

Comparative Analysis of Computerized Accounting System and Manual Accounting System of Quoted Microfinance Banks (MFBs) in Nigeria

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Abstract *This study assesses the comparative analysis of computerized accounting system and manual accounting system of quoted Microfinance Banks in Nigeria from 2006-2015. Three hypotheses were formulated in line with objectives of the study. Ex-post facto research design was adopted and the data for the study were obtained from fact books, annual reports and account of the quoted Microfinance banks under study. Paired sample T- test was used to test the Hypotheses, at 5% significant level with aid of SPSS version 22 statistical software. Findings showed that computerized accounting system has a positive effect on the reported profitability of banks more than manual system of accounting. Based on these findings, the study recommends among others that Microfinance banks should implement computerized accounting system than the manual accounting system because it has more positive effect on the profitability level of the banks.*

Key words Computerized Accounting System, Manual Accounting System, profitability

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1. Introduction

The advancements in information technology have eventually led to the introduction of computerized accounting systems in displacement of manual accounting system in corporate reporting to help produce relevant and faithful representative financial reports for both management and external users for decision making (Greuning, 2006). The many advantages from the use of these systems have led many to conclude that Computerized Accounting Systems in corporate reporting is the engine of growth in business organizations. This was evidence with numerous advantages of computerized accounting over manual accounting system; manual accounting requires that all journal entries, invoices and other financial documents be created by hand. Computerized accounting allows users to input information into accounting software programs. Computerized accounting produces information much faster than manual accounting system. Accounting software packages, such as QuickBooks and Sage 50 Accounting, come with built-in databases that allow users to input data. Manual accounting systems are prone to mathematical errors and misplaced numbers. With a computerized accounting system, company data is automatically calculated based on numbers of input data. In a manual accounting system, company's income statement, balance sheet and statement of owner's equity are prepared by hand. Information from your journal entries helps formulate company's financial statements. Computerized accounting systems allow financial statements to be created from information stored in the database.

The cost of computerized accounting systems can range from hundreds to thousands of dollars for large businesses. A computerized accounting system may save on man hours used for creating financial statements and other reports. For this reason, many small and mid-sized businesses use computerized accounting software. Reports are created in a timely manner when using a computerized accounting system. Reports generated from computerized accounting software allow managers to run the company in a more efficient manner. Creating reports in a manual accounting system may lead to more staff frustration and result in having to work with outdated information.

Accounting records kept on the manual system can be lost or damaged easily, such as by coffee spills. On the other hand, records kept by a computer are likely to be safer because many systems are backed up often. If pages are lost in a paper pad, firms have to recreate the transactions by conducting research and writing them in again. In a computerized system, firms simply restore the latest backup and add a few transactions that were not saved. In this area, accounting software is obviously superior to manual systems.

Data processed through software is organized and easy to find. That's not the case with manual systems, where you may have to review several pages to find what you need. Accounting programs organize the information in one place, classified by type. If an organization wants to find certain data about a vendor, it can go to the accounts payable section of the software, usually by clicking a link or tab, and conduct a search for the vendor. If you conduct the same process on a manual system, it may have to go through several pages and take more time to locate the vendor.

In spite of the benefit of computer to the banking industry and businesses in general, some problems are still left unsolved and new ones have been credited by the use of computer itself being a problem such as the use of computer to keep accounting records. Another problem is the displacement of labour hands in the accounting department and its union implication and the problem of low turnover (volume of operation) and profitability in banks. Against this background this study is set to undertake a comparative analysis of computerized and manual accounting systems of quoted microfinance banks in Nigeria.

1.1. Statement of problem

The major challenge in the manual accounting system is that processing of customer information takes a very longer period of time. Customers waste precious time in joining long queues at the bank for their banking activities. There is also huge labour cost, in terms of salaries and its related cost. Errors of commission and omission are very prone in the bank. The manual banking system makes banking transactions very dull, cumbersome, and unpleasant; manual maintenance of accounts is quite tedious and consumes a lot of time. These are the problems associated with manual accounting system. Though it has certain benefits too, ledgers can be reviewed easily and the accountant can incorporate simple changes if needed. It convenient to reconcile individual accounts as each ledger contains information in an organized manner. The other benefit is that the accountant can physically handle any ledger and make notes against customers account if there are any issues needing correction or clarification.

