



# RELATIONSHIP BETWEEN ACCOUNTING SOFTWARE AND ACCOUNTING INFORMATION PROCESSING IN NIGERIAN BANKS

Elias Igwebuike Agbo, Ph.D<sup>1</sup>; Ezuwore- obodoekwe, C.N., Ph.D<sup>2</sup>

<sup>1</sup>Department of Accounting and Finance, Faculty of Management and Social Sciences, Godfrey Okoye University, Uguwuomu-Nike, Emene, Enugu State, Nigeria.

<sup>2</sup>Department of Accountancy, Faculty of Business Administration, University of Nigeria, Enugu Campus.

## ABSTRACT

*Many firms now consider the use of the computer software as a means of improving their business transactions. In spite of the advantages of accounting software, several banks seem not to have invested in it significantly. The objective of this study is to determine the relationship between accounting software and accounting information processing in Nigerian banks. Specifically, the paper seeks to identify the extent to which accounting software is connected with minimizing the time spent in carrying out banking transactions, an increase in the effectiveness of accounting information improved efficiency and accuracy of banking operations in Nigeria. It uses the Enugu branch of Union Bank of Nigeria Plc as case study while employing the survey research design. The results of the study show that accounting software is positively and significantly connected with minimizing the time spent in carrying out banking transactions, an increase in the effectiveness of accounting information, improved efficiency as well as accuracy of banking operation. This study recommends an optimal usage of accounting software by Nigerian banks to boost their operations and improve service rendition to their customers.*

**KEY WORDS:** Accounting software, Accounting information system, Commercial bank, Nigeria.

## INTRODUCTION

Chong and Nizam (2018) report that currently accounting occupies a significant position in its functions within the business sector. It plays a crucial role in the operation of most organizations. For every business, it is important to keep the financial information of its activities is up-to-date and to monitor it. According to Chong and Nizam(2018), accounting involves several processes some of which are simple while others are complex and even burdensome. Companies are required to be abreast with the constant changes in information technology so as to maintain a highly accurate and up-to-date accounting, statutory records and inventory (Igbaria & Tan, 1997 cited in Chong and Nizam, 2018). Due to the complexity of the accounting system increasing vulnerability to errors and the enlarging volume of accounting transactions, a system that is capable of processing and reserving accounting data with increased speed, vast storage and processing capacity became inevitable. In a bid to meet the increase demand for up-

to-date and accurate information, accounting software, which is an integration of accounting and information technology was introduced to the world (Wickramasinghe, Pamarathna, Cooray and Dissanayake, 2017). Studies such as Saira, Zariyawati and Annuar (2010) and Gullkvist (2002), Sajady, Dastgir and Nejad (2008) as well as Kouser, Awan, Rana and Shahzad (2011) cited in Chong and Nizam (2018), all observe that many past researches have indicated that accounting information system (AIS) adoption actually increases the performance, profitability and operational efficiency of firms in Malaysia, Finland, Spain, Iran and Pakistan. New computer tools and information society enabled the companies in Turkey to effectively use their accounting system in dealing with customers and suppliers (Cragg, King and Hussin (2002) find that alignment of information technology (IT) strategy with business strategy increased firm's performance. The work of Raymond, Pare and Bergeron (1995) found that firms perform better when there is some alignment of organisational structure with IT structure.



