

## **INTERNAL AUDIT DEPARTMENTAL ATTRIBUTES AND FINANCIAL REPORTING QUALITY OF PUBLIC SECTOR ENTITIES IN ANAMBRA STATE**

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### **Abstract**

This study investigated whether internal audit departmental attributes of selected public sector entities improve financial reporting quality. Financial reporting quality was used as dependent variable while internal audit departmental size, internal auditor experience, internal auditor expertise, internal auditor gender diversity and internal auditor compliance with IPSAS were used as independent variables. A sample of 8 core internal audit departments from public sector entities of Anambra State were used for the period of ten years spanning 2012 to 2021. The study employed ex-post facto and longitudinal research design. The secondary sources of data were collected from annual reports of the selected internal audit departments and five (5) specific objectives and hypotheses were subjected to some preliminary data tests like descriptive statistics, Pearson correlation analysis and Variance Inflation factor (VIF) and were analyzed using panel regression analysis. Using a sample of 80 internal audit departmental-year observations, the result revealed that internal audit departmental size and internal auditors' expertise have a positive and significant effect on financial reporting quality which was statistically significant at 5% level of significance while internal auditor's compliance with IPSAS also showed a positive and significant effect on financial reporting quality of 8 core internal audit departments in Anambra State while internal auditors experience and gender documented a non-significant effect on financial reporting quality. Based on the findings above, the study recommends among others, that public sector regulatory bodies should increase internal audit departmental size in order to have adequate members who can monitor financial reporting process in order to add value and improve reporting quality. We also recommend that internal auditors financial expertise should be that of diversified nature to accommodate people with indebt knowledge on finance and accounting related matters and those with professional qualifications to improve financial reporting quality of public sector entities in Anambra State. Finally, compliance with IPSAS should be made compulsory for all public sector entities in Anambra State in order to improve their financial reporting quality.

**Keyword: internal audit, financial reporting quality, internal audit departmental size, internal auditor experience, internal auditor expertise, internal auditor gender diversity, internal auditor compliance.**

### **1.0 Introduction**

The quality of financial reporting has been the focus over the past decade, and it will continue to be the primary focus in the future (Celina Tan & Muhammad Taufik. 2022; Kaawaase, Nairuba, Akankunda & Bananuka, 2021). An entity's responsibility is to prepare financial statements that reflect its financial condition (Alzoubi, 2014). Alzoubi (2014) argues that financial statements should always provide reliable information to assist users in making decisions. An essential aspect of reliability is the quality of the financial information, which plays a significant role in influencing users to reach decisions, and in evaluating corporate performance (Davis & Cestona, 2021).

The value of financial reports is determined by the quality of information it purports to communicate to users. Quality financial reporting increases in great measure, the confidence of investors and the general public in financial and non-financial information hence contributing to a country's economic growth and financial stability. In the private sector, Quality financial reporting provides to stakeholders an accurate depiction of a company's finances, including their revenues, profits, expenses, capital, and cash flow, as formal records that provide in-depth insights into financial information. Likewise, in the public sector, quality financial reporting ensures proper accountability and transparency of public finances. Okere, et al, (2017), opined that proper transparency and accountability are possible because, quality financial reporting leads to better informed assessments of the resource allocation decisions made by governments. Thus the provision of information and disclosure of the activities and financial performance of the sector necessitated the demand for unbiased financial reporting, According to Izedonmi and Olateru- Olagbegi (2021), The increasingly and continuous demand for accountability and transparency in governance has actually brought about tremendous upsurge in the number, quality and sophistication of pecuniary reporting of government activities This is particularly important to citizens, who are taxed to fund public services. Hence, managers of the resources are expected to utilize the resources in their control in a manner that improves citizens' welfare and account for those resources by ensuring financial reporting that provides a background for people to have informed judgment on government performance and accountability. In the view of Tasios and Bekiaris, (2012), government financial reporting quality is of great importance to the society at large because of its impact on economic decisions. Consistent with this, Izedonmi & Ibadin, (2013) argued that strong and transparent financial reporting help in decision making and make governments to be more accountable to the public.

### **1.1 Objectives of the Study**

The main objective of this study is to examine the effect that exist between internal audit department and financial reporting quality in public sector entities in Anambra state. The specific objectives of this study are; to

1. Determine the effect of internal audit department size on financial reporting quality of the public sector.
2. Ascertain the effect of internal auditors' experience on financial reporting quality of the public sector.
3. Examine the effect of internal auditors' expertise on financial reporting quality of public sector.
4. Find out the effect of gender on financial reporting quality of public sector entity
5. Determine the extent to which compliance with IPSAS affects financial reporting quality of public sector

### **1.2 Research Questions**

In order to determine, the above objectives, the study will be guided by the following questions;

