounting systems brought about information and communication technology in the banking sector. Information Technology (IT) is the automation of processes, controls, and information production using computers, telecommunications, software and ancillary equipment such as automated teller machine and debit cards (Khalifa 2000). It is a term that generally covers the harnessing of electronic technology for the information needs of a business at all levels. Ikechukwu (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. Information and Communication Technology has provided self-service facilities (automated customer service machines) from where prospective customers can complete their account opening documents direct online. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque-books, credit and debit cards. Communication Technology deals with the Physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon and Laudon; 2001). 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. Several authors have conducted investigation on the impact of ICT on the banking sector of the Nigeria economy. The convergence of computer and telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created a new development where information has become the engine of growth around the world. This development has created catch-up opportunities for developing countries such as Nigeria to attain desired levels of development without necessarily ‘reinventing the wheels’ of economic growth. This new technology has brought far-reaching revolution in societies, which has tremendously transformed most business (banking) scenes (Ovia, 2005).

When using a computerized accounting system, input screens have been designed for ease of use. The main advantage is that each transaction needs only to be inputted once, unlike a manual double entry system where two or three entries are required. The computerized ledger system is fully integrated. This means that when a business transaction is inputted on the computer it is recorded in a number of different accounting records at the same time. A computerized accounting system saves a lot of time and effort, significantly reduces (if not eliminate) mathematical errors, and allow for much more timely information than the manual system does. In real-time environment, accounts are accessed and updated immediately to reflect activity, thus combining the collection and analysis of data from transactions and events with respect to their effects on the financial position of the organization, and journalizing the transactions in the general journals called the book of original entry. The need to test for equality of debits and credits through trial balance is usually not required in a computerized accounting system, since most systems test for equality of debit and credit amounts as they are entered. If someone were to attempts to input data containing an inequality, the system would not accept the input. Because the computer is programmed to post amounts to the various accounts error obviously reduced.

Computers may also be programmed to record some adjustments automatically at the end of the period. Most software programs are also able to prepare the financial statement once it has been determined that the account balances are correct. The closing process at the end of the period can also be done automatically by the computer. However, human judgment is still required to analyze the data for the entry into the computer system correctly. Additionally, the accountant's knowledge and judgment are frequently required to determine the adjustments that are needed at the ended of the reporting period. The components of the system, however, can easily be handled by the computer.

Computerized accounting uses the concept of database. For the reason, accounting software is used to implement computerized accounting. It does away with necessity to create and maintain journals, ledgers, etc which are essential parts of manual accounting. A database is a collection of data that is organized so that its content can easily be assessed, managed and updated. It is basic software which allows access to the data contained in the databases.

The computer can be used to perform virtually every accounting function, including account receivable, accounts payable. Payroll, inventory control, budgeting, cost volume profit analysis and general ledger. The

availability of software for these accounting functions eliminates the need for specialized programming. In addition, there are electronic spreadsheet is a versatile computer program that can be utilized to perform numerous types of financial analysis on a computer. The introduction of computers and the database technology in business has revolutionized the accounting system used by decision makers. An accounting information system is generally a computer based method for treating accounting activities in conjunction with information technology resources. The resulting statistical reports can be used internally by other interested parties including investors, creditors and tax authorities. Computer systems have some unique features, which set them apart from the non-FOP System. According to Lucey (1990), these features include:

- A computerized accounting system cannot usually be fully comprehended without expert knowledge and great deal of time. The manual system can be understood in a matter of hours at most.
- Accounting information is often generated automatically to computer system based on data instructions previously entered, without further human involvement.
- A large part. of the whole system of processing becomes concentrated in the computer department.
- Computerized accounting systems can have programmed or automatic controls, for example, the checking by a computer programme that a stock card is correct by use of check digit 'clarification control.

However, an accounting system can also be defined as mechanism for gathering and communicating data for the ends of assisting and co-ordination collective decision in view of the overall objective of a firm or an organization (Ama, 2004).