When AIS is linked with improved speed, accuracy, reliability and good corporate governance practices, such nexus will bring about good firm performance (Ahmad, 2016; Hla & Teru, 2015 cited in Chong & Nizam, 2018). Even though a lot of studies have been conducted on the firm performance and AIS relationship, not many of them have looked at the relationship between relationship between accounting software and accounting information processing in Nigerian banks. In addition, while the impact of corporate governance and strategic decision making on firm performance has been widely studied, the role of accounting accounting software in this relationship remains unclear (Chong and Nizam, 2018). Further, although the banking industry is one of the major contributors to the economic development of any nation in the world, the existing banking facilities in Nigeria do not appear to be capable of coping with the requirements of modern banking effectively. This limitation has further resulted in challenges such as slow banking operation, slow storage and retrieval system, time wastage and reduced customers patronage. Several business entities have now embraced the use of the accounting software as a means of improving their business transactions. However, in spite of the advantages of accounting software, several banks in Nigeria seem not to have invested in it significantly. The objective of this study is, therefore, to determine the relationship between accounting software and accounting information processing in Nigerian banks. Specifically, the paper seeks to identify the extent to which accounting software is connected with minimizing the time spent in carrying out banking transactions, linked with an increase in the effectiveness of accounting information and connected with improved efficiency and accuracy of banking operation. It uses the Enugu branch of Union Bank of Nigeria Plc as case study. The result of this study is expected to help the commercial banks in Nigeria in perfectly understanding the importance of using accounting software to enhance performance in their business operations. In addition, the findings of this research are expected to add value to the accounting literature, given the scarcity of works dealing with the relationship between the use of accounting software and performance and productivity indicators in Nigerian commercial banks.

The rest of this paper is structured as follows:- Section 2 presents the review of the related literature; Section 3 highlights the methodology; Section 4 handles the presentation and analysis of data while section 5 concludes the paper.

## **2, REVIEW OF RELATED LITERATURE**

### **2.1. Conceptual review**

#### **2.1.1 Accounting information system**

Romney and Steinbart (2012) define AIS as a system that collects, records, stores and handles data in order to provide information to decision-makers through the use of advanced technology or simple system. For Gill (2010), the term refers to a collection of parts and sub-systems which are connected with each other and with the surrounding environment. The parts and sub-systems function as a single overlapping relationship between each other and between the system that combines it. Under this arrangement, each part depends on the other in achieving the goals sought by the comprehensive system of accounting in order to provide data and information to decision maker.

Accounting software is an aspect of AIS and refers to a type of application software which records and processes accounting transactions within some functional modules such as accounts payable, accounts receivable, journal, general ledger, payroll and trial balance. It may be developed in-house by the business entity using it, may be purchased from a third party, or may be a combination of both. Accounting software may be on-line based, accessed anywhere at any time with any device which is Internet enabled, or may be desktop-based. It varies enormously in its complexity and cost.

AIS is of immense significance to both businesses and organization according to Hla and Teru (2015) as it facilitates management decision making, the quality of the financial report, internal controls and other company's transaction apart from playing a crucial role in an economic system.

#### **2.1.2 Accounting information**

Accounting information is defined as the data concerning a business enterprise's transactions. Right from the time inventory and machinery are purchased up to the moment long-term building contracts are entered into, the events that occur in business operations almost always translate into accounting information.



Accounting refers to the method of identifying and recording this data and using it to generate useful reports for different types of users; the latter generally classified into two groups: internal users and external users. Ahmed(2006) claims that for accounting information to achieve its desired goals, it should have the following basic properties:-

- (i)Appropriateness: For accounting information to provide the desired benefit, it ought to be appropriate for its purpose.Also, the appropriateness of accounting information is an essential requirement for it to be used in assessing a company's administrative
- (ii)Credibility:Accounting information must be significantly verifiable or objective based on sufficient evidence ;it should also be free from bias.
- (iii)Accuracy:The failure to provide accurate accounting information makes it impossible for it to be verified .
- (iv) Timing: Timeliness is an important component to success in decision-making. Accounting information may not yield any benefit, if the decision maker does not receive it at the right time.
- (v)Understanding and Absorption:The impact that the accounting information creates on administrative decisions depends on the extent of its understandability and absorption by the management team.It has to be understandable, simple and meaningful even in the absence of detailed data.
- (vi)Importance:Accounting information performs its role well if it is considered important in decision-making-such that its neglect will create some problem.
- (vii)Cost-benefit consideration and fulfillment:In order to meet the decision making needs,accounting information should produce benefits that are greater than the cost of its preparation and meet some expected standard.

### 2.1.3 Commercial bank

A bank is a financial intermediary, an institution which collects money in current, savings or fixed deposit account, collects cheques as deposits and pays money from the depositors' account through cheques.

Commercial banks are private financial institutions authorized to accept demand deposits transferable by cheques. It is their unique function of monetizing debt which gives them their dominant position in an exchange economy [Goldsmith, 1958].