According to McBride (2000), computerized packages can quickly generate all types of reports needed by management for instance budget analysis and variance analysis. Data processing and analysis are faster and more accurate which meets the managers need for accurate and timely information for decision making. Frank and Sangester (1999) consented to the speed with which accounting is done and further added that a computerized accounting system can retrieve balance sheets, income statement or other accounting reports at any moment. He consented that computerized accounting system allow managers to easily identify and solve problems instantly. Nevertheless, there is a problem associated with application of computerized accounting system in an organization; this is in respect of displacement of labour hands in the accounting department and its union implication and the problem of low turnover (volume of operation) and profitability in banks. Divergent views had been put forward in respect of the merits and demerits associated with the application of manual and computerized accounting systems in regards towards their respective contribution in an organizational efficiency in daily operations. This form the milieu upon which the study is set out to perform a comparative analysis of manual and computerized accounting systems of quoted microfinance banks in Nigeria.

1.2. Objectives of the study

The main purpose of this study is to carry out a comparative analysis of computerized accounting and manual accounting system of quoted microfinance banks (MFBs) in Nigeria. The specific objectives are:

- i. To determine the effect of manual accounting system and computerized accounting system on the net profit margin of quoted microfinance banks (MFBs) in Nigeria.
- ii. To ascertain the effect of manual accounting system and computerized accounting system on return on asset (ROA) of quoted microfinance banks (MFBs) in Nigeria.

iii. To verify the effect of manual accounting system and computerized accounting system on return on equity of quoted microfinance banks (MFBs) in Nigeria.

1.3. Hypotheses of the study

The following hypotheses are stated in their null forms and tested at 5% level of significance.

Ho₁: Manual accounting system and computerized accounting system do not have significant effect on net profit margin of quoted microfinance banks in Nigeria.

Ho₂: Manual accounting system and computerized accounting system has no significant effect on return on asset (ROA) of microfinance banks in Nigeria.

Ho₃: Manual accounting system and computerized accounting system do not have significant effect on return on equity of quoted microfinance banks in Nigeria.

2. Literature review

2.1. Conceptual review

Computerized Accounting System (CAS)

Marivic, (2009) described a computerized accounting system as a method or scheme by which financial information on business transactions are recorded, organized, summarized, analyzed, interpreted and communicated to stakeholders through the use of computers and computer based systems such as accounting packages. He emphasized that it's a mechanized process of facilitating financial information inflows as well as the automation of accounting tasks such as database recording and report generation. Marivic adds that keeping accurate accounting records is a vital part of any organization. Apart from helping it to keep its float financially and legal, it is a requirement of funding bodies or donors. According to Abiahu (2014), computerized accounting system involves the use of computers and computer capabilities in the performance of accounting functions in an organization. To Frank Wood and Alan, (2005) it is the total suit of components that together comprises all inputs, storage, transactions, processing, collecting and reporting of financial transaction data.

Merits of Computerized Accounting Systems

According to Ezeagba (2017), "the place of sound accounting and internal control systems in any business, irrespective of its scale, cannot be overemphasized". Accordingly, McBride, (2000) computerized packages can quickly generate all types of reports needed by management for instance budget analysis and variance analysis. Data processing and analysis are faster and more accurate which meets the managers need for accurate and timely information for decision making. Frankwood and Sangester (1999) consented to the speed with which accounting is done and further added that a computerized accounting system can retrieve balance sheets, income statement or other accounting reports at any moment. He consented that computerized accounting system allow managers to easily identify and solve problems instantly.

