

Innovations

Factors Affecting Internal Audit Effectiveness: Empirical Evidence from Nigeria

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Abstract: *This study's objectives are to comprehend internal auditors' attitudes regarding effectiveness and determine whether certain organizational and internal auditor's characteristics impact the internal auditing process and effectiveness. To evaluate the under-researched premise, the methodology uses a partial least square–structuring equation model (PLS–SEM) with a sample of kano state, Nigerian chief, deputy chief and senior internal auditors. The findings of the data indicate that there is a negative relationship between management support for internal audit department and detection of fraud as internal audit effectiveness determinants. According to the findings, effective monitoring of internal control systems, detection of fraud, internal auditors' ethical conduct and usage of information technology have a positive impact on internal audit effectiveness as internal audit effectiveness determinants which is supported by the data. In addition to adding to the body of knowledge on the factors that determine internal audit effectiveness, this work advances practice by elucidating the variables that affect internal auditors' actions and formulating suggestions for improving the standard in terms of internal auditing. The study theoretically broadens the scope of the contextual literature on internal audit effectiveness by examining the determining factors of all the predictors through structural analysis.*

Keywords: *Internal audit effectiveness, usage of information technology, management support for internal audit department, effective monitoring of internal control system, and detection of fraud.*

1. Introduction

Internal auditing is a highly practical as well as adaptable management instrument that enables a precise assessment of the organisation and the adoption of measures to improve its efficiency and effectiveness (Postula et al., 2020). It is a crucial component of public sector organisations (Ackermann, 2016) and contributes to Management Support for Internal Audit Departments (MSIAD), detection of fraud (DOF), Effective Monitoring of Internal Control System (EMICS), and Internal Auditors' Ethical Conduct (IAEC) (Angermund & Plant, 2017; Anggraini & Suryani, 2021; Fourie & Ackermann, 2013; Pooe et al., 2022). As a result, Internal auditing has been utilized as a crucial task for a company to perform effectively to survive and grow (Popoola, 2017). According to Rahmatika (2014) and Papageorgiou (2011), internal audit effectiveness has emerged as a pertinent research area in this setting and needs to be upheld to enhance the compliance of Internal Audit (IA) with international standards.

There has been scanty research on internal audit effectiveness (Agyei-Mensah et al., 2019) while external audit has received most of the attention (Al-ahdal & Hashim, 2022; Erin et al., 2022; Rabaiah et al., 2023; Yang et al., 2023). First, the external auditors' perspective has mostly been used to comprehend and operationalize Internal Audit Effectiveness (IAE), excluding the lenses of the other players in governance, particularly the internal auditors (Mat Zain et al., 2015). Most studies, such as Sudirman et al. (2021) or Wilfred et al. (2014), based their evaluations of internal audit effectiveness on the MSIAD and EMICS, respectively. This is so because the demonstration and efficacy of the internal audit function serve as an indirect proxy for internal audit effectiveness in most of the research. Researchers are not sure of how internal auditors behave practically (Syafidinal et al., 2019). Additionally, the third great value of internal auditing emphasizes the significance of figuring out what factors influence its standard (Pham et al., 2023). The factors that affect internal audit effectiveness are rarely studied (Almaliki et al., 2018; Lois et al., 2020). For example, Chowdhury and Shil (2019) investigated on management support for internal audit department and EMICS, Kasim et al. (2016), conducted research on MSIAD and EMICS, Al Zubaidi et al. (2019) as well as Drogalas et al. (2017) investigated on detection of fraud and internal audit effectiveness, Nour and Tanbour (2023), Singh et al. (2021), investigated the antecedents and internal audit quality, and Iankova Natchkova (2019), the characteristics of the various professional qualification of internal auditors.

According to Claire, (2016), research in several management domains has recently focused on concerns like detection of fraud in Nigerian public sector. Some of the characteristics examined here, such as perceived corruption and misstatement of financial records, despite been examined before in the context of

IAE, to the authors' knowledge. Additionally, additional research on the internal audit effectiveness concept and its determinants is deemed important by Alqaraleh et al. (2022) and Tanzil (2020). In addition to all of them, worldwide changes like the COVID-19 pandemic and the global financial crisis have imposed intense problems that could impact audit methods, efficiency, and effectiveness (Pham et al., 2023).

