AN EMPIRICAL STUDY OF THE IMPACT OF E-AUDIT IMPLEMENTATION ON AUDITOR'S PERFORMANCE

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Abstract
This study examined empirically the impact of e-audit implementation on auditor's performance in the Nigeria Public Accounting Firms. To accomplish this, the study made use of questionnaires which were distributed to eleven auditing firms in Yenagoa and Port Harcourt city and the data were analyzed using the OLS regression techniques. The finding shows that e-audit implementation has positive and significant impact on auditor's performance. Thus, auditor's performance was affected by e-audit factors at (66.9%) with a correlation test of (89.5%), indicating a strong positive relationship between the analyzed variables. Therefore, the study recommend that audit firms should adopt e-audit as well as train and retrain their auditors on how to use and implement modern information technology in processing audit reports and information in order to improve performance.

INTRODUCTION

We are in the jet-age where information technology (IT) cuts across all sectors, fields and professions. This has put auditing profession in a continuous adaptive phase to a change in preparing audit books of account and the use of financial statements. One of the major challenges before auditors is how they can provide real assurances and reliable report that is timely to users of financial information, not just because it is required by law but to be professionally successful and relevant as well. Therefore, in order to sustain economic value, auditors need an improved system that can cover financial loopholes and prevent frauds better than the traditional audit systems. Hence, the work of Flowerday & Solms (2005) suggested that auditors must find a new better ways of verifying information in financial reports and other books of account in a timely, reliable and efficient way.

Therefore, auditors all over the world are migrating from the traditional audits system to information technology system of audits because of the alternative information sources that IT provides users by way of reducing the need for the traditional financial statements. Secondly, prior to now, annual printed financial statements are based on historical information but since the advent of E-audit implementation, users are provided with statements that are based on current details and figures.

Maria (2010) stated that the use of IT systems in business create two side impact like a coin that has two sides, where one side gives a lot of convenience, while the other hand may weaken the documents reliability as an audit evidence since there is a shift in the audit evidence from documentary evidence to electronic evidence. Hence, the audit tray can only be applicable for a limited time or none at all because, the transactions are automatically processed in the E-audit system (Khemakhe, 2001). Due to that, the work of Fleenor, (1995) stated that auditors are required to follow the information technology (IT) process when performing the audit work. Evi & Yayuk, (2014) in their works titled e-commerce impact: the impact of e-audit implementation on the auditor's performance revealed that there is a significant relationship between e-audit and auditor's performance on public accounting firms in Indonesia.

Base on the foregoing, public accounting firms that desire to remain relevant in business today are adopting e-audit system but how this newly acquired skills or knowledge has impacted the auditor's performance is yet to be investigated in this corner of the world.

Hence, this study seeks to investigate the impact of e-audit implementation on auditor's performance in public accounting firms in Nigeria.

ELECTRONIC AUDIT CONCEPT AND PRACTICE
Before the advent of computers, all audit work were performed manually. Proving the completeness of an audited account would involve the manual totaling of many paper transactions. Consequently, identifying problems in an account could take many auditors a great deal of time. Such computer assisted audit tools allow the auditor to perform many of the previously manually intensive tasks both quickly and efficiently, allowing savings in time and cost. With the real time accounting (RTA) and electronic data interchange (EDI) popularizing, computer assisted audit tools are becoming even more necessary (Brodie, 1990).

Elders, Beasley & Arens, (2010) defined auditing as a process of collecting and evaluating evidence of the information to determine and report the degree of information suitability with the criteria that have been set. Hence, the work of Evi & Yayuk, (2014) defined e-auditing as the process of collecting evidence, evaluating such evidence and reporting them with the aid of computers. Again, the Authors stated that such collected evidences for evaluation are transformed from hard copies to computer data files through the aid of Computer Assisted Audit Techniques (CAATs) which is divided into three (3) approaches as: those around the computer audit, the audit through the computer, and computer assisted audit.

It is true that the computer itself does not manufacture financial evidence or data, rather its produces or displays what is inputted into it. Therefore, auditors need to a find way of ensuring that the computer inputted information is accurate and reliable. Shields, (1998) stated that the information to be audited must be generated by reliable systems, such as computerized systems that can produce highly reliable information quickly.