Accounting system by definition is a financial information system which includes accounting terms, records instruction manuals flow charts programs, and reports to fit the particular needs of the business.

Methods for Computerization In Accounting

The two main method of computerization in accounting which dictate how the company's transactions are recorded in the company's financial books are cash basic accounting and accrual basis accounting.

Cash – Basis Accounting

Ama (2003), states that cash basis of accounting revenue is recognized and recorded only when the cash is received. Expenses are recognized in the period when payment is made. Recording of revenue and expenses during an accounting period is based on an inflow and outflow of cash. A matching of cash receipts and cash disbursement is done to determine operating results during the period. This method is simple in application. A major accounting method that recognizes revenues and expenses at the time physical cash is actually received or paid out. This contrasts to the other major accounting method, accrual accounting, which requires income to be recognized in a company's books at the time the revenue is earned (but not necessarily received) and records expenses when liabilities are incurred (but not necessarily paid for). When transactions are recorded on a cash basis, they affect a company's books only once a completed exchange of value has occurred; therefore, cash basis accounting is less accurate than accrual accounting in the short term.

Accrual – Basis Accounting

The accrual basis of accounting is based on the principle that all revenue earned during a period and the related incurred expenses of earnings that revenue assignable to the period must be determined. These then are matched against each other to determine net income or net loss. Revenue is recognized at the time of sale of the services or merchandise and expenses are usually recognized at the time the service are received and used in the production of revenue.

The accounting method under which revenues are recognized on the income statement when they are earned rather than when the cash is received. The balance sheet is also affected at the time of the revenues by either an increase in Cash (if the service or sale was for cash), an increase in Accounts Receivable (if the service was performed on credit), or a decrease in Unearned Revenues (if the service was performed after the customer had paid in advance for the service). Under the accrual basis of accounting, expenses are matched with revenues on the income statement when the expenses expire or title has transferred to the buyer, rather than at the time when expenses are paid. The balance sheet is also affected at the time of the expense by a decrease in Cash (if the expense was paid at the time the expense was incurred), an increase in Accounts Payable (if the expense will be paid in the future), or a decrease in Prepaid Expenses (if the expense was paid in advance).

Rao (2006) defines accrual basis as a system of classifying and summarizing transactions into assets, liabilities, capital, cost and resources and recording thereof. A transaction is recognized when either a liability or asset is created or impaired. Whether payment is made or received is immaterial in accrued basis accounting. The following are the essential features of accrual basis.

- Revenue is recognized as it is earned.

- Costs are matched either against revenues so recognized or against the relevant time period to determine periodic income.
- Costs which are not charged to income are carried forward and are kept under continuous review. Any cost that appears to have lost its utility or its power to generate future revenue is written of as a loss.

Statement of the Problem

Business managers need accounting information system(AIS) to plan, control and make both short and long term decisions. Computerized accounting has been a useful tool in performance appraisal of business organizations (banks), so as to increase stakeholder's confidence in the organization and encourage them in investing more in the organization. In order for an organization to appraise its performance, it needs some important information that must be timely, accurate and useful to the users. The information must allow for quick comparison between current and previous years data, offer financial statement for use by both managers and stakeholders etc. Hence, the needs for any computerized accounting system are accuracy, speed and low cost of running the organization. The problem here is whether the computerized accounting system in these bank(s) is(are) useful in appraising the performance of its operation and also whether computerized accounting system enhances higher turnover and profitability in banks. Also, a problem to be reviewed in this research is to determine whether the use of computerized accounting system to keep accounting records in organizations has been of great use.

Objective of the Study.

The main objective of this study is to examine the effects of computerized accounting systems in appraising the performance of banking industries. And the specific objectives of this study are to:

- examine if there is any significant difference in customer patronage after the adoption of computerized accounting system.
- examine if there exist a significant relationship between the application of computerized Accounting System Nigerian commercial bank's profitability

Research Hypotheses

In order to ensure the verification and validation of the primary data gathered through administration of questionnaires. A research hypothesis is formed comprising the null hypothesis

H₀₁:- Computerized Accounting System has no significant impact on commercial bank's profitability.