This study fills a knowledge gap about how internal auditors carry out their duties in the various phases of the internal audit procedure and what factors influence this conduct. The goals of this study are to: (1) identify EMICS as a sign of determinant of IAE, (2) determine whether organizational factors like MSIAD and Usage of Information Technology (UIT) have an impact on internal audit effectiveness, and (3) determine whether personal factors like Detection of Fraud (DOF) and IAEC have an impact on IAE. The sample is made up of Kano state Ministries Departments and Agencies (MDAs), as internal auditing is conducted in diverse environments with a range of legal and cultural standards that may influence internal audit practices, internal auditors represent a context that has not, as far as we are aware, been the subject of empirical research on the subject. (IIA, 2017a). Partial Least Square-Structural Equation Modelling (PLS-SEM) was the methodology utilized to evaluate the hypotheses, and it had not previously been used in most studies about the factors affecting internal audits effectiveness (Anojan, 2022).

By clarifying the variables influencing internal auditors' conduct and developing recommendations that will enable the standard of internal audit effectiveness to be raised, our research advances the body of knowledge regarding the factors that determine the choice of internal audit effectiveness and benefits practice.

The paper is organized as follows: The introduction discusses the happenings around IAE and motivation, Following the literature review, methodology, the results, and their discussion, the next section moves on to the determinants of IAE, and the final portion gives the conclusions, contributions, limitations, as well as recommendations for further study.

2. Literature review

According to Samagaio and Felício (2023), internal auditors who perform poorly on the job are likely to provide incommensurate audit report. This is because they execute inadequate internal auditing system. Inefficient internal auditing system refers to several distinct actions that directly jeopardize the quality of audits processes, accepting inadequate justifications from clients, neglecting to investigate accounting principles and standards, performing merely superficial document checks, and minimizing the effort to a level below what the internal auditor considers appropriate (Gansberghe & Nordin, 2005).

Performance of internal auditors inside internal audit department is tantamount to organizational performance as well as organizational features. According to Silviana and Zahara (2015), the accuracy of the data in the financial statements and its perceived credibility are both correlated with the internal auditors' level of monitoring rigor. Therefore, an organisation's personnel department plays a crucial role (Abdullah, 2014). It is crucial to research several variables that are connected to both organizational and internal auditor's behaviours, such as MSIAD, UIT and EMICS, as well as internal auditor's characteristics like DOF, and IAEC.

2.0 Hypotheses Development

2.1 Management support for internal audit department and Internal Audit Effectiveness

According to Shamki and Amur Alhajri (2017), contend that requiring IA units to report to top management is not a sensible solution to IAE problems. They looked at how internal auditors' assessments of fraud risk change when the level of risk fluctuates. In their survey, 208 competent internal auditors were included. They discovered that internal auditors typically decrease risk assessment when they adhere to auditing standards because of the internal auditor's personal threat and the threat from top management (Setyaningrum & Kuntadi, 2019).

Additionally, internal auditors could be unwilling to ensure the success of IA due to contentious problems involving top management, according to Azzali and Mazza's (2018) findings. Joshi (2021) endorsed this viewpoint in their literature study due to the challenges IA functions have when reporting excessive risks or red flags to top management. Additionally, according to Deng (2018), internal auditors run the risk of losing their jobs if they disclose all operational flaws in their top management, or the person who determines their pay, evaluations, and bonuses. This is the main challenge facing internal auditors in ensuring the effectiveness of IA.

MSIAD and the effectiveness of internal audit have not, as far as the authors are aware, been deeply researched, although Alzeban and Gwilliam (2014) found papers demonstrating a connection between MSIAD and IAE. According to several studies, there is a link between MSIAD and IAE (Karrar & Elbashir, 2018). Thus, we define the following statement:

H1: *Management support for internal audit department (MSIAD) has positive impact on internal audit effectiveness (IAE).*

2.2 Effective Monitoring of Internal Control system and Internal Audit Effectiveness

According to Nyamita et al. (2015), affirms that monitoring is a procedure used to evaluate the effectiveness of internal control performance over time. It is carried out through regular monitoring efforts as well as independent assessments of internal control, including internal audits, peer reviews, and self-assessments. Monitoring is done to affirm if internal controls are well thought out, correctly implemented, and efficient (Mwichigi & Atheru, 2019). Checking internal controls primarily serves the objective of ensuring that they are effectively developed, carried out, and monitored (IIA, 2010).