Demerits of Computerized Accounting System

Vermaat and Shelly, (2011) stated that some disadvantages of computers relates to health risks, the violation of privacy, public safety, the impact on the labor force, and the impact on the environment.

Health Risks: Prolonged or improper computer use can lead to injuries or disorders of the hands, wrists, elbows, eyes, neck and back. Computers users can protect themselves from these health risks through proper workplace design, good posture while at the computer, and appropriately spaced work breaks. Two behavioral health risks are computers addition occurs when someone becomes obsessed with using computers. Individuals suffering from technology overload fell distressed when deprived of computers and mobile devices.

Violation of Privacy: Nearly every life event is stored in a computer somewhere in medical records credit reports, tax records, etc. In many instances, where personal and confidential records were not protected properly individuals have found their privacy violated and identities stolen.

Public Safety: Adults, teens and children around the world are using computers to share publicly their photos, videos, journals, music and other personal information. Some of these unsuspecting, innocent computer users have fallen victim to crimes committed by dangerous storage protect yourself and your

dependents from these criminals by being cautious in e-mail messages and on web – sites for example, do not share information that would allow others to identify or locate you and do not disclose identification numbers, passwords or other personal security details.

Impact in Labor Force: Although computers have improved productivity in many ways and created an entire industry with hundreds of thousands of new jobs, the skills of millions of employees have been replaced by computers. Thus, it is crucial that workers keep their education up-to-date. A separate impact on the labor force is that some companies are outsourcing jobs to foreign countries instead of keeping their homeland labor force employed.

Impact on Environment: Computer manufacturing processes and computer waste are depleting material resources and polluting the environment. When computers are discarded in landfills, they can release toxic materials and potentially dangerous levels of lead, mercury and flame retardants.

Manual Accounting System (MAS)

According to Ama (2004), Manual Accounting System is a system, which uses special journals to streamline the journalizing and posting procedures. To handle a large volume of transactions rapidly and effectively, it is helpful to group the transactions into classes and to use a specialized journal for each. Recording and posting are made for these journals using the double entry record keeping. A manual system is a system in which an accountant or the book-keeper is required to post business transactions to the general journal, general ledger and worksheet by hand.

Benefits of Manual Accounting Systems

Though manual maintenance of accounts is quite tedious and consumes a lot of time, it has certain benefits too. Ledgers can be reviewed easily and the accountant can incorporate simple changes if needed. It is convenient to reconcile individual accounts as each ledger contains information in an organized manner. The other benefit is that the accountant can physically handle any ledger and make notes against customers' accounts if there are any issues needing correction or clarification.

Microfinance Banks

A microfinance bank is any company licensed by Central Bank of Nigeria (CBN) to carry on business of providing microfinance services such as savings, loans, domestic funds transfer and other financial services that are needed by the economically active poor, micro, small and medium enterprises to conduct or expand their businesses as defined in the guideline of Microfinance bank in Nigeria. Microfinance bank is a self-sustaining financial institution owned and managed by a community or group of communities for the purpose of providing credit deposits, banking and other financial services to its members, largely on the basis of their self-recognition and credit worthiness.

Net Profit Margin (NPM)

Net profit margin measures the portion of the company's sales dollar remaining after it pays all expenses (including product costs) and realizes any extraordinary gains or losses.

$$\text{NPM} = \frac{\text{Net income}}{\text{Net sales}} \quad \dots \quad (1)$$

Return on Asset (ROA)

ROA is an indicator of how profitable a company is in relation to its total assets (Amahalu *et al.*, 2017). ROA tells you what percentage of every dollar is returned to you as profit. It simply shows how effective a company is at using the assets to generate a profit. According to Amahalu *et al.*, (2017), Return on Assets "gives an idea as to efficient management is at using its assets to generate earnings".

ROA is expressed as a percentage and calculated as:

$$\text{ROA} = \frac{\text{Net profit}}{\text{Total assets}} \quad (2)$$

Return on Equity (ROE)

Return on Equity (ROE) the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested (Amahalu *et al.*, 2017).