Methodology

The population of the study consists of the entire population of commercial banks in Nigeria which are twenty one (21) in number. The criterion of convenience was used in selecting three (3) of the banks. The sample banks are therefore: GTbank Plc, Wema Bank Plc and First Bank Plc because they are the one close to the researcher location.

However, as it is not possible to include all the branches of the banks used as case studies, only one branch of each bank was used and again the criterion of convenience. Statistical Package for Social Sciences (SPSS) was used to test the formulated hypothesis

Table 1. Study Variables, Source/Method of Data Collection and Method of Data Analysis

Hypothesis	Independent variables	Dependent variables	Source/method of data analysis	Method of data analysis
Computerized Accounting System has no significant impact on commercial bank's profitability.	Computerized Accounting System	Bank's Profitability	Primary/ Questionnaire	Correlation

Result and Discussion

H₀₁: Computerized banking system has no significant impact on commercial bank's profitability.

Level of significance (p-value) is 0.05

Decision rule: Accept H₀ if p-value > 0.05;

Reject H₀ if p-value ≤ 0.05;

Result of Correlation test of hypothesis two using SPSS 12

	Value	Df	Asymp. Sig. (P.value)
Pearson Correlation	74.021 ^a	8	.015
Likelihood Ratio	78.567	8	.012
Linear-by-Linear Association	74.064	9	.000
N of Valid Cases	50		

Source: Field Survey, 2015

From the table above, it can be seen that the p-value is 0.015 which is less than 0.05. Also, Pearson correlation value is 74.021 which is greater than 46 from the correlation table. All the test parameters: Likelihood ratio, Pearson Correlation value and linear by linear association are also greater than the critical values. This shows that with at least 95% certainty, Computerized banking system has significant impact on customer service delivery in commercial banks.

Decision: Null hypothesis is rejected and alternative hypothesis is accepted since p-value is less than 0.05.

Conclusion: Therefore, it is concluded that computerized banking system has significant impact on commercial bank's profitability.

Summary

This study uncovers the importance of computerized banking system in Nigeria banking industries. It reveals the various areas in which the use of computer has overtaken manual system of working in banks. The use of computer in the banking system cut across all departments and activities of the banks. The use of computer has also make internet and electronic banking possible and it is under this system that most policies of banking industries is based such as cashless policy, Western Union Money Transfer, Interbank and Intra-bank. All these policies and services increases the productivity, productivity, effectiveness and efficiency of banks.

Therefore the importance of the use of computer in banking industries can not overemphasize. But that is not to say it has no disadvantages. Fraudsters that hack into system unethically remained the biggest problem of computerized banking system in Nigeria. Also, challenges of epileptic electricity supply has made, computer viruses, system breakdown and so on are common problems associated with the use of computers. This challenges has been talked headlong in some ways thereby ensuring security for banks customers and their money.

Conclusion

Based on the finding of this study, it can be concluded that computerized banking system has increased patronage of banks customers. In fact, computerized banking has impacted positively on the banking system in Nigeria increasing its profitability, productivity and efficiency. It makes internet banking possible thereby opening the door for important policy such as cashless policy, ATM card use, internet banking, inter-bank and intra-bank transfer of money etc. Therefore, the computerized banking has increase the ease of doing business and also increase the profitability of the banks.

Recommendation

I hereby make the following recommendation based on my findings from this study,

- i) Computerized banking system should be adopted by all banks in Nigeria because it has a lot of advantages and benefits.
- ii) All computers used in the banks should be connected to uninterrupted source of electricity so that interruptions can be avoided as a result of power out stages. In this case, I recommend the connection of the computers to inverters so that the computer continues to work automatically even after power cut
- iii) All bank workers should be computer literates and should be able to use computer proficiently. The computer knowledge of bank workers should be upgraded from time to time.

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