A typical commercial bank has the following as its goals:-(i) Creating an institution for maximizing profits

and to conduct overall economic activities. (ii) Collecting savings or idle money from the public at a lower rate of interests and lend them to the public at a higher rate of interests.(iii)Creating the habit and tendency to save among the income earners.

(iv) Motivating account holders to invest money in order to bring solvency in them.

(v) Creating money against money as an alternative for enhancing supply of money. (vi) Mobilizing capital through savings. (vii) Facilitating investments and (viii)Rendering other related services to the customers.

## 2.2 Theoretical framework

### 2.2.1 Contingency Theory and the Design of Accounting Information Systems

The main idea of contingency view is that there is no sole best way to solve a problem or do a specific job. The best way depends on the situation. Contingency theory suggests that an accounting information system should be designed in a flexible manner, such that it takes into consideration the environment and organizational structure confronting an organization.It also postulates that accounting information systems require to be adapted to the specific decisions being considered( Gordon & Miller,1976). In a related study, Gordon and Narayanan(1984) found that environmental uncertainty is a fundamental driver for designing management accounting systems among successful organizations.This study by Gordon and Narayanan(1984) also found that as decision makers perceive greater environmental uncertainty, they tend to seek more external, non-financial and ex ante information in addition to internal, financial and ex post information.

### 2.2.2 Functions of Accounting Information Systems

The basic functions of accounting systems are as follows:- (i)Interpreting and recording the effects of business transactions;(ii)Classifying the effects of similar transactions in a manner that will allow the determination of the various totals and subtotals useful to management and used in accounting reports and(iii)Summarizing and communicating the information contained in the system to decision makers. One accounting system differs from others primarily based on the manner and speed with which those functions are carried out, the extent to which it ensures



the fully control, confirms accuracy in recording, manipulates the data related to business activity, and protects those data and organization's assets.

### 2.2.3 Components of accounting information systems

An accounting system consists of the personnel, producers, devices, and records used by an organization to develop accounting information and to communicate this information to decision makers. The design and capabilities of these systems differs greatly from one organization to the next. However, in every case the basic purpose of the accounting system remains the same – to meet the organization's needs for accounting information as efficiently as possible. Many factors affect the structure of the accounting system within a particular organization. The most important among those factors are the company's needs for accounting information and the resources available for operating the system.

### 2.2.4 Objectives of accounting information system

Accounting information system objectives can be summerized as follows:- (i)Internal control which includes the safeguarding of organization's finance and other property, the regular collection and payment of sums of money owed to and by it, and the prevention and detection of inefficiency, waste, and dishonesty by employees of the organization(ii)Measurement of financial data through the recording of transactions and events which affect the financial state of the organization, and processing them in accordance with consistent rules. (iii)Provision of information for planning and decision making to management and(iv) Reporting of financial information to proprietors, investors, and other interested persons.In addressing the question of what an accounting system should do. Ijiri (1975) identifies 'accountability' and 'information usefulness' as the two main broad objectives that any accounting system should aim to achieve.

All accounting information systems seek five basic results,viz(i) The record of an actual, valid transaction;(ii)An accurate classification of the nature of the transaction;(iii)The record of the correct value of the transaction;(iv)The placement of the transaction in the proper accounting period; and(v)Generated financial statements that contain information about the transaction.

### 2.2.5Accounting as Information

When viewing accounting as an information system,one focuses attention on the information that accounting provides to the users of the information and the support for financial decisions that is provided by the information. External users of accounting information include the individuals and other enterprises that have a financial interest in the reporting entity. External users of the financial information are the owners, creditors, labor unions, governmental agencies, suppliers, customers, trade associations and public.

Each of these groups of external decision makers have unique information needs that enable them to make their decisions about the reporting enterprise.Providing the information that satisfies the requirements of such a large set of diverse users is difficult, if not impossible.

