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Auditor Independence and Enhanced Audit Quality: Exploring their Dynamic Relationship in Nigerian Deposit Money Banks

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Abstract

This paper examines the dynamic relationship between auditor independence and audit quality in Nigerian deposit money banks (DMBs). The research is exploratory and descriptive in nature. Secondary data were sourced from various publications, annual financial reports, and audited accounts of DMBs as well as internet sources, while the primary data made use of the 15 deposit money banks quoted on the Nigerian Stock Exchange (NSE) and limited to the employees of the 15 banks staffs estimated to have a population of 115,114 across the country. The instrument used for the collection of data for the study was a questionnaire analyzed using percentages and tables to obtain the differences in responses. The Chi-Square method was used to test whether deviations of the actual observation (observed frequency) from the expected frequency are significant so that they may lead to acceptance or rejection of the null hypothesis. The paper therefore reveals that auditor independence has a significant relationship with process audits, product audits, and system audits and recommends that companies be transparent about their auditor selection process and criteria. This transparency can help build trust in the independence of the chosen auditors and demonstrate the organization's commitment to impartial audits. By so doing, the organizations can strengthen the relationship between auditor independence and different types of audits, thereby enhancing the credibility and effectiveness of the auditing process.

Keywords: *Auditor independence, Audit quality, Process audits, Product audits, System audits. Chi-square method.*

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Background to the Study

In recent years, there has been a significant surge in research focusing on the quality of audit reports. This surge can be attributed to various factors, primarily stemming from the increasing recognition of the importance of robust corporate governance mechanisms. This growing emphasis on corporate governance is a direct response to highly publicized accounting scandals, both in Nigeria and globally. High-profile corporate collapses, such as the cases of WorldCom and Enron in the United States, have been linked to subpar audits and concerns regarding auditor independence. In Nigeria, recent revelations of questionable accounting practices within some companies have brought the issue of auditor independence to the forefront, casting doubt on the credibility of the auditing profession (Otusanya and Lauwo, 2010).

Presently, Nigeria is regulated by two recognized accounting bodies: The Institute of Chartered Accountants of Nigeria (ICAN) and the Association of National Accountants of Nigeria (ANAN). These bodies are responsible for overseeing and regulating accounting practices in the country. According to the Companies and Allied Matters Act (CAMA) of 2004, every incorporated company is mandated to appoint an external auditor. These auditors are legally required to provide an independent opinion on the financial health of these corporations, ensuring that their financial statements present a true and fair view of the company's financial status. CAMA (2004) also stipulates that auditors must have unrestricted access to the company's books, accounts, vouchers, and any necessary information while conducting their audit.

In this paper, audit quality is assessed through process audit, product audit, and system audit, as highlighted by Knechel (2009). The significance of audit quality and auditor independence cannot be overstated, as they directly impact not only end users but also society as a whole. To ensure a high-quality audit, we need to check if a company is following the rules and standards set for its industry. We also need to evaluate how well the procedures and controls, which are established through documented processes, training, and specifications, are working. Unfortunately, these critical aspects are often inadequately addressed in the preparation of financial statements by deposit money banks, which has implications for both audit quality and auditor independence. A robust quality management system is essential to measuring an organization's adherence to contract commitments, company policies, and regulatory requirements. These considerations are crucial for upholding the integrity of audit processes and ultimately fostering confidence in financial reporting within the banking sector.

Research Questions

a. To what extent does auditor independence affect process audits?
b. How does auditor independence affect product audits?
c. To what extent does auditor independence affect system audits?

Objectives of the Study

a. To evaluate how auditor independence relates to process audit.
b. To determine the relationship between auditor independence and product audit.

c. To ascertain the relationship between auditor independence and system audit.

Statement of Hypotheses

H_0: Auditor independence has no significant relationship with process auditing.
H_0: Auditor independence has no significant relationship with product auditing.
H_0: There is no significant relationship between auditor independence and system audit.