According to Alles et al. (2006), the systems that an organization puts in place to ensure that its missions, goals, and objectives are met are known as internal controls. These are sets of guidelines and policies that create accurate financial reporting, protect an organization's assets, promote compliance with legal and regulatory obligations, and enable effective and efficient operations. Through the identification of deficiencies in management operations, internal auditing offers a basis for addressing shortcomings that escaped the first line of defence before they become unmanageable or are exposed in the report of the external auditor. These arrangements include protocols for providing suitable and timely financial reporting to board members in addition to being related to accounting and reporting as well as the organization's internal and external communication operations (Fourie & Ackermann, 2013). Internal auditors' responses to effective internal control system are typically positive, including enhanced EMICS to the internal audit, increased effectiveness of IA (Rexhepi, 2023).

The authors are unaware of any studies relating EMICS to internal audit effectiveness. Kudus and Mustapha (2017) found that, when it came to other issues, EMICS and IAE were positively connected in Malaysian public sector, demonstrating that EMICS is a crucial component in enhancing IAE.

No studies linking EMICS to internal audit effectiveness are known to the authors. However, Kudus and Mustapha (2017) discovered that EMICS and IAE were positively correlated in Malaysian public sector organisations when it came to other issues, indicating that EMICS is a critical element in ensuring the effectiveness of IA. Some researchers believe that EMICS instils in internal auditors' a sense of reciprocal obligation toward the IA department, which influences their motivation to go above and beyond the call of duty and results in effective IA function (Kasim et al., 2016). Thus, we define the following statement:

H2: *Effective monitoring of internal control system (EMICS) has a positive effect on internal audit effectiveness.*

2.3 Detection of Fraud and Internal Audit Effectiveness

According to Anggraini and Suryani (2021), accounting fraud has three root causes: opportunity, justification, and pressure. If the opportunity exists, fraud tends to occur. According to the agency theory, the management (or agent) has a greater chance of committing fraud because the owner (or principal) has given the agent all power to carry out their duties.

Accounting fraud can be less likely to occur with an efficient internal control system and appropriate IAE. (Moyes & Baker, 2003). A study by Wilopo (2006) provides evidence in favour of the claim that IAE affects accounting frauds.

Fraud detection has increased because of the implementation of a rising number of accounting fraud and misstatements as well as compliance with new accounting standards that are more difficult and fraud reporting that are being pushed back. The factors that influence IAE (Rudhani et al., 2017) (Sweeney and Pierce, 2004). The detection of fraud, Okoye (2016) noted as having an impact on the effectiveness of internal audit function.

Detection of fraud and IAE were discovered to be positively correlated in earlier investigations. For instance, Khan et al. (2020) reportedly linked their findings to the fraud detection and IAE, whereas Law (2011) linked them to the internal auditor's abilities to perform effective internal audit function. Motubatse (2014) also tested the impact of fraud on organisation and discovered that it results in a more potent effect of fraud detection on the ineffectiveness of internal audit function. Thus, we define the following statement:

H3:*Detection of fraud has a positive significance on internal audit effectiveness.*

2.4 Usage of Information Technology and Internal Audit Effectiveness

Information tech is the process of gathering and evaluating evidence to determine whether a computer system has been prepared to uphold data encryption, safeguarding of assets, enabling the effective achievement of organizational goals, and wisely using resources (Fitrawansyah, 2015)(Bagranoff, 2010; Fauzi, Rizwan et al., 2021; Fitrawansyah, 2015; Taylor & Todd, 1995).