Requirements for E-audit Implementation
According to Shields, (1998) the condition that must exist to conduct e-audit is to ensure that the audit process system is highly automated or uses CAATS. Ning & David, (2004) defined CAATs as computer-assisted tools that permit auditors to increase both their own productivity and that of the audit function. CAATs are a way in which the auditor uses the computer in an information system to gather, or assist in gathering, audit evidence.

Another requirement is the effective link between the audit firm's system and the audited entity's system in order to enable fast, accurate, and secure communication of audit instructions and results (Shields, 1998).

Connectivity is easier to achieve now than it was in years before. The audit firm can now be directly linked to the entity's wide area network. The Internet could also be used to establish the required connection, provided firewalls, encryption, and other security features are used Ning & David, (2004). The third requirement is for accurate and understandable auditors' reports to be made available on a timely basis (Shields, 1998). The fourth requirement to enable effective e-audit implementation is for the auditors to have the ability to deliver the job as at when due and also have the understanding of how the actual process operates. By way of acquiring knowledge of the various aspects of information technology, as well as the subject matter of the companies' business and financial process being audited.

AUDITOR'S PERFORMANCE CONCEPT:
According to the works of (Evi & Yayuk, (2014) and Trisnaningsih, (2007)) defined auditor's performance as the evaluation of work done by employers, peers, self, and direct employees. Larkin (1990) stated that auditor's performance consists of ability, professional commitment, motivation, and job satisfaction.

However, performance generally is a condition that must be known and confirmed to certain parties to determine the level of results achievement associated with the organization's vision. Esya (2008) defined the auditors' performance as auditor's work potential expression in the form of auditor's work

behavior in carrying out the audit tasks to achieve optimal results which are measured using two (2) dimensional factors, objective factors and subjective factors (Evi & Yayuk 2014). Indicators of objective factors are results and work discipline; while the indicators of subjective factors are initiative, cooperation and loyalty (Evi & Yayuk, 2014).

PUBLIC ACCOUNTING FIRM CONCEPT:

Public Accounting Firm (PAF) is a business entity that is established either by a person or a group of Public Accountants with the intention to provide services in accordance with the characteristics of the public accounting profession, using the name of one Public Accountant founder and obtain a business license. According to Companies Allied Matters Act (CAMA) 2007 as amended described PAF as business entities incorporated under the provisions of laws and obtain a business license under the provisions of that Law.

According to Mulyadi (2010) defined public accounting firm practitioners as anybody (public accountant) who is licensed to carry out the inspection assignment of the financial statements of other companies or organizations with the aim to determine whether the financial statements are presented fairly in accordance with generally accepted accounting principles or not, in all material respects, the financial position and operation results of the company.

EMPIRICAL REVIEW

The study of Evi & Yayuk, (2014) titled e-commerce impact: the impact of e-audit implementation on the auditor's performance revealed that there is a significant positive relationship between e-audit and auditor's performance on public accounting firms in Indonesia. Hence, it is expedient to carry out a similar study in Nigeria to enable generalization of their findings.

The works of Ning & David, (2004) titled Auditing in the E-commerce Era, shows a relationship between Computer Assisted Audit Techniques (CAATs) and auditor's productivity. Auditors who uses computer in processing and gathering information, produces more reliable audit evidence and are in line with continuous auditing requirement.

Nevertheless, in the works of (Firdaus, (2007), Sasongko (2002), Maria, (2010)) we discovered that information technology has significance level of influence on accounting and auditing field at large. Hence, accounting information systems (AIS)-based on computers, need to be audited to ensure that the financial statement results, reflect the true and fair view of the company so that such information does not mislead users. And to produce such audit quality with information technology requires competence and other factors from the auditor.

Maria, (2010) opined that in a dynamic IT environment, audit quality is determined by the competence, independence and due professional care attitude which are owned by the auditors. Therefore, in the audit process using CAATs or e-audit, the auditor is required to understand the data structures, database scheme and business processes (Braun & Davis, 2003). However, Jayalakshmy, Seetharaman & Khong, (2005) has highlighted the pressures auditors would face in the era of globalization and challenges in order to maintain trust and integrity.