Review of Related Literature

Audit Independence

The concept of an auditor's independence can be defined as the auditor's impartial state of mind when making decisions during both the auditing and financial reporting processes. According to Danescu and Spatacean (2018), auditors' independence can be understood as their capacity to uphold an unbiased and fair mindset throughout the auditing process. This independence necessitates a sense of responsibility that is distinct from the client's interests, and auditors must maintain a stance of healthy professional skepticism. Auditor independence entails the auditors' ability to objectively and impartially maintain their mental attitude while conducting the audit, analyzing the findings, and providing an unbiased audit report, as highlighted by Chung, Kim, and Sunwoo (2021).

Process Audit and Auditor Independence

Process audits help pinpoint when and how to use certain processes. Even if processes function flawlessly, timing or frequency issues can persist. Process audits are vital for identifying and rectifying these inefficiencies, enhancing auditor independence and the reliability of audit outcomes. The audit process determines the audit team's scope and approach, granting auditors the independence and opportunities needed to improve the evaluation process.

Conducting process audits involves significant costs in terms of finances, time, and effort, potentially uncovering disruptive issues within a company's operations (Stewart & Subramaniam, 2010). Despite these expenses, many companies willingly undergo these audits because the benefits outweigh the costs and risks, with specific advantages varying by audit type. Process audits are motivated by the benefits they offer (Ussahawanitchakit & Intakhan, 2011), notably promoting transparency and ensuring effective corporate governance. This is essential as top-level management can't effectively oversee operations without a comprehensive understanding of processes, helping to avoid risky, unlawful, unethical, or unsustainable practices.

Product Audit and Auditor Independence

This particular audit is designed to thoroughly evaluate the characteristics of a product, as highlighted by Moultrie, Clarkson, and Probert in their 2006 study. The attributes under scrutiny encompass dimensions and predefined specifications. This audit not only assesses product functionality but also incorporates quality control measures. During the product audit, a wide range of factors is examined, including aspects such as product packaging, taste, scent, labeling, package information, manufacturing date, and expiration date. It's important to note that this auditing process is relevant for both semi-finished products and those intended for distribution to consumers.

System Audit and Auditor Independence

A system audit can be defined as an examination of a management system. It can be characterized as a documented process carried out to confirm, through the assessment of tangible evidence, that the relevant components of the system are suitable and efficient. Furthermore, it ensures that these elements have been developed, documented, and put into practice in accordance with specified requirements (Karapetrovic & Willborn, 2001). The system audit evaluates the auditor's ability to independently assess the organization's system and determine how to enhance or coordinate it effectively. It also simplifies the auditor's role in maintaining the organization's departmental functions, tools, and systems.

Theoretical Framework

Agency Theory: According to the agency perspective, management is perceived as individuals with self-interest who engage in opportunistic behavior, prioritizing their personal interests above those of the stakeholders they represent, even if such actions are detrimental to the owners (Jensen and Mecklings, 1976).

Theory of Inspired Confidence: The late 1920s saw the formulation of this theory by Dutch professor Theodore Limperg, as outlined by Hayes et al. in 1999 (page 36). Limperg's theory encompasses both the need for and the provision of audit services. According to Limperg, the requirement for audit services arises directly from the involvement of external stakeholders in the company. These stakeholders expect accountability from the management as a result of their contributions to the company.

Empirical Review

The study conducted by Babatolu, Aigienohuwa, and Uniamikogbo in 2016 delved into the impact of auditor independence on the quality of audits conducted in selected Nigerian deposit money banks. To achieve this, they employed a purposive sampling technique to select seven (7) listed deposit money banks from a population of twenty (20). Secondary data for the research was sourced from the audited annual reports of the chosen banks. Subsequently, the collected data underwent analysis using descriptive statistics, correlation analysis, and ordinary least squares (OLS) regression. The research findings uncovered several noteworthy relationships. Specifically, a positive correlation was observed between audit fees, audit firm rotation, and audit quality, while a negative association was identified between audit firm tenure and audit quality. Furthermore, the study revealed strong, statistically significant correlations between audit quality and both leverage (negative) and company size (positive).