## 2.3 EMPIRICAL REVIEW

Past literature concerning accounting information system and how it relates with financial performance has been studied by several researchers using different analytical methods. For instance, Ismail and King (2005) did a study that focused on measuring the alignment of AIS requirements with AIS capacity and then investigating whether this AIS alignment is linked to firm performance.Aa mail questionnaire was used on nineteen accounting information characteristics. Data were collected from 310 Small and Medium Sized Enterprises (SMEs) firms in Malaysia and analysed using principal component analysis and varimax rotation with Kaiser normalization. The results indicate that a significant proportion of Malaysian SMEs had achieved high AIS alignment. In addition, the group of SMEs with high AIS alignment had achieved better organisational performance than the firms having low AIS alignment. Also,Alboali, Hamid and Moosavi(2013) sought to answer the question on whether contingency components are considered in designing Municipals accounting systems in Khuzestan province (Iran). This study its data by sending questionnaires manually to accountants, accountant managers and experts in 34 municipal districts and centres in Khuzestan province. The data of selected samples were then analysed based on single sample T- test, independent T, and Chi-Square. The findings show that the accounting systems of Khuzestan province municipals were mostly designed based on





contingency components which in comparison with similar researches were significantly contradictory. The respondents' viewpoint about "human resources" component was not been articulated profoundly and suitably. The results In this research, it has been clearly found that the role that organization structure plays in designing accounting system depends on the organization's environment. Further, Adel and Abdallah (2013) sought to ascertain the accounting information systems' impact on the quality of financial statements submitted to the Income Tax and Sales department in Jordan. A questionnaire consisting of fourteen questions was designed was employed. Cronbach's alpha test was used to measure the stability of measurement tool while simple linear regression test was used to test the hypothesis of the study. The study found that there is a presence of an impact when using the accounting information systems on the quality of financial statements submitted to the Income Tax and sales Department in Jordan. Moving further, Ismail and King (2014) researched on the factors that affect the use of accounting information systems in factories, small and medium-sized Malaysian manufacturing firms. The study used a sample comprising 214 companies that had accounting systems. The result indicate that the information systems of accounting work smoothly as they link information from the top and bottom that help workers in companies to achieve their goals. In addition, it was found that using accounting information systems will enable companies to give accurate information to the relevant government agencies. In a more recent time, Al-Dalaien, Nizar, Ahmad and Mohamad (2016) evaluated the role of accounting information systems (AIS) in meeting the requirements of financial and managerial performance. The study employed a survey research design and obtained its data from questionnaire administered to 38 sampled employees in various private hospitals in United Emirates. The data were analyzed using mean and standard deviation statistics while the study's hypotheses were tested using the one samples t-test statistics. Findings from the study revealed that accounting information systems in the United Arab Emirates private hospitals provide information to meet the requirements of the financial performance function. Akesinro and Adetoso (2016) examined the effects of computerized accounting systems on bank

performance in Nigerian banking sector. The study adopted a survey design. A convenience sampling method was adopted to arrive at a sample size of 50 from 3 deposit money banks (DMBs) in Nigeria. Correlation analysis was used to analyse data generated for the study. Results show that computerized accounting system has a positive effect on bank's profitability and as well customer patronage.

Taiwo (2016) investigated empirically the impact of information technology on accounting systems and organizational performance. This study utilized both primary and secondary data. The study sources its primary data from questionnaires administered to 20 staff in financial services and other related accounting departments in Covenant University Nigeria. Pearson's correlation was employed for analysing the data. Findings showed that there is a significant positive relationship between ICT system and accounting system and a significant positive relationship between ICT and organizational performance. Isa (2017) sought to discover the impact of computerized accounting information system on management performance in public sector in Nigeria. The study adopted an exploratory research method. Data were obtained from secondary sources. The impacts of computerized accounting information system (CAIS) on the executives' officers of government's ministries, departments or agencies were considered in terms of accounting framework and operating procedure in the public sectors in Nigeria. The study identifies some of the problems associated with the implementation of CAIS such as high costs of implementations of hardware and software, costs of maintaining the system and it require special skills. Other problems identified are reduction of employee, inadequate security and having quality of backup and print accessories. The study further evidenced the prospects of implementing CAIS such as to lower operating costs, improve efficiency, increased functionality, better external reporting, improved accuracy and faster processing of data in the system. Also, Ironkwe and Nwaiwu (2018) examined the effect of accounting information system on financial and non-financial measures of companies in Nigeria. Qualitative and quantitative data of 16 companies were obtained. Data were collected from questionnaires and the Nigerian stock exchange (NSE) from 2011 to 2014. The data collected were analysed