Esya, (2008) stated that, the individual performance is strongly influenced by his culture, skills and knowledge background. Also, age is a general indicator of maturity level. Hence, the increase in age of public Accounting Firms (PAF) can also mean a growth in the maturity of PAF in e-audit implementation and better usage. While education has the ability to impact knowledge that can change behavior for the better, such acquired knowledge can be used to solve problem. The combination of experience and education will improve the ability to perform the duties of the accounting profession (Sasongko, 2002).

DEVELOPMENT OF HYPOTHESIS

Drawing from the above literature the hypothesis to be tested in this study is stated below in the Null form.

H0: E-audit implementation has no positive significant impact on the auditor's performance in the Public Accounting Firms.

Overview of E-audit Implementation in Selected Nigerian Public Accounting Firms

From the survey results conducted in 11 PAFs in Nigeria in April 2018, reveals that auditees at PAFs in Nigeria are used to database. The common database use are: Microsoft Excel, Microsoft Access and Peachtree. In conducting the audit process, PAFs in Yenagoa and Portcourt had already used e-audit. Though, PAFs that were surveyed have not developed their own audit software but they used Generalized Account/Audit Software (GAS) such as Peachtree, IDEA, Lotus Notes and Spreadsheet. Main while GAS was developed by some auditors to obtain audit information in a company that uses a computerized information system, but the software was not compatible with the complex structure of the files in the database system.

Public Auditing Firms (PAFs) that were surveyed shows that 95% still used the audit approach around a computer to assist auditee's inspection tasks. This approach often time makes the auditors to ignore the inspection of the data processing stage. This is because, not many auditors usually take advantage of following up IT roles to ensure due diligent ranging from input to output process. Auditors did not have sufficient expertise to collect and evaluate electronic evidence and as such most of the auditors were still using the manual audit approach for physical evidence of the electronic evidence. In addition, the auditee's business size factor also influenced the auditor's decision-making process of what software to be used in conducting the audit. Sometimes the auditors feel good enough to use Microsoft Excel to assist the audit inspection rather than using other tools. This is due to the lack of information systems integration of the auditees, this may be the reason why Microsoft Excel as an audit tool is often used.

RESEARCH METHODS
RESEARCH METHODOLOGY:

This study used a questionnaire as a study instrument. Questionnaires were distributed to respondents in the form of a closed questionnaire that lists the statements with multiple choices, so that respondents could simply choose the answer that has been provided. Respondents' answers to the statements in the questionnaire were based on the Likert scale. Scores 1-5 were used to measure the respondents' answers, satisfactory statements were scored 5 and unsatisfactory statements were scored 1.

The respondents used in this study were partners, managers, senior auditors, supervisors and junior auditors who work at PAF firms in Bayelsa State and Rivers State of Nigeria with several criteria: (1) has worked with computer in the auditing firm for at least 6 (six) months, (2) have the ability to use audit tools / software, and (3) ever use the audit tools / software in audit assignment.

The variables analyzed in this study were the e-audit implementation as independent variables adopted from the study of Sasongko (2002) and Evi & Yayuk (2014). They considered the accountants/auditors' age, auditors' needs and encouragement, special knowledge/education, instructions/rules, and e-audit implementation technical points in the public accounting firms. And the dependent variables (auditor's performance) are objective factors (work results and work discipline) and subjective factors (initiative, cooperation and loyalty). These variables were at the ordinal level of measurement and the scaling method used was 5 Likert Scale.

MODEL SPECIFICATION AND OPERATION DEFINITION OF THE VARIABLES

The data are to be analyzed using the regression analysis which could be termed to be a statistical technique used to find relationships between variables for the purpose of predicting future values. The regression equation is as follows:

$Y = a + bX + e$

Where: Y = auditor's performance

a = constansta

b = regression coefficients,

X = e-audit implementation
e = residual value
The hypothesis will be tested with the following steps (Sunyoto, 2011)

Table 3.1 Dependent Variable Indicator

Variable	Dimension	Indicator	
Auditor's Performance (Y)	Objective Factors	a.	Results at work
		b.	Discipline at work
	Subjective Factors	c.	Creativity at work
		d.	Cooperation at work place
		e.	Loyalty at work