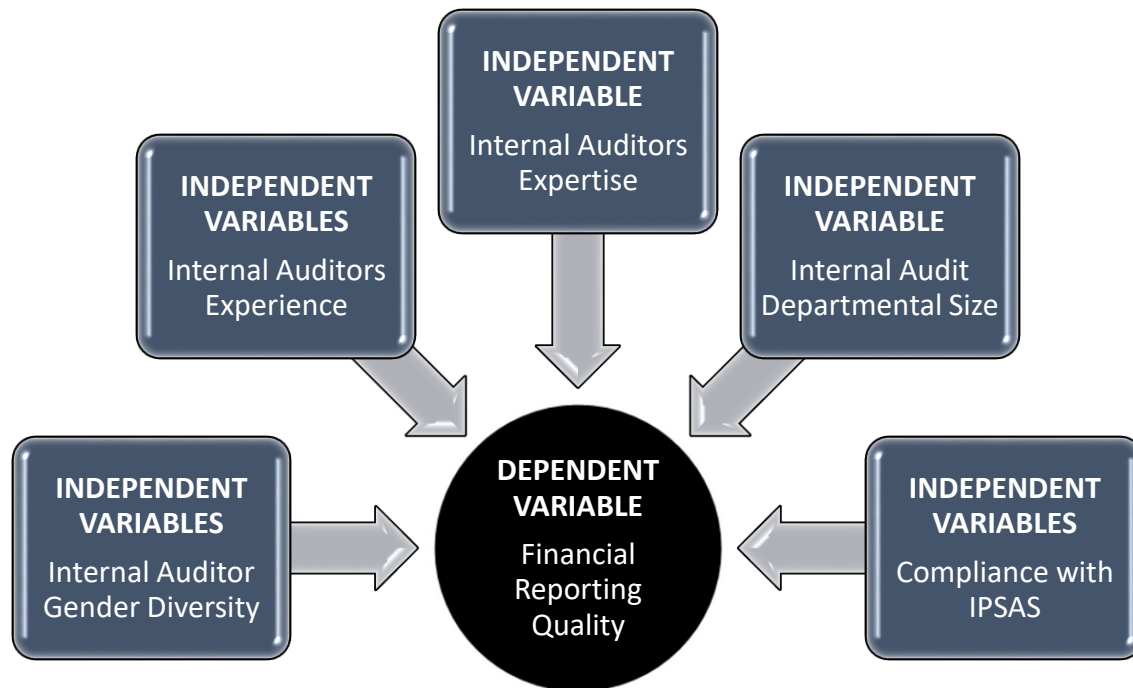
1. To what extent does internal audit department size affect financial reporting quality of the public sector?
2. What effect does internal auditors' experience have on financial reporting quality of the public sector?
3. To what degree does internal auditors' expertise influences financial reporting quality of the public sector?
4. What influence does gender diversity have on financial reporting quality of the public sector?

5. How does compliance with IPSAS affect financial reporting quality of the public sector?

## 2.0 Literature Review

To guide the study, the interrelationship between these variables discussed in the literature review is presented in the conceptual framework model shown in Fig 2.1 below:

**Fig 2.1; Conceptual Framework**



Source: Researchers Conceptual Framework (2023)

### 2.1.1 Internal Auditors ‘Departmental Size

Internal audit departmental size is to the number of internal auditor r both senior & junior staff working in the internal audit unit in this regard. It could be small, medium and large internal audit departmental size. The internal auditors are expected to be conversant with basic financial statement. The internal auditor objectives to keep proper control of financial records, perfect accounting system, protect Asset, keep a check on errors and the internal audit process will run and so this will end up committing less fraud in an organization. Renard (2004) considered that most important factor related to the size of internal audit department is the size of the organization in this sense. Renard (2004) appreciates the small and medium – size internal auditors ‘department.

### 2.1.2 Internal Auditors’ Years of Experience

Auditor experience is a process of learning and developing potential behaviour of auditors during work and within a certain time. The more work experiences an auditor has, the better the resulting audit quality. Chung and Monroe (2000) considered audit experience as the auditors unique knowledge, competencies and capabilities that exist from job practices in auditing profession which lead to the enhancement of auditor’s abilities to process relevant information, initiate subsequent actions and also provide decision making efficiency and

effectiveness through a good memory of information necessary and an accurate judgment of audit works. While Musig and Ussahawanitchakit, (2011) view audit experience as the skills which are obtained from audit tasks concerning relevant audit standards and accounting guidance and error specific experiences (i.e. financial misstatements), which affect audit task and audit performance. Also, Carpenter et al, (2002) point out that years of experience is the act of practice and feedback and can lead to knowledge acquisition. The results of research conducted by Rahayu and Suryono (2016) shows that years of audit work experience has a positive effect on the audit quality. Likewise, the study that was conducted by Merdekawati and Sulistyawati (2011) and Hanjani, (2014) document that the auditor's years of experience has a significant positive effect on audit quality.