using multiple linear regression techniques with the aid of statistical package for social science (SPSS). The results show that accounting information system exert significant positive effect on financial and non-financial measures indicators of companies in Nigeria. Borhan and Nafees (2018) equally reviewed the impact of accounting information system on the financial performance of selected real estate companies in Jordan. The study employed a survey research design and collected its data through questionnaires from 175 employees pooled from 5 companies in Jordan. The study employed the linear regression statistics to analyze the collected data. The findings indicate that there is a significant impact of accounting information system on the financial performance of the companies under study. Kashif (2018) evaluated the impact of accounting information system on the financial performance of selected FMCG companies in India. The study adopted a survey research design with a sample size of 400 participants and data were obtained from 177 returned and valid questionnaires. The study analyzed the collected data using the simple linear regression analysis and hypotheses were tested at confidence level of 95%. Findings from the study revealed that there is a significant impact of accounting information system on the financial performance of selected FMCG companies in India.

A similar study was carried out in Nigeria by Akanbi and Adewoye (2018). The authors investigated the effects of accounting information system adoption on the financial performance of commercial bank in Nigeria. The study employed a descriptive survey research design where data were obtained from questionnaires administered to 80 respondents randomly of 16 commercial banks. The study also employed secondary data from the financial statements of the sampled banks. Data were collected in respect of return on capital equity (ROCE), return on total asset (ROTA), net operating profit (NOP) and gross profit margin (GPM) within the 10 years post AIS adoption years (2007-2017). Linear Regression was employed to test the significant effect

of AIS adoption on bank performance. The findings of the study show that commercial banks in Nigeria adopted and use AIS in providing their services to their customers and the level of usage is relatively high. The study concluded that AIS adoption has a positive significant with all the performance indicators (ROCE, ROTA, GPM and NOP).

Ganyam and Ivungu (2019) examined the effect of accounting information system on financial performance of firms. The main objective of the study was to review conceptual and theoretical foundations as well as empirical literature relating to accounting information system and financial performance of firms. Findings from the research reveal that past studies on effect of accounting information on financial performance limitedly aligned their works to the cost implication of accounting information system as it relates to financial performance of firms. The review also found that most of the studies employed the use of survey research design to examine this relationship and majority of the studies were carried out in advanced economies where computerized accounting system techniques have been accepted to a large extent.

### 3. METHODOLOGY

#### Research Design

This research used the survey research design. The primary data for this research was obtained through the distribution of questionnaire that was designed for the staff of Union Bank of Nigeria Plc. In addition to this, oral interviews were conducted mainly to supplement the information derived from the questionnaire. For this research work, the target population for the investigation comprised the staff of the Nigerian banks while the sample was drawn from the Enugu branch of Union Bank of Nigeria Plc, who are in one way or the other directly connected with the use of accounting software. They are 60 in number. The study employed the Chi-square statistical tool for empirical analysis.



#### 4.0 DATA PRESENTATION AND ANALYSIS OF RESULTS

Analysis of respondents according to biostatistical information

Table 4.8 respondents responses to biostatistical question 1-5

Sex	No	%	Position held	No	%	Marital status	No	%	Years of experience	No	%	Level of edu.	No	%
Male	35	58	Staff	58	97		26	4	1-3	3	5	Sch cert	15	25
Female	25	42	Non-staff	2	3		32	53	3-6	27	27	Dip	20	34
									6-12	55	55	Degree	17	28
									12&above	13	13	Prof qual.	6	10
										-	-	Others	2	3
	60	100		60	100		60	100		100	100		60	100

**Source:** Raw data from questionnaire [SECTION A]

In this section, the hypothesis associated with the study will be tested. The data presented earlier and analyzed in the beginning of the chapter would be subjected to hypothesis test. It is important to find out whether the difference in opinion is significant enough to draw a conclusion.