Table 3.2 Independent Variable Indicator

Variable	Dimension	Indicator
E-Audit Implementation (X)	i. Age at Public Audit Firm interfacing with computer.	a. Age of service in Public Audit Firm using Computer
	ii. PAF Work Recognition and Awareness	b. Professional awareness and recognition from professional organization (ICAN/ANAN etc)
	i. Special Knowledge/Education/Skills	c. Basic computer knowledge/function d. Operation system basic knowledge management file technique and data structure e. Usage of Audit software f. EDP system control basic knowledge
	v. Instructions/Rules/Standards	g. Usage of audit guide book by the standard setters and other compliance
	(v) E-audit implementation technical points	h. Test of data i. Procedure review analytics j. File access, grouping and creation k. Audit work design l. Data presentation and quality

DATA ESTIMATION TECHNIQUE
The study adopted the use of quantitative analysis technique to process and discuss the collected data. However, the data obtained from the questionnaires were analyzed using parametric statistics for the analysis of interval data and ratio. Since the data of this study were in ordinal scale, data were firstly transformed into interval data by using Method Successive Internal (MSI) so that parametric statistics could be used. The analytical tool used to test the hypothesis was simple linear regression analysis. Furthermore, the use of coefficient of determination, T test and F Test were applied to analyze the data generated.

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The main model used in this study is $Y = a + bX + e$. thus, it aimed at evaluating the impact of e-audit implementation on auditor's performance in public accounting firms in Nigeria. Consequently, the e-audit implementation in Public Accounting Firms and auditor's performance is expected to have a positive impact.

RESULTS AND DISCUSSION:
PROFILE OF THE RESPONDENTS:
This study was conducted on auditors who worked in Public Audit Firms (PAF) in Nigeria and out of the 20 purposeful samples accounting/auditing firms, only 10 participated. The other 10 were so busy carrying out an official task that they could not respond. The questionnaires distributed to the auditors

were 120 in numbers but only 61 (51%) questionnaires were filled completely and meet the criteria for the sample selection that can be processed for further testing.

Table 4:2 Correlation Test Result

		AUDITOR'S PERFORMANCE	E-AUDIT IMPLEMENTATION
Pearson Correlation	AUDITOR'S PERFORMANCE	1.000	.895
	E-AUDIT IMPLEMENTATION	.895	1.000
Sig. (1-tailed)	AUDITOR'S PERFORMANCE	.	.000
	E-AUDIT IMPLEMENTATION	.000	.
N	AUDITOR'S PERFORMANCE	61	61
	E-AUDIT IMPLEMENTATION	61	61

Table 4.3 Correlation analysis reveals that there is a strong positive significant correlation between E-audit implementation and Auditor's performance as (0.895) using the one tail test. This indicates that an increase in E-audit implementation variables will leads to a better auditor's performance.

Table 4.3 Validity and Reliability Test
Case Processing Summary

		N	%
Cases	Valid	61	91.0
	Excluded[a]	6	9.0
	Total	67	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.924	2

The Cronbach's Alpha reliability test in table 4.2 shows (0.924) which is very close to (1). This means that our analysis is reliable and it is a good fit.

4.3 Coefficients of Determination
Table 4.3 Coefficient Results
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.739	.157		1.102	000		
E-AUDIT IMPLEMENTATION	.669	.044	.895	5.385	000	1.000	1.000

a. Dependent Variable: AUDITOR'S PERFORMANCE

Table 4.3 shows that the calculated t-test value is greater than the tabulated t-test value as (15.385>1.645) at 5% significance level. Also the significance result value reveal as (0.000) is lesser than (0.05). Therefore, the null hypothesis is rejected. This means that the correlation between e-audit implementation was powerful and directional (because it was positive) which means that the higher the e-audit implementation, the higher the auditor's performance. 0.000 significance means that the correlation between the two variables is significant (sig> 0.05).
The coefficient of determination indicated that 66.9% of the variation that occurs in auditor's performance could be explained by the e-audit implementation and the remaining 33.1% was

influenced by other variables in addition to the e-audit implementation that were not addressed in this study such as the idealism dimension in ethical orientation (Barnett, Bass & Brown, 1994) and commitment to the profession (Jeffrey & Weatherholt, 1996).