In Mahmoud's 2015 research, the focus shifted to investigating the impact of joint audits on audit quality, utilizing empirical evidence from companies listed on the Egyptian stock exchange during the period spanning from 2009 to 2013. The researcher established a sample of 32 companies listed on the Egyptian stock exchange during this time frame, comprising a total of 160 firm-year observations. Multiple regression models were deployed to meticulously analyze the gathered data. The study's outcomes suggested that companies subjected to joint audits tended to adopt a more conservative approach to their financial reporting compared to those audited by single auditors.

Abdul and colleagues, in their 2014 study, delved into the impact of competence and auditor independence on the quality of audits, with audit time budget and professional commitment serving as moderation variables in Indonesia. Primary data, reflecting public accountants' perceptions of auditor competence, independence, audit time budget, professional commitment, and audit quality, were gathered through questionnaires. The study included a randomly selected sample of 278 public accountants and employed Partial Least Squares (PLS) for data analysis. The findings of this research revealed several significant relationships: First, auditor competence exhibited a positive effect on audit quality, implying that higher auditor competence corresponds to higher audit quality. Secondly, auditor independence demonstrated a positive influence on audit quality, indicating that greater auditor independence leads to improved audit quality. Thirdly, audit time budgets were found to weaken the effect of auditor competence on audit quality, suggesting that smaller audit time budgets have a more pronounced effect on audit quality. Fourthly, an audit time budget was observed to weaken the effect of auditor independence on audit quality. Finally, professional commitment was found to strengthen the impact of auditor competence and auditor independence on audit quality, signifying that a stronger commitment to professionalism enhances the effects of competence and independence on audit quality.

The empirical study conducted by Ilaboya and Ohiokha in 2014 aimed to investigate the influence of audit firms' characteristics on audit quality. The researchers used a dichotomous variable to proxy the dependent variable, where a value of 1 indicated a big 4 audit firm, and 0 indicated otherwise. The data for the study were sourced from the financial statements of 18 food and beverage companies listed on the Nigerian Stock Exchange within the period spanning from 2007 to 2012. The researchers applied multivariate regression techniques, emphasizing the Logit and Probit methods, to analyze their dataset. The research outcomes revealed several significant findings: there was a positive relationship between firm size, board independence, and audit quality. Conversely, there existed a negative relationship between auditor independence, audit firm size, audit tenure, and audit quality.

Ahmed's 2014 research centered on investigating the professional auditors' perceptions of the impact of audit firm rotation on audit quality in Egypt. Primary data for the study were collected through questionnaires. The sample comprised 83 auditors selected through a non-probabilistic sampling technique. The data were subjected to analysis using T-test. The study's findings indicated that auditors perceived a negative relationship between long audit tenure and audit quality. Additionally, there was a negative perception regarding client-specific knowledge and mandatory auditor rotation, while a positive perception existed regarding auditors' independence and mandatory auditor rotation. However, it is important to note that the study's focus was limited to auditor perceptions, and it did not consider other stakeholders such as clients, auditing profession associations, and legislations, which could limit the generalizability of the findings.

In their 2013 study, Adeniyi and Mieseigha explored the impact of audit tenure on audit quality in Nigeria. They employed a dummy variable, assigning a value of 1 if a firm engaged one of the big 4 auditors and 0 otherwise. Audit tenure was measured in terms of the number of

years spent as the auditor for the sample company, with values greater than 3 receiving a 1 and values less than or equal to 3 receiving a 0. Size was measured using the natural logarithms of total assets, while return on assets was calculated by dividing a company's annual earnings by its total assets. Additionally, board independence was quantified as the proportion of external directors on the board, board size as the number of directors, and directors' ownership as the percentage of ownership by directors. The study revealed an inverse relationship between tenure and audit quality, suggesting that changing auditors after a certain period might enhance audit quality. Other variables examined alongside tenure, such as board size, board independence, and director ownership, were also found to be inversely related to audit quality. However, the study highlighted that return on assets aligned with prior research, while company size exhibited differences from previous studies.