#### Testing of hypothesis 1

Data presented in table 4.5 would be grouped into the two branch used for the testing. The chi-square [ $X^2$ ] distribution would be used to test for significance and

Table 4.9 Responses to the question on whether the use of accounting software is significantly connected with minimizing the time spent on carrying out banking transaction in Union Bank of Nigeria PLC

Option	Group A	Group B	Total
Yes	[21.5]18	[21.5]25	43
No	[4]3	[4]3	8
Do not know	[4.5]9	[4.5]0	9
Total I2	30	30	60

Group A and B represent the two branches of Union Bank of Nigeria Plc. that the researcher administered his questionnaire as against the responses obtained.

However, in the figures above, those that are not in brackets are observed figures obtained from the

the null hypothesis [ $H_0$ ] would be accepted or rejected based on the finding of the test.

#### Statement of hypothesis 1

It aims at finding out if there is a significant relationship between the use of accounting software and the reduction of the time spent on commercial banking operations in Union bank of Nigeria.PLC

$H_0$ : The use of accounting software is not significantly connected with minimizing the time spent on carrying out banking transactions in Union bank of Nigeria PLC.

questionnaire while those in the brackets are the expected figures which have been computed using the formula:

Expected frequency =

$$\frac{\text{Row total} \times \text{Column total}}{\text{Grande total}}$$

$$\frac{43 \times 30}{60} = [21.5] \text{ for the Yes option}$$

$$\frac{8 \times 30}{60} = [4] \text{ for the No option}$$

$$\frac{9 \times 30}{60} = [4.5] \text{ for the Do not know option}$$

$$\text{The degree of freedom [df]} = [\text{Row} - 1] [\text{Column} - 1] \\ [3-1][2-1]$$

Therefore,  $df [2] \times [1] = 2$

Level of significance is 5% = 0.05

$$\text{The test statistic used } X_o^2 = \sum_{ei} [oi-ei]^2$$

Table value of 5% level of significance at 2 d.f =  $X_o^2 = 5.991$

Decision Rule: if  $\sum_{ei} [oi-ei]^2 > 5.991$ , reject  $H_o$ , otherwise accept  $H_o$

#### Chi-square calculation table

	Options	Oi	Ei	Oi-ei	$[oi-ei]^2$	$\frac{[oi-ei]^2}{ei}$
Group A	Yes	18	21.5	-3.5	12.25	0.57
	No	3	4	-1	1	0.25
	Do not know	9	4.5	4.5	20.25	4.5
Group B	Yes	25	21.5	3.5	12.25	0.57
	No	5	4	1	1	0.25
	Do not know	0	4.5	-4.5	20.25	4.5
	Total	60				10.64

Where  $X_o^2 = 10.64$  and  $X_e^2 = 5.991$

#### Decision Rule

Since  $10.64 > 5.991$ , we reject the null hypothesis and accept the alternative that asserts that the use of accounting software is significantly connected with minimizing the time spent on carrying out banking transactions in the Union Bank of Nigeria Plc.

#### 4.3.2 Testing of hypothesis ii

Data presented in table 4.6. is relevant to this hypothesis. So, it would be used to test for significance in the increase in the effectiveness of accounting information

#### Statement of hypothesis ii

$H_o$ : The use of accounting software has no significant link with an increase in the effectiveness of accounting information



**Table 5.0. Responses to the question on whether the use of accounting software has a significant link with an increase in the effectiveness of accounting information**

Option	Group A	Group B	Total
Yes	23[24]	25[24]	48
No	6[3]	0[3]	6
Do not know	1[3]	5[3]	6
Total	30	30	60

Expected frequency =  $\frac{\text{Row total} \times \text{Column total}}{\text{Grande total}}$

$$\frac{48 \times 30}{60}$$

= [24] for the Yes option

$$\frac{6 \times 30}{60}$$

= [3] for the No option

$$\frac{6 \times 30}{60}$$

= [3] for the Do not know option

The degree of freedom [df] = [Row -1] [Column -1]  
[3-1][2-1]