### **2.1.3 Internal Auditors' Expertise**

International Standard Association (ISA) 620, defines an auditor's expert as an individual or organization possessing expertise in a field other than accounting or auditing, whose work in that field is used by the auditor to assist the auditor in obtaining sufficient appropriate audit evidence. Auditor skills/expertise refer to the expertise used to complete an unbiased inspection and analysis of a company's financial statements. The purpose of an audit is to gain a professional opinion of how the company's financial statements reflect the company's overall financial position. Understanding the different types of audits and how a company can use an audit to make improvements can help ensure the accuracy of accounting books and processes.

### **2.1.4 Internal Audit Department Gender Diversity**

Internal Audit Department Gender diversity research has evolved into a challenging research issue in academia for the last decades. Most of this research has commenced from the fact that there are increasing numbers of women in the internal audit department (Singh et al., 2001). Related to the above is evidence from prior literature on the existence of differences between men and women regarding decision-making, risk taking, managing, leading, communicating and general performance in business enterprises. Internal audit department gender simply means the proportion of female internal auditor in the internal audit department. Females are becoming increasingly represented on the department. More recently, gender has gained attention in the corporate governance literature as a crucial board characteristic. It has been argued that certain female characteristics enhance the over-sight function of a company and thus have a positive association with reporting quality (Lakhal et al. 2015) and improve the quality of earnings. The literature regarding gender presumes that men and women have different characteristics affecting their work life behavior (Vahamaa, 2014). Srinidhi et al. (2011) argue that female directors have different experiences in comparison to males, which could improve the decision making in the board as new views are being introduced.

### **2.1.5 Compliance with IPSAS**

Countries of the world over the years have defined and set the standards of financial reporting in their individual territories. However, globalization has brought about ever increasing collaboration, international trade and commerce among the countries hence, there is grave need for increased uniformity in the standards guiding financial statements so that such statement would remain comprehensible and convene the same information to users across the world. The need for the development of unified accounting standards has been the primary driver of IPSAS for public sector financial reporting (Heald, 2003). IPSAS refers to the recommendations made by the IPSASB under the auspices of the IFAC (Delloitte & Touches, 2013; IPSASB, 2008). IPSAS are norms that govern the recognition, measurement, presentation and disclosure requirements in relation to transactions and events in general purpose financial statements. The development of IPSAS has its origin in the accounting profession as a way to improve the

transparency and accountability of governments and their agencies by improving and standardizing financial reporting (Delloitte & Touches, 2013; Ijeoma, 2014).

The IPSASB issues IPSASs dealing with financial reporting under the cash basis and the accrual basis of accounting (Kanellos et. al, 2013). It is ideal for all public financial reporting to adopt accrual basis financial reporting. Even so, IPSASB has acknowledged that for many governments, adoption of a cash-basis IPSAS is a more realistic intermediate goal (PWC, 2009). The primary role of the IPSASB is to ensure that published financial statements are uniform in content and in format and communicate precisely what they purport to convey leading to better informed assessments of the resource allocation decisions made by governments, thereby increasing transparency and accountability (Stephen et al, 2012). According to the International Federation of Accountants, IFAC (2009), IPSAS are high quality financial reporting standards applicable in the public sector reporting that takes care of public interest in presentation and disclosure of financial transactions that enhances the accountability and management of public resources.

IPSAS was born out of the far reaching effects of global financial crisis where many governments' accountability and transparency in the reporting of assets and liabilities were put under question. Therefore, IPSAS was adopted in order to help improve on the processes and to avoid future crises. Bergmann (2011) argues that the 2008 financial crisis was an eye opener from the fact that financial reporting systems of many governments were unable to anticipate the problem in good time which reduced the level of accountability in the public sector. Therefore, IPSAS was considered the best solution because of its comprehensive reporting framework that regulates the recognition, measurement, presentation, and disclosure requirements in the financial statements (Ernst & Young, 2012).

## **2.2 Financial Reporting Quality**

Financial reporting within the context of public sector is a process of collecting, classifying, summarizing, and reporting accounting information that relates to government activities so as to allow citizen participation and holding elected officials accountable (Bastani *et al.*, 2012). It provides background for people to have informed judgment on government performance and accountability assessment (Bastani *et al.*, 2012). Financial reporting is the process by which corporate entities provide interested parties (users) with information on their transactions during an accounting period (Mbobo & Ekpo, 2016). Financial reporting is one of the major means that corporate management uses in communicating financial information for a given period.