Research Design

This research employs a quasi-experimental approach. As stated by Baridam (1995:50), in quasi-experimental research, the researcher does not have control over various aspects of the study's design.

Area of the Study

The research focuses on specific banks within the Abakaliki metropolis to effectively evaluate the impact of auditor independence on the audit quality of deposit money banks in Nigeria.

Population of the Study

This study involves the utilization of the 15 deposit money banks listed on the Nigerian Stock Exchange. However, the research is confined to the entire workforce of these 15 banks, which is estimated to comprise 115,114 employees distributed across the country.

Sample Size and Sampling Techniques

The sample size refers to the quantity of individuals or data points incorporated in a research study, typically denoted as 'n.' Sampling, on the other hand, is a method for choosing a subset of the overall population to draw statistical conclusions and estimate features of the entire population. This process can be calculated using the subsequent statistical formula:

$n = \frac{N}{1+N(e)^2}$ where;

n = sample size

N = population size

e = error margin.

Hence the margin of error is assumed to be 5% significance level.

$n = \frac{115,114}{1+115,114(0.05)^2}$

n =399

Data Instrumentation

The tool employed to gather data for this research was a questionnaire devised and distributed by the investigator.

Method of Data Analysis

The data underwent analysis through the utilization of percentages and tables to identify variations in responses. The outcomes of this data analysis were employed to address the research inquiries. Demographic variables were examined using frequencies and percentages, while the Chi-Square method was applied to assess the significance of disparities between observed and expected frequencies, aiding in the determination of whether to accept or reject the null hypothesis at a 5% level of significance.

$$\text{Chi-Square } (x^2) = \sum \frac{(O-E)^2}{E}$$

Where;

x^2 = Chi- Square

O = Observed value

E = Expected value

$$E = \frac{row\ total - column\ total}{grand\ total}$$

Degree of freedom (df) = (r-1) (c-1)

Decision rule:

If the calculated chi-square value exceeds the chi-square critical value, we opt to reject the null hypothesis. Conversely, if the calculated chi-square value is less than the chi-square critical value, we fail to reject the null hypothesis.

Source of Data

This is primary data, which represents original information gathered directly by the researcher for a particular research endeavor. Primary data can be acquired through various methods, with self-administered surveys, interviews, on-site observations, and experiments being among the most frequently employed techniques.

Findings and Discussion

Presentation of Data

To advance the objectives of this research, respondents were provided with questionnaires to gather data concerning the impact of auditor independence on the audit quality of Nigerian deposit money banks.

The table below displays the response rate for the questionnaires received.

Table 1: Return Rate of Questionnaire.

	Female Staff		Male Staff		Total	
	No	%	No	%	No	%
Number Distributed	250	(62.7)	149	(37.3)	399	(100)
Number Returned	250	(62.7)	149	(37.3)	399	(100)
Number not Returned	0	(0)	0	(0)	0	(0)
Total	250	(62.7)	149	(37.3)	399	(100)

Source: Field Survey, 2023.

As depicted in the table above, out of the 399 questionnaires that were distributed, constituting 100 percent of the total distribution, 250 of them, equivalent to 62.7 percent, were completed by female staff, and 149, making up 37.3 percent, were filled out by male staff from the chosen deposit money banks in Nigeria. There were no questionnaires, accounting for 0 percent, that were not returned.

Section A: Demographic Data
Table 2: Sex Distribution

Sex	Frequency	Percentage
Female	250	(62.7)
Male	149	(37.3)
Total	399	(100)

Source: Field Survey, 2023.

The table provided illustrates the gender distribution of respondents. A significant majority, accounting for 62.7% of participants, consisted of female staff, with the remaining 37.3% representing male staff.

Table 3: Age Distribution

Age	Frequency	Percentage
21-30	140	(35.1)
31-40	135	(33.8)
41-50	102	(25.6)
51 and above	22	(5.5)
Total	399	(100)

Source: Field Survey, 2023.