Table 4.4. Regression Analysis Results
Dependent Variable: APF1
Method: Stepwise Regression
Date: 06/26/18   Time: 03:51
Sample: 1 61
Included observations: 61
Number of always included regressors: 3
Number of search regressors: 3
Selection method: Stepwise forwards
Stopping criterion: p-value forwards/backwards = 0.5/0.5

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	0.614878	0.291850	2.106826	0.0396
APF2	0.479818	0.094482	5.078430	0.0000
APF3	0.062856	0.110294	0.569892	0.5710
EAUDIT1	0.187775	0.089864	2.089540	0.0412
EAUDIT3	0.173753	0.086141	2.017075	0.0485

R-squared	0.892000	Mean dependent var	4.032787
Adjusted R-squared	0.884285	S.D. dependent var	0.836007
S.E. of regression	0.284383	Akaike info criterion	0.401424
Sum squared resid	4.528934	Schwarz criterion	0.574447
Log likelihood	-7.243441	Hannan-Quinn criter.	0.469233
F-statistic	115.6292	Durbin-Watson stat	0.963240
Prob(F-statistic)	0.000000		

Selection Summary

Added EAUDIT1
Added EAUDIT3

*Note: p-values and subsequent tests do not account for stepwise
     selection.

The analytical results of the empirical findings are shown in Table 4.4 which X-ray the relationship between E-audit implementation and auditor's performance in Nigeria public audit firms (PAF). The Stepwise least square Regression output will be used to test Ho. The adjusted R^2 value of 0.884 reveals that the value of the dependent variable can be explained by about 88% of the independent variables. This value can be considered sufficient because the auditor's performance of the selected firms is also influenced by other factors besides E-audit implementation. In the same vein, the Fisher- statistics values from the table is reflected as 1.645 at 5% significance level. In comparing this figure with the panel regression analysis result, the F statistic value reported in Table 4.3 indicate 115.6292. This means that the F-statistic output is greater than the table value. (The table value is derived as: DF=N-K. Where, N=61, K=6 and the Degree of Freedom=55 at 5% level of significance. Therefore, the table value=1.645).

Consequently, the implication is to reject null hypotheses. This is because F-statistic output is greater than the computed table value. This outcome suggests clearly that simultaneously the explanatory variables are significantly associated with the dependent variable (i.e. auditor's performance). In other words, the F-statistics prove the validity of the estimated models which are statistically significant at 5% as shown by the F-probabilities supporting the reliability test results. This also implies that the alternate hypotheses are valid. This outcome implies that an improvement in e-audit implementation of the sampled firms will also lead to an improved performance of auditors. This outcome supports the methodological position of Sasongko (2002) and Evi & Yayuk (2014) where they observed a significant positive relationship between e-audit (IT) implementation and auditor's performance in audit firms.

Finally, the Durbin-Watson statistics, a rule of thumb for the measure of autocorrelation is greater than R^2 (0.963240>0.884285), thus indicating the absence of first order autocorrelation. We also arrived at this conclusion because the F-statistics of (115.6292) is greater than the F-probability which is statistically zero.

DISCUSSION OF FINDINGS AND CONCLUSION
The results of this study are consistent with the research work of Hartoyo (2011), Evi & Yayuk (2014) and Sasongko (2002) which revealed that e-audit implementation with proper supervisions could improve the auditor's performance.
Thus, the observed positive relationship between e-audit implementation and auditor's performance can improve when electronic auditing is put in place for the collection of data and the inspection process, and the e-audit usage tend to produce faster results than the conventional method. Therefore, the improvements in information technology will facilitate auditees' access and manage the internal control efficiently and as well enable easy documentations and records. Besides, it will produce more efficient information that would have been difficult when using the traditional audit approach.

Therefore it is expedient that auditees acceptance is encouraged. This of course will increased performance automatically and as well raise the audit quality and the reports it generates. Thus, the study has ascertained that the use of electronic data processing (EDP) by companies can bring a dramatic positive change not only in the accounting field but also in the auditing field at large.
Consequently, educational programs, training and technical assistance related to the use of information technology in e-audit needs to be performed continuously (Sasongko, 2002).

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