## **2.3 Stewardship Theory**

This work was anchored on Stewardship Theory; a steward is can be defined as a person who take care of the need of other people. The stewardship theory holds, essentially, that directors act as stewards and will not be concerned about fostering their own economic interests, but will be willing to act in the best interests of their company, and they will act in a way that leads to collectivist/organizational utility rather than self-serving benefits. The stewardship theory was pounded by Donaldson and Davies (1989) it is a theory that has been credited. It emphasis cooperation and collaboration. Stewardship theory assumes that boards, audit committees and managers are stewards whose behavior is aligned automatically, on appointment, with the objectives of their principals (Pastoriza & Arinio, 2008). The theory maintains that directors and audit committees have a different form of motivation from that posited by agency theory, one that is drawn from organizational theory and based on studies in both psychology and sociology. Under stewardship theory directors are viewed as loyal to the company. Stewardship theory adheres to collectivism. Hernandez has defined the theory succinctly in the

following manner. The extent to which an individual willingly subjugates his or her personal interests to act in protection of others' long-term welfare. (2012). with this theory, the dominant motive, which directs board members to accomplish their job, is their desire to perform excellently and with honour. Specifically, directors are conceived as being motivated by a need to achieve, to gain intrinsic satisfaction through achievement, self-actualization and a chance to grow (Keay, 2017), and more specifically successfully performing inherently challenging work, to exercise responsibility and authority, and thereby to gain recognition from peers and bosses. It theory holds assumption that a man being intelligent makes rational, it views employee as assets of the firm and also true steward is driven by need of self-actualization, growth and achievement without being opportunistic and self interest in the that corporate governance structure should exercise advance authority and prudence. This stewardship theory is related to the topic internal audit attributes on financial reporting quality because it believes in collaboration and services to others which leads to transparency and accountant ability in the public sector entities.

## **2.4 Theoretical Expository Literature**

### **2.4.1 Internal Auditors' Departmental Size and Financial Reporting Quality**

Internal audit department size refers to the number of staffs working the department, the size of an internal audit department size may have effects on its effectiveness and ultimately on the financial quality. Large internal audit department size is expected to enhance the effectiveness of the department. Few of the studies such as semiu and kehinde (2012), Semiu and Johnson (2015) and Uma (2015) uses data from energy economies such as like Nigeria. Internal audit department have a great impart the financial report quality (Tambingn, Yadiati Kewo (2018) Internal audit Department provides reasonable assurance that there is effectiveness and efficiency of operation.

### **2.4.2 Internal Auditors' Years of Experience and Financial Reporting Quality**

Years of experience can be a proxy for determining an individual's cognition, experience, and motivation (Xu et al., 2018). Internal auditors are expected to gain extensive knowledge, experience and skills as they age (Pathak et al., 2021). As a result, they are viewed as more reliable for handling unexpected problems and wiser in making decisions (Xu et al., 2018). However, as internal auditors age, they tend to experience a decline in their cognitive abilities (Waelchli & Zeller, 2013) and a loss of productivity (Temprano & Gaitte, 2020, as quoted by Celina Tan & Muhammad Taufik, 2022), leading to lower quality financial reporting. Over time behavioral researchers give more concern on the effects of experience particularly in the aspect of decision making in a highly important fields such as auditing (Lehmann & Norman, 2006) which suggest that shows that experience is an important issue to consider, because auditors' professional practices through audit experience influences their audit professionalism and this have significant impact on their audit efficiency and effectiveness (Intakhan & Ussahawanitchakit, 2010). Studies in the area of professional experience in accounting and auditing are increasing (Gaballa & Ning, 2011) and due to this development.

### **2.4.3 Internal Auditors' Expertise and Financial Reporting Quality**

Diversity in the expertise of an internal audit members can include the presence of internal auditors who are professionals in the accounting and finance fields. By bringing financial expertise onto their boards, companies can enhance the quality of their financial reports and reduce the likelihood of financial restatements (Pathak et al., 2021). In addition, financial knowledge can contribute to a deeper understanding of financial matters, resulting in more accurate accounting estimates and comprehensive views and opinions (Habib & Bhuiyan,

2016). As a result, internal auditors with financial expertise can control their organization more efficiently, reducing information asymmetry (Almaqtari, Hashed, Shamim, M., & Al-Ahdal, 2020). In addition, internal auditors who did not major in finance tend to lack knowledge and skills for making decisions regarding the quality of the financial reporting (Alzoubi, 2014)

#### **2.4.4 Internal Auditors' Gender and Financial Reporting Quality**

Gender diversity shows the presence of female's internal auditor on the public sector entity. Public sector entity with a gender-diverse internal auditors tend to have a higher quality financial reporting than entity with no gender-diverse auditors (Davis & Cestona, 2021). Female internal auditors tend to be ethical; thus, they are more likely to report any financial manipulation and they decrease the occurrence of financial misconduct (Wahid, 2019). Female internal auditors are also able to meet the stakeholders' expectations. The reasoning behind this view is based on their ability to reduce the occurrence of agency conflicts by producing higher quality levels of financial reporting. Thus, a female internal auditor has a more effective board-controlling ability (Srinidhi et al., 2011). However, many developing countries, including Indonesia, do not pay attention to the issue of gender equality in the boardroom (Taufik & Chua, 2021). This problem is consistent with Temprano and Gaité (2020) as cited by Celina Tan and Muhammad Taufik. (2022), in that the limited proportion of female directors leads to the inability of the females on boards to influence the quality of the financial reporting. Due to this, Celina Tan and Muhammad Taufik. (2022) quoting Temprano and Gaité (2020) could not demonstrate a significant impact from gender diversity