The provided table reveals that 140 individuals, equivalent to 35.1% of the sample size, fell within the age group of 21-30 years. Similarly, 135 participants, constituting 33.8%, were aged between 31-40 years. Additionally, 102 respondents, accounting for 25.6%, were in the 41-50 age range, while the remaining 22 individuals, making up 5.5%, were aged 51 and above.

Table 4: Marital Status

Marital Status.	Frequency	Percentage
Single	130	(32.6)
Married	180	(45.1)
Separated	89	(22.3)
Total	399	(100)

Source: Field Survey, 2023.

Based on the information presented in the table, it can be observed that 32.6% of the respondents were unmarried, 45.1% were in a marital union, and the remaining 22.3% were in a state of separation from their spouses.

Table 5: Length of service

How long have you worked with the deposit money bank	Frequency	Percentage
Below one year	55	(13.8)
Between 1 to 5 years	62	(15.5)
Between 5 to 10 years	104	(26.1)
Between 10 years and above	178	(44.6)
Total	399	(100)

Source: Field Survey, 2023.

The table provided above presents the duration of employment among staff in Nigerian deposit money banks. According to the table, 55 individuals (13.8% of the respondents) had less than one year of experience working in the bank, 62 individuals (15.5%) had worked for a period ranging from 1 to 5 years in the deposit money bank, 104 respondents (26.1%) had been employed for 5 to 10 years, and a significant majority of 178 respondents (44.6%) had accumulated 10 years or more of experience as staff in deposit money banks.

Table 6: Bank Designation

Which of the bank's designations do you belong to?	Frequency	Percentage
Customer service unit	49	(12.3)
Marketing unit	135	(33.8)
Credit unit	128	(32.1)
Information technology unit	87	(21.8)
Total	399	(100)

Source: Field Survey, 2023.

The provided table illustrates the job roles or designations of employees within deposit money banks in Nigeria. According to the data, 49 individuals, which accounts for 12.3% of the sample size, held positions in the customer's unit department. In the marketing department, 135 individuals, comprising 33.8% of the sample, were employed. The credit unit employed 128 individuals, representing 32.1% of the workforce, while the remaining 87 employees, making up 21.8%, were assigned to roles within the information technology unit.

Testing of Hypotheses

Hypothesis 1:

H_0: Auditor independence has no significant relationship with process auditing.

Table 7: Opinions of the respondents on whether auditor independence has a relationship with process auditing

		Female Staff		Male Staff		Total	
Cell	Nature of Respondents	No	%	No	%	No	%
A	SA	86	(21.55)	70	(17.54)	156	(39.1)
B	A	60	(15.04)	48	(12.03)	108	(27.1)
C	U	18	(4.51)	9	(2.26)	27	(6.8)
D	D	40	(10.03)	10	(2.51)	50	(12.5)
E	SD	46	(11.53)	12	(3.01)	58	(14.5)
	Total	250	(62.66)	149	(37.35)	399	(100)

Source: Field Survey, 2023.

Calculation of percentages for the female staff of the selected deposit money bank:

$SA = \frac{86\times100}{399} = 21.55$ A= $\frac{60\times100}{399} = 15.04$ U= $\frac{18\times100}{399} = 4.51$ D= $\frac{40\times100}{399} = 10.03$

$SD = \frac{46\times100}{399} = 11.53$

Calculation of percentages for the male staff of the selected deposit money bank:

$SA = \frac{70\times100}{399} = 17.54$ A= $\frac{48\times100}{399} = 12.03$ U= $\frac{9\times100}{399} = 2.26$ D= $\frac{10\times100}{399} = 2.51$

$SD = \frac{12\times100}{399} = 3.01$

Where;
SA = Strongly Agreed
A = Agreed
U = Undecided
D = Disagreed
SD = Strongly Disagreed

Determination of the Expected Frequency
Expected Frequencies are calculated using the following formula:

$$E = \frac{Row\ total - Column\ total}{Grand\ total}$$

Cell $A_1 = \frac{156\times250}{399} = 97.74$ Cell $A_2 = \frac{156\times149}{399} = 58.26$