Therefore, df [2] x [1] = 2

Level of significance is 5% = 0.05

The test statistic used  $X_o^2 = \sum \frac{[oi-ei]^2}{ei}$

Table value of 5% level of significance at 2 d.f =  $X_o^2 = 5.991$

Decision Rule: if  $\sum \frac{[oi-ei]^2}{ei} > 5.991$ , reject  $H_0$ , otherwise accept  $H_0$

	Options	Oi	Ei	Oi-ei	[oi-ei] <sup>2</sup>	$\frac{[oi-ei]^2}{ei}$
Group A	Yes	23	24	-1	1	0.4167
	No	6	3	3	9	3.0
	Do not know	1	3	-2	4	1.3333
Group B	Yes	25	24	1	1	0.4167
	No	5	3	-3	9	3.0
	Do not know	0	3	2	4	1.3333
	Total	60				9.5

Where  $X_o^2 = 9.5$  and  $X_o^2 = 5.991$

### Decision Rule

Since  $9.5 > 5.991$ , which translates that the calculated chi-square value which is 9.5 is greater than the table value 5.991, we reject the null hypothesis [ $H_0$ ] and accept the alternative hypothesis [ $H_1$ ] that assets that the

use of accounting software has a significant link with an increase in the effectiveness of accounting information in Union Bank of Nigeria PLC accounting software has led to increased in the number of depositor in the bank.

### 1.3.2. Testing of hypothesis iii

#### Statement of hypothesis

H<sub>0</sub>: The use of accounting software is not significantly connected with improved efficiency of banking operation.in Union Bank of Nigeria PLC

Data provided in table 4.4. as gathered from the questionnaire would be used to test the above hypothesis, as the question postured is relevant to the hypothesis.

**Table 5.1. Responses om the question on whether the use of accounting software is significantly connected with improved efficiency of banking operations in Union Bank Nigeria PLC**

Option	Group A	Group B	Total
Yes	17[23]	29[23]	46
No	7[4]	1[4]	8
Do not know	6[3]	0[3]	6
Total	30	30	60

The figures not in the brackets are the observed figures obtained from the questionnaire while those in the brackets are the expected figures which are computed thus:

Expected frequency = 
$$\frac{\text{Row total} \times \text{Column total}}{\text{Grande total}}$$

$$\frac{46 \times 30}{60} = [23] \text{ for the Yes option}$$

$$\frac{8 \times 30}{60} = [4] \text{ for the No option}$$

$$\frac{6 \times 30}{60} = [3] \text{ for the Do not know option}$$

The degree of freedom [df] = 
$$\frac{[\text{Row} - 1] [\text{Column} - 1]}{[3-1][2-1]}$$

Therefore, df [2] x [1] = 2

Level of significance is 5% = 0.05

The test statistic used  $X_o^2 = \sum \frac{[o_i - e_i]^2}{e_i}$

Table value of 5% level of significance at 2 d.f =  $X_o^2 = 5.991$

Decision Rule: if  $\sum [o_i - e_i]^2 > 5.991$ , reject H<sub>0</sub>, otherwise accept H<sub>0</sub>

ei

	Options	O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -e <sub>i</sub>	[O <sub>i</sub> -e <sub>i</sub> ] <sup>2</sup>	$\frac{[O_i - e_i]^2}{e_i}$
Group A	Yes	17	23	-6	36	1.56
	No	7	4	3	9	2.25
	Do not know	6	3	3	9	3
Group B	Yes	21	23	6	36	1.56
	No	9	4	-3	9	2.25
	Do not know	0	3	-3	9	3
	Total	60				13.62

Where  $X_{0.05}^2 = 9.5$  and  $X_{0.01}^2 = 5.991$

#### Decision Rule

As the calculated chi-square value which is 13.62 is greater than the table value 5.991, we could reject the null hypothesis [H<sub>0</sub>] and accept the alternative hypothesis [H<sub>1</sub>]. Thus from this we can conclude that the use of accounting software is significantly connected with improved efficiency of banking operations in Union Bank Nigeria PLC.

### 4.3.3. Testing of hypothesis iv

#### Statement of hypothesis

H<sub>0</sub>: The use of accounting software is not significantly connected with improved accuracy in banking operations in Union Bank of Nigeria PLC. The data presented in table 4.8 would be used to test the above hypothesis, as the response is relevant to the hypothesis and would be a tool to affirm or reject the assertion.