#### **2.4.5 Compliance with IPSAS and Financial Reporting Quality**

According to Bergmann (2011) the financial crisis of 2008 exposed the poor state of Public Financial Management (PFM) systems which made it difficult to be accountable because of poor reporting standards. Therefore, the absence of quality accounting standards by governments in reporting financial transactions reduced the level of accountability and that affected public trust and confidence in the government activities (Danae & Anvary 2007). Reduced confidence has a ripple effect on both local and international investors in that it affects economic growth. Poor financial reporting system deprives economic development and therefore adoption of IPSAS is a way of redeeming the public perception in the way the government manages public resources. According to Atuilik (2016) there is a significant relationship between adoption of IPSAS framework and quality of financial reporting and therefore reduction of corruption and wastage in the utilization of public resources. Institutions such as IMF and World Bank have also been advocating for the adoption of IPSAS because of the association between IPSAS practices and economic development. Anderson, (2009); and Torres, (2014) separately established in their studies that compliance with IPSAS in preparation and presentation of financial statements improve transparency and accountability of firms consistent with public financial management framework and decision making.

### **2.5 Empirical Review**

Susant and Rimbano (2022) aims to examine the factors that influence the quality of the Local Government Finance of the Government of Musirawas, South Sumatera, Indonesia. The authors used 110 persons from the government apparatus who represent their working unit of the Finance Management in the Government of Mursirawas, South Sumatera, and Indonesia as their respondents. The research utilizes a Structural Equation Modelling (SEM) method. The research results showed that the Performance quality of the LAPD in the Government of Musirawas, South Sumatra, Indonesia, is simultaneously influenced by the competency of the Apparatus human resources, motivation, and the local accounting system; partially, it was influenced by the apparatus human resource competency.

In a most recent study done by Agyei-Mensah (2022), He investigates impact of audit committee attributes on financial reporting quality and timeliness of listed firms in Ghana. The study uses 90 firm-year observations for the period 2013-2015 for firms listed on the Ghana Stock Exchange. A descriptive analysis was performed to provide the background statistics of the variables examined. This was followed by regression analysis, which forms the main data analysis. The descriptive statistics indicate that over the four years, the mean value of financial reporting quality is 42% and timeliness of financial reporting is 86 days. The regression analysis results indicate that: financial reporting quality has a statistically positive relationship with audit committee financial expertise and size; audit report lag has a statistically negative relationship with audit committee financial expertise and audit committee independence. This study is one of the few to measure the influence of audit committee characteristics on financial reporting quality and timeliness in Sub-Saharan Africa.

In the same vein, Ehigie and Isenmilia (2022) examined conceptually the relevance of the audit committee financial expertise to financial reporting timeliness of a firm. The methodology adopted in this study is library research whereby relevant and extant literature related to the audit committee financial expertise and financial reporting timeliness. Audit committee financial expertise was x-ray from the perspective of accounting financial expertise and the non-accounting financial expertise. Observations from the study highlights that the presence of accounting financial experts in an audit committee is an important element that mitigate reportorial challenges and motivates financial reporting timeliness. The study recommends that financial experts in the audit committee should be given more power to enable them discharge their duty effectively and efficiently, the definition of audit committee financial expertise should not relegate other relevant profession to the background, and the impact of the audit committee financial expertise on audit expectation gap should be considered when appointing members of the audit committee.

Hariani (2021) aims to examine the determinants of Financial Reporting Quality (FRQ). An empirical study was conducted across local governments in Indonesia to test the hypothesis. In the study, 302 qualified questionnaires were collected from local government employees through self-administered surveys. Furthermore, the Partial Least Square-Structural Equation Modelling (PLS-SEM) technique was used for data analysis. The result showed that Internal Control System (ICS), Effective Information Technology Governance (ITG), Regulation on Performance Measurement (RPM), and Political Influence (PIN), as well as Transparency (TRS), have a relationship with FRQ.

### **3.0 Research Methodology**

#### **3.1 Research Design, Population and Sample**

The study used ex-post facto research design. Secondary source of data was used for the study. Data was sourced from the books of Internal Audit Department for the period under review. The Population of the study covered the entire 104 staff from 5 Core Departments in the Office of Auditor General for Anambra State. Sample Size of the Study is Same as population.

#### **3.2 Model Specification**

the study adapted the model of Omoregie and Eromosele (2020) which was stated as  $FRQ = (PACE, SPFM, \text{ and } ADIPSAS)$ . The model will be modified as follows:

$FREQTY = f(IADSZ, IADEXP, IADEPZ, GEND, CIPSAS)$ . This can be mathematically expressed as follows.



$$FREQTY_{it} = \beta_0 + \beta_1 IADSZ_{it} + \beta_2 IADEXP_{it} + \beta_3 IADEPZ_{it} + \beta_4 GEND_{it} + \beta_5 CIPSAS_{it} + \epsilon_{it} \dots 1$$

(1)

**Method of Data Analysis** – Data was analyzed using descriptive statistics, correlation matrix and inferential analysis like variance inflation factor (VIF).