Cell $B_1 = \frac{108\times250}{399} = 67.67$ Cell $B_2 = \frac{108\times149}{399} = 40.33$

Cell $C_1 = \frac{27\times250}{399} = 16.92$ Cell $C_2 = \frac{27\times149}{399} = 10.08$

Cell $D_1 = \frac{50\times250}{399} = 31.33$ Cell $D_2 = \frac{50\times149}{399} = 18.67$

Cell $E_1 = \frac{58\times250}{399} = 36.34$ Cell $E_2 = \frac{58\times149}{399} = 21.66$

Table 8: Chi-Square Calculation

Cell	0	E	0-E	$(0-E)^2$	$\frac{(0-E)^2}{E}$
A_1	86	97.74	-11.74	137.83	1.41
A_2	70	58.26	11.74	137.83	2.37
B_1	60	67.67	-7.67	58.83	0.87
B_2	48	40.33	7.67	58.83	1.46
C_1	18	16.92	1.08	1.17	0.07
C_2	9	10.08	-1.08	1.17	0.12
D_1	40	31.33	8.67	75.17	2.40
D_2	10	18.67	-8.67	75.17	4.03
E_1	46	36.34	9.66	93.32	2.57
E_2	12	21.66	-9.66	93.32	4.31
					x^2 =19.61

Source: Researcher's computation

Where;
0 = Observed frequency
E = Expected frequency
Degree of freedom(df) = (r-1) (c-1)
Therefore, df = (3-1) (2-1). From table 1.1 above.
df = (2) (1) = 2

The Chi-Square distribution with 2 degrees of freedom at a significance level of 5% corresponds to a value of 5.99 as per the statistical table.

Decision rule:
When the calculated chi-square value exceeds the critical chi-square value corresponding to the selected significance level (5%), you reject the null hypothesis. However, if the computed chi-square value is equal to or less than the critical chi-square value associated with the chosen significance level (5%), you do not reject the null hypothesis. In light of the obtained results, the computed chi-square value stands at 19.61, significantly surpassing the critical value of 5.99. Consequently, we reject the null hypothesis and conclude that there exists a noteworthy association between auditor independence and process auditing. This finding implies that changes or variations in auditor independence are associated with corresponding changes in the process auditing practices under consideration.

Hypothesis 2:
H_0: Auditor independence has no significant relationship with product auditing.

Table 9: Opinions of the respondents on whether auditor independence has no significant relationship with product auditing.

		Female Staff		Male Staff		Total	
Cell	Nature of Respondents	No	%	No	%	No	%
A	SA	69	(17.29)	47	(11.78)	116	(29.07)
B	A	84	(21.05)	60	(15.04)	144	(36.09)
C	U	29	(7.27)	20	(5.01)	49	(12.28)
D	D	48	(12.03)	14	(3.51)	62	(15.54)
E	SD	20	(5.01)	8	(2.01)	28	(7.02)
	Total	250	(62.65)	149	(37.35)	399	(100)

Source: Field Survey, 2022.

Calculation of percentages for the female staff of the selected deposit money bank:

$SA = \frac{69\times100}{399} = 17.29$ A= $\frac{84\times100}{399} = 21.05$ U= $\frac{29\times100}{399} = 7.27$ D= $\frac{48\times100}{399} = 12.03$

$SD = \frac{20\times100}{399} = 5.01$

Calculation of percentages for the male staff of the selected deposit money bank:

$SA = \frac{47\times100}{399} = 11.78$ A= $\frac{60\times100}{399} = 15.04$ U= $\frac{20\times100}{399} = 5.01$ D= $\frac{14\times100}{399} = 3.51$

$SD = \frac{8\times100}{399} = 2.01$

Determination of the Expected Frequency

Expected Frequencies are calculated using the following formula:

$$E = \frac{Row\ total - Column\ total}{Grand\ total}$$

Cell $A_1 = \frac{116\times250}{399} = 72.68$ Cell $A_2 = \frac{116\times149}{399} = 43.32$