ROE is expressed as a percentage and calculated as:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Shareholder's Equity}} \quad (3)$$

Accounting Systems and Net Profit Margin

Performance measurement system plays a catalytic role and has many dynamic benefits crucial for business growth. It involves the use of different measures to collect and report information regarding the performance of an individual, groups or organization (Okwo and Marire, 2012). The aim of this study was to review the different performance measurement parameters in use in business organizations and to empirically analyze the performance of four breweries that are traded on Nigeria Stock Exchange. The financial statements of the breweries were critically analyzed using financial ratio broadly classified into 3 main groups which includes: Loan safety ratios, management efficiency ratios and profitability ratios. With the simple reason that most business ventures are set with the main aim of making profit, the study made its conclusion based on profitability. The finding shows that Nigeria Breweries Plc is more financially healthy than the other breweries, followed by Guinness Nigeria Plc.

Accounting Systems and Return on Asset

Grande *et al.*, (2011) measured the relationship between the use of the accounting information systems (AIS) by the Small and Medium Sized Enterprises (SMEs) in Spain, and firms' improved performance indicators and productivity. This empirical study is based on a survey carried out among small and medium-sized firms to ascertain the extent to which development and implementation of accounting information systems had taken place, and subsequently an analysis was made as to how much this introduction may impact on improvement in outcome indicators and productivity. As interesting results we have found that there is a positive relationship among the SMEs that use AIS for fiscal and bank management and better performance measures. This research provides value added in accounting literature given the scarcity of works dealing with the relationship between the application and use of AIS and performance and productivity indicators in SMEs in Spain.

Accounting Systems and Return on Equity

Etengu and Nasieku (2015) empirically studied the relationship between accounting based performance measures and investment decisions. Specifically, the study sought to empirically examine the relationship between earnings per share, return on equity, price earnings ratio and investment decisions as measured by market price per share. Generally, the findings of the study revealed a strong relationship between earnings per share, return on equity, price earnings ratio and share prices. On this basis therefore accounting information is still value relevant.

Comparison between Manual and Computerized Accounting Systems (MAS versus CAS)

The major difference between computerized accounting system and manual accounting system is Speed. Accounting software processes data and creates reports much faster than manual system. Calculations are done automatically in software programs, minimizing errors and increasing efficiency. Once data is input you can create reports literally by pressing a button in a computerized system. Another difference between computerized accounting system and manual accounting system is Cost. Manual accounting with paper and pencil is much cheaper than a computerized accounting, which requires a machine and software including training and program maintenance. Accounting, by definition, is the process of identifying, recording, classifying and summarizing financial transactions to produce the financial reports for their ultimate analysis. Understanding accounting activities signify that in the context of manual and computerized accounting systems, there are differences and commonalities in the following areas:

Identifying: The identification of transactions, based on application of accounting principles is, common to both manual and computerized accounting system.

Recording: The recording of financial transactions, in manual accounting system is through books of original entries while the data content of such transactions is stored in a well-designed accounting database in computerized accounting system.

Classification: In a manual accounting system, transactions recorded in the books of original entry are further classified by posting into ledger accounts, these results in transaction data duplicity. In computerized accounting, no data duplication is made to cause classification of transactions. In order to produce ledger accounts, the stored transaction data is processed to appear as classified so that the same is presented in the form of a report. Different forms of the same transaction data are made available for being presented in various reports.

Summarizing: The transactions are summarized to produce trial balance in manual accounting system by ascertaining the balances of various accounts. As a result, preparation of ledger accounts becomes a prerequisite for preparing the trial balance. However, in computerized accounting, the originally stored transactions data are processed to churn out the list of balances of various accounts to be finally shown in the trial balance report. The generation of ledger accounts is not a necessary condition for producing trial balance in a computerized accounting system.