**Table 3.1: Operationalization of Variables**

<i>Dependent Variable</i> <i>Financial Reporting Quality (FREQTY)</i>	<i>Estimated using market based variable like Timeliness (Inspirations were drawn from prior studies of Francis, LaFond, Olsson &amp; Schipper, 2004). Timeliness of financial report measured as the time interval between the end of the reporting period and the date the financial statements are issued. i.e. No of days between the financial year ended and the date of auditor’s report.</i>
<i>Internal Audit Department Size (IADSZ)</i>	<i>Total number of internal audit department staff</i>
<i>Internal Auditor’s Experience (IADEXP)</i>	<i>We measure Internal Auditors experience using a dummy variable equal to one (1) if the internal auditor was employed by the department prior to becoming Internal auditor, and zero if otherwise.</i>
<i>Internal Auditor’s Expertise (IADEPZ)</i>	<i>Internal Auditor with finance or accounting expertise or membership in any professional accounting bodies measured as a dummy variable 1 if the internal auditor is an expert and a member of any professional accounting bodies and 0 if otherwise.</i>
<i>Gender (GEND)</i>	<i>Gender was measured as a dummy variable 1 if the internal Auditor is a female and zero if otherwise.</i>
<i>Compliance with IPSAS (CIPSAS)</i>	<i>Measured as a dummy variable where "1" is assigned to the internal audit department in a year with full sections in annual reports with notes on how they have complied with IPSAS adoption and "0" otherwise</i>

**Source: Researchers’ compilation (2023)**

The secondary data that was collected was analyzed using descriptive statistics, correlation, variance inflation factor and regression analysis. The descriptive statistics was used to evaluate the characteristics and nature of the data: Mean, maximum, minimum, and standard deviation and also checks for normality of the data. The correlation analysis was used to evaluate the relationship and the degree of association between the variables and to check for multicollinearity problem. The multiple regression analysis was used to evaluate the effect of the independent variables on the dependent variable. It will reveal the degree of influence and effect the independent variables have on the dependent variable. The study also carried out some preliminary regression data tests and diagnostic test like effect testing using Hausman effect test.

- i. Pearson Correlation Analysis:** Is a good measure of relationship between two variables, it tells us about the strength of relationship and the direction of relationship as well.
- ii. Multicollinearity Test/VIF test:** Will be used to determine if one or more pairs of the explanatory (independent) variables are highly or perfectly correlated.
- iii. Panel Least Square (PLS) regression analysis:** Will be used to predict the effect of the independent variables on the dependent variable and also used to either accept or reject null hypothesis.

iv. **Hausman Specification Test:** This will be employed to determine the more appropriate model to report and interpret between the fixed effect model (FEM) and random effect model (REM) for this study. When the P-value of the Hausman specification test is less than 5 percent, the Fixed Effects model result is more appropriate than the Random Effects model (Torres-Reyna, 2007).

### 3.3 Decision Rule:

The degree of the relationship between the dependent and independent variables of this study will be determined at 5% level of significance. When the probability value is less than 5% – rejects null hypothesis (H<sub>0</sub>) and accepts alternate hypothesis (H<sub>1</sub>) but when probability value is greater than 5% – accepts H<sub>0</sub> and rejects H<sub>1</sub> all at 5% level of significance.

### 3.4 APriori Expectation

The Apriori expectation of this study is that the slope coefficients of the explanatory variables; are expected to be positively and significantly affecting financial reporting quality.

## 4.0 Analysis of Data

### 4.1 Preliminary Data Test

The study investigated the effect that exists between internal audit departmental attributes and financial reporting quality of internal audit department in Anambra State between 2012 and 2021 year of study. The study carried out some preliminary data tests like descriptive statistics, correlations and variance inflation factor (VIF) analysis. The descriptive statistics was used to analyze the data in order to ascertain the normality and nature of the data. Correlation analysis was used to ascertain the association between the variables. Correlation coefficient measures the direction and degree of association between two or more variables. To further check for the case of perfect correlation among variables, Variance inflation factor (VIF) was conducted to test for the presence of multi-collinearity. Finally, the study used panel regression analysis in obtaining functional causal effect between financial reporting quality and internal audit departmental attributes like internal audit departmental size (IADSZ), internal auditors’ experience (IADEXP), internal auditors’ expertize (IADEPZ), internal auditors’ gender (IADGEN). Note that regression result was used to either reject a hypothesis or accept it based on its p-value of 5% significance level. The Table below shows the descriptive statistics of the internal audit departments that make up our sample.