**Table 5.2. Responses to the question on whether the use of accounting software is significantly connected with improved efficiency of banking operations in Union Bank Nigeria PLC**

Option	Group A	Group B	Total
Yes	21[22.5]	24[22.5]	45
No	9[4.5]	0[4.5]	9
Do not know	0[3]	6[3]	6
Total	30	30	60

Group A and B represent the two branches of Union Bank of Nigeria Plc used for this research with the corresponding responses obtained. Furthermore, in the figure above, those that are not in brackets are the Expected frequency =

observed figures obtained from the questionnaire while those in the brackets are the expected figures, which was computed using the formula:

$$\frac{\text{Row total} \times \text{Column total}}{\text{Grande total}}$$

$$\frac{45 \times 30}{60} = [22.5] \text{ for the Yes option}$$

$$\frac{9 \times 30}{60} = [4.5] \text{ for the No option}$$

$$\frac{6 \times 30}{60} = [3] \text{ for the Do not know option}$$

$$\text{The degree of freedom [df]} = [\text{Row} - 1] [\text{Column} - 1]$$

$$[3-1][2-1]$$

$$\text{Therefore, df } [2] \times [1] = 2$$

$$\text{Level of significance is } 5\% = 0.05$$

$$\text{The test statistic used } X_o^2 = \frac{\sum [oi-ei]^2}{ei}$$

$$\text{Table value of } 5\% \text{ level of significance at } 2 \text{ d.f} = X_o^2 = 5.991$$

$$\text{Decision Rule: if } \frac{\sum [oi-ei]^2}{ei} > 5.991, \text{ reject } H_o, \text{ otherwise accept } H_o$$

	Options	O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -e <sub>i</sub>	[o <sub>i</sub> -e <sub>i</sub> ] <sup>2</sup>	$\frac{[oi-ei]^2}{ei}$
Group A	Yes	21	22.5	-1.5	2.25	0.1
	No	9	4.5	4.5	20.25	4.5
	Do not know	0	3	-3	9	3.0
Group B	Yes	24	22.5	1.5	2.25	0.1
	No	0	4.5	-4.5	20.25	4.5
	Do not know	6	3	3	9	3
	Total	60				15.2

Where  $X_o^2 = 9.5$  and  $X_o^2 = 5.991$

### Decision Rule

From the above table, we can deduce that the calculated chi-square value, which is 15.2 is greater than the table value 5.991, we would reject the null hypothesis [ $H_o$ ] and accept the alternative hypothesis [ $H_1$ ] that assets

that the use of accounting software is significantly connected with improved efficiency of banking operations in Union Bank Nigeria PLC

## 5. CONCLUSION

Accounting hardware which is an integral part of accounting onformation system has been widely used by organizations to automate and integrate their business operations, efficiency and competitive advantages. This review focuses on the relationship between accounting software and accounting informationprocessing in Nigerian banks. It is envisaged that the information technology (IT) component of accounting information system is one of the biggest impact of AIS to firms as it empowers firms to track, record and produce financial and accounting reports with much ease. Paper ledgers, manual spreadsheets and hand-written financial statements have all been converted into computer systems that can quickly present individual transactions into financial reports. From the empirical works

reviewed, it is evident that majority of the studies employed a survey research design to examine the relationship between accounting information system and firm performance. In addition to using survey research design, most of the studies made use of a relatively small sample size for this investigation. Majority of the reviewed works were in Europe and Asia which have attained meaningful economic developed as compared to parts in Africa. The results of the study show that accounting software is positively and significantly connected with minimizing the time spent in carrying out banking transactions, an increase in the effectiveness of accounting information, improved efficiency and accuracy of banking operation and the reduction in the time spent on commercial banking operations in Nigeria. These results perfectly agree with the findings of Taiwo(2016), Akanbi and



Adesoye (2018) and Bormam and Nefees (2018), Nevertheless, in spite of the advantages of accounting software, several banks seem not to have invested in it significantly. Consequently, the study recommends an optimal usage of accounting software by Nigerian banks to boost their operations and improve service rendition to their customers.

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