Adjusting Entries: In a manual accounting system, these entries are made to adhere to the principle of cost matching revenue. These entries are recorded to match the expenses of the accounting period with the revenues generated by them. Some other adjusting entries may be made as part of errors and rectification. However, in computerized accounting, Journal vouchers are prepared and stored to follow the principle of cost matching revenue, but there is nothing like passing adjusting entries for errors and rectification, except for rectifying an error of principle by having recorded a wrong voucher such as using payment voucher for a receipt transaction.

2.2. Theoretical review

Diffusion of Innovation Theory (DOI)

This research work or study is anchored on the theory of diffusion of innovation theory (DOI), Innovation is an introduction of any “idea, practice or object that is perceived to be new” (Rogers, 2003). Rogers (2003) believes that an innovation has two parts. First is “the generation of an idea or invention” and the second is “the conversion of that [new idea] or invention into a business or other useful application”. Others define innovation as something really new, whether an invention, a new combination (Schumpeter, 1934), or something subject to the dimensions, such as product innovation or process innovation (Maidique and Zirger, 1984). The keyword of this construct is perception. Rogers (2003) emphasized “reaction to it” (referring to the innovation) and the newness may be expressed in terms of “knowledge, persuasion, or a decision to adopt”. For example, the deployment of new enterprise systems rarely means that the systems themselves are an innovation, because the new systems may be replacing an obsolete system. The process in which a new idea is communicated through certain channels over time among the members of a social system is popularly known as diffusion (Rogers, 2003). As the case demonstrates, in order to diffuse new enterprise systems internally, communication must involve interpersonal interactions among the internal staff, personal persuasion, emails, and finally, a formal business case document. External diffusion includes the Request for Information (RFI) taking the form of newspaper advertisements and uploads to a government website, and the Request for Proposal (RFP) sent to the short-listed vendors.

Rogers (2003) see diffusion of innovation as the process by which an innovation is communicated through certain channel(s) over time among the members of social system; that is, diffusion is a special type of communication concerns with spread of messages that are perceived as new idea(s), object(s) or practice(s) (that is computerized accounting system).

3. Methodology of research

3.1. Research design

“Research design” refers to the many ways in which research can be conducted to answer the question being asked (Egbunike and Abiahu, 2017). The historical research method was employed in this

research work. It deals with determination, evaluation and explanation of past events essentially for the purpose of gaining a better and more reliable prediction of the future.

3.2. Population of Study

The target population of this study comprises the two (2) microfinance banks listed on the floor of Nigeria stock exchange as at 31st December 2015. They are Fortis Microfinance Bank Plc and NPF Microfinance Bank Plc.

3.3. Sample Size and Sampling Procedures

Non-probability sampling method was adopted to determine the sample size. This research adopted judgmental sampling technique because of the availability of all the annual financial statements of the banks under study. Based on this reason, the two (2) quoted micro finance banks represent the sample size for this study, for a ten (10) year period spanning from 2006-2015. The ten (10) years period is chosen in order to have a fairly, reasonably, reliable and up-to-date available financial data.

3.4. Sources of Data

The researcher basically collected data from secondary data. This was used to ensure the reliability of information for the research. Data were collected from various and relevant publications of the MFBs, fact books, annual report and accounts of the MFBs.

3.5. Method of Data Analysis

This refers to various methods adopted in analyzing the data collected for this work in order to draw conclusions and make appropriate recommendation. Paired sample T- test was used to test the Hypotheses, at 5% significant level and 14 degree of freedom. The paired sample T- test formula was used and it represented with the formula below.

$$t = \frac{x_1 - x_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}} \quad (4)$$

Where

T = calculated value of t

X = means of sample

S = standard deviation for sample 1

S = standard deviation for sample 2

N1 = sample size for sample

t- Test procedure

Step 1: statement of Hypotheses

Step 2; determine the mean of the two samples = $\sum \frac{x}{N}$

Step 3; determine the standard deviations for the two samples $S^2 = \frac{\sum (x - \bar{x})^2}{N-1}$

Step 4: determine the standard error $\frac{S_1^2}{\sqrt{N}}$

Step 5: determine t score.