**Table 4.2.1: Descriptive Statistics Result**

	FREQTY	IADSZ	IADEXP	IADEPZ	IADGEN	COMPSA
Mean	214.8000	17.71250	0.400000	0.637500	0.300000	0.487500
Median	207.5000	20.00000	0.000000	1.000000	0.000000	0.000000
Maximum	418.0000	25.00000	1.000000	1.000000	1.000000	1.000000
Minimum	59.00000	4.000000	0.000000	0.000000	0.000000	0.000000
Std. Dev.	86.74339	5.846548	0.492989	0.483755	0.461149	0.502997
Skewness	0.694483	-0.981838	0.408248	-0.572056	0.872872	0.050016
Kurtosis	4.202861	2.608992	1.166667	1.327248	1.761905	1.002502
Jarque-Bera	11.25367	13.36303	13.42593	13.69030	15.26833	13.33335
Probability	0.003600	0.001254	0.001215	0.001065	0.000484	0.001273
Sum	17184.00	1417.000	32.00000	51.00000	24.00000	39.00000
Sum Sq. Dev.	594428.8	2700.388	19.20000	18.48750	16.80000	19.98750
Observations	80	80	80	80	80	80

**Source: Researcher’s summary of overall descriptive result (2023) using E-view 12**

Note: \*1% level of significance, \*\*5% level of significance, \*\*\*10% level of significance.

The result provides some insight into the nature of the selected internal audit departments that were used in the study. The researcher sought to establish the central tendency and distribution of internal audit department's features or attributes and financial reporting quality among the selected departments in Anambra State. Financial reporting quality which was the dependent variable was measured using timeliness of financial report which was captured using the time interval between the end of the reporting period by the internal audit departments and the date the financial statements are issued or signed by the Accountant General for the State or the number of days between the financial year ended and the date of auditor's report.

### 4.3 Pearson Correlation Matrix

Pearson's correlation matrix was applied to check the degree of association between internal audit departmental characteristics and financial reporting quality so as to determine the nature or degree of association i.e. positive or negative correlation and the magnitude of the correlation between dependent variable (financial reporting quality) and independent variables with other explanatory variables. Correlation coefficient measures the direction and degree of association between two or more variables. It is worthy to note at this point that correlation measures association not causality. Correlation can be positive ( $>0$ ) or negative ( $<0$ ). A positive correlation means that two variables move in the same direction while a negative correlation means they move in opposite direction. Therefore, in examining the association among the variables, we employed the Pearson correlation coefficient (correlation matrix) and the results are presented in the table 4.2.2 below.

**Table 4.2.2: Correlation Analysis Result**

	FREQTY	IADSZ	IADEXP	IADEPZ	IADGEN	COMPSA
FREQTY	1.000000					
IADSZ	0.035752	1.000000				
IADEXP	0.177722	0.018445	1.000000			
IADEPZ	-0.083197	0.262548	-0.127386	1.000000		
IADGEN	0.054048	-0.028639	0.022272	0.096462	1.000000	
COMPSA	-0.525747	0.285002	-0.336910	0.215238	0.016371	1.000000

*Source: researcher's summary of correlation result (2023) using E-view 12*

The result of the correlation coefficient showed mixed correlation. This association identified buttresses the point that our variables have a linear relationship. Furthermore, the strength of the relationship between variables measured by the Pearson product-moment correlation showed that the association between the variables is relatively small and was below the threshold of 0.80, suggesting the absence of the problem of multicollinearity in the predictor variables. In this section we present and discuss the Pairwise correlations among the variables of internal audit departmental attributes and financial reporting.

#### 4.2.3: Test of Multicollinearity or Variance Inflation Factor (VIF)

Multicollinearity was tested by computing the Variance Inflation Factor (VIF) and its reciprocal or the tolerance. Collinearity diagnostics measure how many regressors are related to other regressors and how this affects the stability and variance of the regression estimates. To further check for multi-collinearity problem or to know whether the independent variables used are perfectly correlated, we conducted Variance Inflation Factor (VIF) to check for the multi-collinearity problem. Finally, based on the general outcome of this test, the problem of multicollinearity is not present within the variables. To further check for multi-collinearity test, we employed variance inflation factor. The result of Variance Inflation Factor (VIF) is presented below in table 4.2.3:

**Table 4.2.3: Variance Inflation Factor Result**

Variance Inflation Factors

Date: 05/30/23 Time: 03:35

Sample: 2012 2021

Included observations: 80

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	882.2560	11.83649	NA
IADSZ	2.582729	12.04055	1.169616
IADEXP	359.6545	1.930074	1.158044
IADEPZ	361.7482	3.093962	1.121561
IADGEN	360.1378	1.449501	1.014650
COMPSA	377.0227	2.465872	1.263759

*Source: Researcher's summary of VIF result (2023)*

As can be observed from the result of VIF in table 4.2.3 above, the mean value of the independent variables coefficient is less than 10. The variance inflation factor (VIF) values of all variables are less than 10; therefore, the effect of multi-collinearity is negligible. This implies that there was no multicollinearity problem with the variables thus all the variables were maintained in the regression model. Therefore, it can be concluded that there is no problem of multicollinearity