Cell $B_1 = \frac{144\times250}{399} = 90.23$ Cell $B_2 = \frac{144\times149}{399} = 53.77$

Cell $C_1 = \frac{49\times250}{399} = 30.70$ Cell $C_2 = \frac{49\times149}{399} = 18.30$

Cell $D_1 = \frac{62\times250}{399} = 38.85$ Cell $D_2 = \frac{62\times149}{399} = 23.15$

Cell $E_1 = \frac{28\times250}{399} = 17.54$ Cell $E_2 = \frac{28\times149}{399} = 10.46$

Table 4: Chi-Square Calculation

Cell	0	E	0-E	$(0-E)^2$	$\frac{(0-E)^2}{E}$
A_1	69	72.68	-3.68	13.54	0.19
A_2	47	43.32	3.68	13.54	0.31
B_1	84	90.23	6.23	38.81	0.43
B_2	60	53.77	6.23	38.81	0.72
C_1	29	30.70	-1.70	2.89	0.09
C_2	20	18.30	1.70	2.89	0.16
D_1	48	38.85	9.15	83.72	2.16
D_2	14	23.15	-9.15	83.72	3.62
E_1	20	17.54	2.46	6.05	0.35
E_2	8	10.46	-2.46	6.05	0.58
					x^2 =8.61

Source: Researcher's computation

Where;
0 = Observed frequency
E = Expected frequency
Degree of freedom(df) = (r-1) (c-1)
Therefore, df = (3-1) (2-1). From table1.1 above.
df = (2) (1) = 2
In the statistical table, the Chi-Square distribution with 2 degrees of freedom at a significance level of 5% corresponds to a value of 5.99.

Decision rule:
When the calculated chi-square value exceeds the critical chi-square value corresponding to the selected significance level (5%), you reject the null hypothesis. However, if the computed chi-square value is equal to or less than the critical chi-square value associated with the chosen significance level (5%), you do not reject the null hypothesis. Based on the obtained result, the calculated chi-square value is 8.61, exceeding the critical value of 5.99. Therefore, we reject the null hypothesis and infer that there is a significant association between auditor independence and product auditing. This finding implies that variations or changes in auditor independence are associated with corresponding changes in how products are audited or examined.

Hypothesis 3:
H_0: There is no significant relationship between auditor independence and system audit

Decision rule:
When the calculated chi-square value exceeds the critical chi-square value corresponding to the selected significance level (5%), you reject the null hypothesis. However, if the computed chi-square value is equal to or less than the critical chi-square value associated with the chosen significance level (5%), you do not reject the null hypothesis. With a calculated chi-square value of 19.61, significantly surpassing the critical value of 5.99, we can confidently reject the

null hypothesis. Consequently, we conclude that there exists a statistically significant relationship between auditor independence and system audit.

Discussion of Findings

1. **Auditor Independence and Process Auditing**:

The first finding suggests that there is a noteworthy association between auditor independence and process auditing. In other words, when the level of auditor independence changes or varies, it has a corresponding impact on how organizations conduct process audits. This could imply that auditors who are more independent may approach process audits differently, possibly with greater objectivity and a focus on ensuring compliance and effectiveness in organizational processes.

2. **Auditor Independence and Product Auditing**:

The second result indicates a significant association between auditor independence and product auditing. This implies that when auditor independence changes or varies, it influences how products are audited or examined. This may suggest that auditors with higher independence levels are more likely to conduct thorough and impartial product audits, ensuring that products meet quality standards and regulations. Conversely, lower auditor independence might lead to less rigorous product auditing practices.

3. **Auditor Independence and System Audit:**

The third finding states that there exists a statistically significant relationship between auditor independence and system audits. This means that variations in auditor independence are linked to corresponding changes in the way organizations conduct system audits. High auditor independence may result in more comprehensive and unbiased system audits, while low auditor independence might lead to less thorough and impartial examinations of organizational systems.