Step 6: determine the degree of freedom.

Step 7: determine the critical value.

Step 8: compare the critical value with the computed valued

Step 9: Decision rule.

Step 10: conclusion.

Decision Rule:

1. Accept the null Hypotheses (H₀) if $t_{cal} < t_{tab}$. This implies that the alternative Hypotheses (H_i) will be rejected.
2. Reject the null Hypotheses (H₀) if $t_{cal} > t_{tab}$. This implies that the alternative Hypotheses (H₁) will be accepted.

4. Presentation of Data

The data obtained from the annual reports from 2006 to 2010 (manual accounting) and from 2011 to 2015 (computerized accounting) will be presented using tables and simple percentages.

Analyses of Banks Ratios for 2006 to 2015 Financial Statement

$$a. \text{ RETURN ON EQUITY} = \frac{\text{NET INCOME}}{\text{SHAREHOLDERS EQUITY}} \times 100 \quad (5)$$

Table 1. Net Income From 2006-2015

Banks/ years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	18,355,763	13,013,146	21,489,885	23,848,061	36,511,628	43,559,854	50,981,230	65,263,826	75,981,826	85,545,510
NPF MFB	17,509,000	30,473,000	21,489,885	35,074,000	47,462,000	95,803,000	83,41,0004	8076,0005	66,703,044	98,308,000

Source: Annual report of MFBs from 2006 to 2015

Table 2. Shareholders' Equity from 2006-2015

Banks/ years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	47,433,18	161,053,064	188,475,78	205,167,80	235,911,423	286,539,451	329,646,681	356,678,867	347,433,188	361,053,064
NPF MFB	112,833,0	338,483,000	328,383,00	350,414,00	360,868,000	438,003,000	472,622,000	543,667,000	612,833,000	738,483,000

Source: Annual report of banks from 2006 to 2015

Table 3. Return on Equity from 2006-2015

Banks/ years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	21.4%	9.43%	27.43%	13.34%	12.65%	17.76%	21.6%	29.76%	25.95%	26.67%
NPF MFB	23.73%	8.97%	15.5%	13.7%	5.59%	9.5%	10.31%	21.87%	17.65%	22.34%

Source: Annual report of banks from 2006 to 2015

Table 4. Earnings per share from 2006 to 2015

Banks/ years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	87k	173k	163k	173k	128k	157k	164k	290k	291k	280k
NPF MFB	156k	223k	189k	345k	73k	106k	118k	305k	266k	270k

Source: Annual report of banks from 2006 to 2015

Table 5. Net profit before interest and taxes from 2006 to 2015

Banks/ years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	8,043,165	19,042,106	15,350,231	34,609,117	26,959,809	45,475,040	62,079,003	100,141,667	100,461,729	150,476,55
NPF MFB	22,097,000	38,020,000	23,289,000	48,939,000	31,753,000	42,957,000	51,141,000	94,048,000	94,108,000	98,567,000

Source: Annual report of banks from 2006 to 2015

Table 6. Gross Earnings from 2006 to 2015

Banks/years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	27,881,451	57,627,098	46,383,846	93,017,258	151,698,107	138,347,028	172,331,511	160,124,580	172,433,167	176,546,167
NPF MFB	79,299,000	130,600,000	89,194,000	190,120,000	254,147,000	169,370,000	215,616,000	279,042,000	311,275,000	435,345,000

Source: Annual report of banks from 2006 to 2015

Table 7. Net profit margin from 2006 to 2015

Banks/years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	33.04%	28.85%	33.09%	37.21%	17.77%	32.87%	36.02%	62.54%	58.26%	60.45%
NPF MFB	27.87%	29.11%	26.11%	25.74%	12.49%	25.36%	23.72%	33.70%	30.23%	40.21%

Source: Annual report of banks from 2006 to 2015

Decision Rule

After the calculation of the critical values, it is compared with the table of critical value at 5% degree of freedom. If the calculated critical value is greater than the tabulated critical value, the null Hypotheses is rejected and the alternative Hypotheses is accepted, but if the critical value is less than the tabulated value the null hypotheses is accepted and the alternative hypotheses rejected.