### 4.3 Regression Analysis

In order to examine the relationship that exists between the dependent variable (FREQTY) and the independent variables internal audit departmental attributes (IADSZ, IADEXP, IADEPZ, IADGEN, and COMPSA) and to test the formulated hypotheses, the study used the multiple regression analysis techniques. Therefore, in order to examine the responsiveness between dependent variable (FREQTY) and internal audit departmental attributes such as internal audit departmental size (IADSZ), internal auditor experience (IADEXP), internal auditor expertise (IADEXP), internal auditor gender diversity (IADGEN), and compliance with IPSAS (COMPSA) and to test the formulated hypotheses, we employed panel regression analysis since the data had both time series (2012-2021) and longitudinal properties (8 accredited internal audit departments). However, the study takes into cognizance the non homogeneity nature of the departments, hence the need for testing its effect on the data. This necessitates the use of hausman effect test to ascertain which effect to explain. Below is the summary of the Hausman test result in table 4.3.1:

#### 4.3.1: Hausman Effect Test

The summary result of regression analysis is presented below. However, the study takes into cognizance the non homogeneity nature of the public sector entities, hence the need for testing its effect on the data. This necessitated the use of Hausman effect test to ascertain which effect to explain.

**Table 4.3.1. Hausman Effect Tests**

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.799847	5	0.9770

**Source: Researcher’s summary of Hausman effect tests result (2023)**

The Hausman test result above shows a chi-square statistics value of 0.7998 and probability value of 0.9770, this means that there is no homogeneity in the collection of the internal audit departmental data. Since the Chi-square (Prob) value is more than 5%, hence we accept the random effect and interpret its regression while the fixed effect is rejected. Hausman test shows that the random-effects estimation (REM) method is more appropriate than the fixed effects (FEM) for all the internal audit department of public sector entities in Anambra State; hence the results from REM is presented and interpreted. Therefore, the study used the random effect to correct the problem of heterogeneity in the data used for the study; the random effect regression result is presented in table 4.3.2 below.

**Table 4.3.2: Random Effects Regression Result**

Cross-section random effects test equation:

Dependent Variable: FREQTY

Method: Panel Least Squares

Date: 05/30/23 Time: 03:32

Sample: 2012 2021

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	197.6409	35.85778	5.511800	0.0000
IADSZ	3.581836	1.689551	2.119993	0.0377
IADEXP	-5.098750	21.44495	-0.237760	0.8128
IADEPZ	4.360801	40.27493	2.108276	0.0141
IADGEN	14.95924	19.81885	0.754799	0.4530
COMPSA	105.6666	21.09492	5.009105	0.0000

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	70.66807	R-squared	0.327896
Mean dependent var	214.8000	Adjusted R-squared	0.207519
S.D. dependent var	86.74339	S.E. of regression	77.22018
Akaike info criterion	11.67886	Sum squared resid	399518.0
Schwarz criterion	12.06594	Log likelihood	-454.1546
Hannan-Quinn criter.	11.83406	F-statistic	2.723911
Durbin-Watson stat	1.766560	Prob(F-statistic)	0.004655

**Source: Researchers’ Random Regression result (2023) from E-view 12**

The table 4.3.2 above shows the panel regression analysis of 8 internal audit departments of public sector entities in Anambra State. From the table above, the F-statistics value of 2.723 and their P-value of 0.0046 showed that the overall regression analysis of our variables in the regression model was generally significant at 1% level of significance and it shows that the model was well specified in explaining financial reporting quality of 8 internal audit departments of public sector entities in Anambra State. From the result above, the study observed that the R. squared value was 0.327 (33%) approximately and R-squared adjusted value was 0.207 (21%) approximately. The value of R- square which is the coefficient of determination stood at 33% which implies that 33% of the systematic variations in individual dependent variables were explained in the model while about 67% were unexplained thereby captured by the stochastic error term.

## **5.0 Summary of findings:**

The study found that:

- Internal audit departmental size has a positive and significant effect on financial reporting quality which was statistically significant at 5% level of significance.
- Internal Auditor experience documented a negative but insignificant effect on financial reporting quality.
- Internal Auditor expertise was seen to have a positive and significant effect on financial reporting quality of internal audit departments which was statistically significant at 5% level of significance.
- Internal Auditor gender documented a positive but insignificant effect on financial reporting quality of internal audit departments in Anambra State. Finally, internal audit compliance with IPSAS was found to have a positive and significant effect on financial reporting quality which was statistically significant at 1% level of significance.

## **Recommendations**

Based on the findings we recommended that: Public sector regulatory bodies should increase internal audit departmental size. Internal auditors financial expertise should be that of diversified nature. Compliance with IPSAS should be made compulsory for all public sector.

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