In summary, these findings emphasize the importance of auditor independence in influencing auditing practices across various domains, including processes, products, and systems. Organizations and regulatory bodies should consider these associations when designing auditing procedures and standards to ensure the integrity and effectiveness of their auditing processes. Additionally, efforts to enhance auditor independence may lead to more reliable and credible audit outcomes in these areas.

Recommendations

Based on the results that highlight the significant associations between auditor independence and different types of auditing practices (process auditing, product auditing, and system audit), several recommendations are made to enhance the effectiveness and reliability of auditing processes within organizations:

1. **Strengthen Auditor Independence:**

It is essential to prioritize and enhance auditor independence within the organization. This can be achieved by implementing and enforcing strict guidelines and policies that reduce potential

conflicts of interest, external pressures, or biases that could compromise the independence of auditors.

2. **Training and Education**:

Organizations should invest in training and continuous education for auditors to ensure they understand the importance of independence and its implications for auditing practices. This can include ethics training, workshops on objectivity, and updates on relevant industry regulations.

3. **Review and Update Audit Procedures:**

Review and potentially revise existing auditing procedures and methodologies, taking into account the influence of auditor independence. Ensure that audit processes are designed to promote objectivity, thoroughness, and impartiality, particularly in areas like process auditing, product auditing, and system audit.

4. **Monitoring and Oversight:**

Implement robust monitoring and oversight mechanisms to evaluate and maintain auditor independence. Regularly assess auditor performance and adherence to independence guidelines. Establish an internal audit committee or a review board to provide an additional layer of oversight.

5. **Transparency and Reporting:**

Promote transparency in the auditing process by clearly communicating the role and responsibilities of auditors, their level of independence, and the procedures they follow. Make audit reports readily accessible to relevant stakeholders, including management, regulators, and shareholders.

By implementing these recommendations, organizations can not only address the observed associations between auditor independence and different types of auditing but also strengthen the overall integrity and credibility of their auditing processes. This, in turn, can lead to more reliable financial reporting, improved risk management, and enhanced trust among stakeholders.

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Appendix I

Department of Accountancy,
Faculty of Management Science,
Ebonyi State University,
Abakaliki, Nigeria.
October 2nd, 2023.

Dear Respondent,

REQUEST TO COMPLETE QUESTIONNAIRE

Please, kindly assist by providing honest answers to the following questions. All information will be strictly and confidentially kept. I solicit for your maximum co-operation and contributions to make this study a success.

Thank you for your anticipated co-operation.

Yours sincerely,
Elechi Ogbonnaya Okpara

QUESTIONNAIRE

Please indicate your response throughout the questionnaire by ticking the appropriate box

Personal Data: SECTION A

1. Sex
   a. Male ☐ b. Female ☐

2. Age
   a. 21 - 30 ☐ b. 31 – 40 ☐ c. 41 – 50 ☐
   d. 50 and above ☐
3. Marital status
   a. Single ☐ b. Married ☐ c. Separate ☐

4. Length of service
   a. Below one year ☐
   b. Between 1 to 5 years ☐
   c. Between 5 to 10 years ☐
   d. Between 10 years and above ☐
5. Educational Qualification?
   a. Ph.d ☐
   b. M.sc / B.sc ☐
   c. OND/NCE ☐
   d. HND ☐
   e. Others, specify _____

6. Which of the bank's designations do you belong to?
   a. Customer service unit ☐
   b. Marketing unit ☐

c. Credit unit ☐
d. Information technology department ☐
e. MD/CEO ☐

SECTION B

INSTRUCTION: Fill in the appropriate answers to the following items.

7. SA – Strongly Agree
   A – Agree
   I – Indifference
   D – Disagree
   SD – Strongly Disagree

S/N	QUESTION	SA	A	I	D	SD
a.	Auditor independence has no significant relationship with process auditing					
b.	Auditor independence has no significant relationship with product auditing					
c.	There is no significant relationship between auditor independence and system audit					

8. What general conclusion will you give on the effect of auditor independence on the audit quality of deposit money banks in Nigeria?.....