Test of Hypothesis 1

H₀: Computerized Accounting system has no significant effect on return on equity of quoted MFBs in Nigeria.

h₁: Computerized Accounting system has significant effect on return on equity of quoted MFBs in Nigeria.

Table 8. computational data for the validation of Hypothesis 1

Average of return on equity for manual accounting system and computerized accounting system

MICROFINANCE BANKS	MANUAL ACCOUNTING SYSTEM X ₁	COMPUTERISED ACCOUNTING SYSTEM X ₂
FORTIS MFB	18.562%	27.85%
NPF MFB	10.92%	19.76%

Source: Computed from table 3

Table 9. Paired sample statistics

	MEAN	N	STANDARD DEVIATION	STANDARD ERROR MEAN
Manual accounting system	3.02619	2	21.21	5.48
Computerized accounting system	12.22	2	14.84	3.84

Source: Researchers' computation using SPSS version 22

Using the absolute t- test formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

(6)

The t value calculated is 5.93. Absolute t test calculated is 5.93. The critical value from the table at 0.05 level of significance and 14 degree of freedom is 1.761. Therefore $t_{cal} > t_{tab}$ ie (5.93 > 1.761). Based on the decision rule earlier stated, it will be reasonable to reject the null Hypotheses (H_0) and accept the alternative Hypotheses (H_1) which states that computerized accounting system has significant effect on return on equity of quoted MFBs in Nigeria than manual accounting system.

Test of Hypothesis II

H₀: Computerized Accounting system has no significant effect on net profit margin of quoted MFBs in Nigeria.

h₁: Computerized Accounting system has significant effect on net profit margin of quoted MFBs in Nigeria.

Table 10. computation data for the validation of Hypothesis 2

Net profit margin from 2006 to 2015

Banks/years	MANUAL ACCOUNTING SYSTEM					COMPUTERISED ACCOUNTING SYSTEM				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FORTIS MFB	33.04%	28.85%	33.09%	37.21%	17.77%	32.87%	36.02%	62.54%	58.26%	60.45%
NPF MFB	27.87%	29.11%	26.11%	25.74%	12.49%	25.36%	23.72%	33.70%	30.23%	40.21%

Source: Computed from table 7

Table 11. Paired sample statistics for net profit margin

	MEAN	N	STANDARD DEVIATION	STANDARD ERROR MEAN
Manual Accounting System	4.1824	2	31.06649	8.02133
Computerized Accounting System	26.0420	2	29.28370	7.56102

Source: Researchers computation using SPSS version 22

Table 12. Paired sample Correlation for net profit margin

	N	CORRELATION	SIGNIFICANCE
Manual and Computerized System	2	0.598	0.19

Source: Researchers Computation

Table 13. Paired sample test for net profit margin

	PAIRED DIFFERENCES					T	DF	SIG. (2 TAILED)
	MEAN	STD	STD ERROR MEAN	95% CON. INT. FOR THE DIFF. LOWER	UPPER			
Manual and computerized system	21.85960	27.10306	6.99798	-36.86877	-6.85043	3.124	14	0.07

Source: Researchers Computation using SPSS version 22

Critical value = 28 at 0.05 significance level is 1.701.

From the table above, t-test calculated with SPSS version 22 is 3.124. Absolute t-test for the calculated t is 3.124. Therefore $t_{cal} > t_{table}$ (3.124 > 1.701), based on the decision rule earlier stated, it is reasonable to reject the null Hypotheses (H_0) and Accept the alternative Hypotheses (H_1) which states that Computerized Accounting system has significant effect on net profit margin of quoted MFBs in Nigeria than manual accounting system.

Test of Hypothesis III

h₀: Application of computerized accounting system has not improved investors' confidence.

h₁: Application of computerized accounting system has improved investors' confidence.

Table 14. Computation data for the validation of Hypotheses III

Average of earning per share using manual accounting system and computerized accounting system

BANKS	MANUAL ACCOUNTING SYSTEM X ₁	COMPUTERISED ACCOUNTING SYSTEM X ₂
FORTIS MFB	1.57 ^(k)	2.91 ^(k)
NPF MFB	1.66	2.86

Source: Computed from table 4

Table 15. Paired sample statistics for earning per share (Basic)

	MEAN	N	STANDARD DEVIATION	STANDARD ERROR MEAN
Manual accounting system	7.5077	2	19.51933	5.03987
Computerized accounting system	10.1463	2	24.78214	6.39872

Source: Researchers computation using SPSS version 22

Table 16. Paired sample Correlation for net profit margin

	N	CORRELATION	SIGNIFICANCE
Manual and computerized accounting systems	2	.996	.000

Source: Researchers computation using SPSS version 22

Table 17. Paired sample test for earnings per share (Basic)

PAIRED DIFFERENCES					T	DF	SIG. (2 TAILED)	
	MEAN	STD	STD ERROR MEAN	95% CON. INT. FOR THE DIFF.				
				LOWER	UPPER			
Manual and computerized accounting systems	-2.63861	5.62465	1.45228	-5.75344	.47622	1.817	14	.091

Source: Researchers computation using SPSS version 22

From table 17, the degree of freedom is N-1 = 14. The critical value from the table at 0.05 level of significance is 1.761. Therefore t - tabulated is 1.761. Since the t-test calculated with SPSS version 22 is 1.817. Absolute t-test for the calculated t is 1.817. $t_{cal} > t_{tab}$. i.e (1.817 > 1.761). Based on the decision rule earlier stated, it is reasonable to reject the null hypotheses (H₀) and accept the alternative hypotheses (H₁) which states that application of computerized accounting system has improved investors' confidence than the manual accounting system.

5. Findings, conclusions and recommendations

5.1. Summary of Findings

The study revealed that:

1. Computerized accounting system has an effect on the reported net income and equity of banks more than manual accounting system. This was based on the return on equity of the Microfinance banks calculated.

2. Computerized accounting system has a positive effect on the reported profitability of banks more than manual system of accounting. This was based on the net profit margin of Microfinance banks calculated.

3. Computerized accounting system has a more positive effect on the level of confidence of global investors and investment analysts in the financial statements of companies in Nigeria than the manual system of accounting. This was based on earning per share collected from annual reports of banks before and after the implementation of computerized system of Microfinance banks.

5.2. Conclusions

Computerized Accounting System which is technically known as Electronic Data Processing (EDP) accounting system is an integrated computer, based system which allows the user to enter the transaction into the program once and all accounts are updated as necessary. It is also a specialized machine system use in gathering information. It also provides information for decision making functions and has been of tremendous benefits not only in banks also to all manner of firms and organizations. Computerized accounting system has helped in facilitating the provision of timely, quick customer service delivery, accurate and reliable information, required by them (Banks and other firms and organizations).

It has also brought about quality performance in banking operations by abiding by the accounting instructions and guidelines which help them to minimize risk/challenges that are likely to be encountered in the course of their duties as well as evolves adequate measures to combat such challenges and achieve success.

5.3. Recommendations

Based on the research findings, the following recommendations are proffered to address the research problem:

1. Based on the return on equity calculated, microfinance banks should adopt more of computerized accounting system because it has an effect on the reported net income and equity than manual accounting system.

2. Based on the net profit margin calculated, microfinance banks should implement computerized accounting system because it has a positive effect on the reported profitability than manual accounting system.

3. Microfinance banks should implement computerized accounting system than the manual accounting system because it has more positive effect on the level of confidence of global investors and investment analysis in the financial statements of the companies in Nigeria based on the earnings per share collected from the annual reports of bank.

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