Furthermore, the UIT is crucial in providing an effective internal audit unit. Information and communication technology (ICT) may call for a better platform for internal auditors to highlight the various issues with the organization's inf tech (Ali et al., 2018). Inf tech with the effectiveness of internal audit is necessary for the internal auditor to help reduce financial statement fraud, corruption, and misstatement. Internal auditors can get the right information from the top management using efficient Information Technology (IT), which helps to carry out IA tasks correctly. IAE may be impacted by the UIT, to put it briefly.

Additionally, the use of IT has had a big impact on IAE thanks to an online audit system that was useful when staff were working from their various homes during the pandemic era (Covid-19). IT is widely acknowledged in all facets of corporate governance and the public sector, including MDAs in the Nigerian state of Kano. Its importance cannot be overstated. The basic operations and functions of MDAs and other corporate governance are related to IT transformation and growth over the past ten years (Bierstaker et al., 2001). The implementation of financial information by the private and public sectors using information technology (Al-Fehaid & Higson, 2008). IT is a tool that the auditors use to assist in carrying out their daily tasks.

Internal auditors encounter several challenges during the audit process, including limited access to meet with staff members and obtain the information tech they require to carry out their duties on the grounds that certain data is private or confidential or some workers are not subject to this. These challenges were noted by Alzeban and Sawan (2015) and Shuwaili et al. (2023). IIA 2017 affirms that "internal audit activity must be free from interference in determining the scope of internal auditing, performing work, and communicating results"; additional services that could taint the auditor's impartiality and scepticism must be unacceptable (Essienubong, 2018; Nicolas et al., 2021); therefore, it is necessary to reveal these interferences and discuss about their implications.

Few research Almahuzi (2020), Alqaraleh et al., (2022), and Popoola (2017) examine the association between this usage of information tech and internal audit effectiveness; the majority examine the correlation between UIT and internal audit effectiveness. According to Abbott et al. (2016), one important and distinctive component of a high-quality internal auditing outcome is independence. Demeke and Kaur (2021) discovered a lack of significance in the association between UIT and internal audit effectiveness; however, these researchers focused on a narrow population in Ethiopia. However, Singh et al. (2021) discovered a favourable correlation between UIT and internal audit effectiveness. Thus, we define the following statement:

H4: *Usage of information technology has a positive significance on internal audit effectiveness.*

2.5 Internal Auditors' Ethical Conduct and Internal Audit Effectiveness

The truth is that certain unethical behaviours emerge from professional knowledge and competency gaps brought on by the incapacity of IA staff members with professional skills and scepticism (Umar et al., 2019). Internal auditors can prevent such unintentional, unethical conducts and, in turn, help to accomplish IAE when they have sufficient professional knowledge and skill (Smith & Quirk, 2004). Additionally, the presence of strong top-level support may

enable internal auditors to act ethically out of concern for victimization, which may ultimately lead to IAE (Ma'ayan & Carmeli, 2016).

It is assumed that the internal auditor will base his ethical conduct on the fact that he finds the organizational factors to be extremely poor. Therefore, insufficiently skilled employees, a lack of top management support for accepting and implementing the recommendations provided by the IAD, a lack of cooperation among internal auditors, and insufficient training and development can all be significant factors that encourage an internal auditor to behave ethically (Abdulai et al., 2021). In this aspect, the internal auditor with professional understanding typically proves more helpful in resolving an ethical dilemma that necessitates extensive experience and red flags, however they may not always adhere to auditing standards or principles when doing so. In other words, in addition to needing ethics to carry out a specific role, an internal auditor who has a thorough understanding of the work challenges is more likely to uncover shortcomings or places for improvement (Drozd et al., 2020).

The relationship between the internal auditors' ethical conduct and the effectiveness of internal audit has not been rarely researched, as far as the authors are aware. However, Nour and Tanbour (2023) found a connection between the two variables when they examined the impact of IAEC on the capacity of internal auditors to perform effective internal audit function. They based their conclusions on the agency theory, which states that auditors make decisions founded on the idea of utility maximization, which means that the appropriate option is to keep the stakeholders by providing an audit report with no information withheld. These findings demonstrate that IAEC would be more inclined to conduct audit tests that were less thorough, and as a result, less able to spot fraud. Studies that followed this line of reasoning linked IAEC and internal audit effectiveness. Thus, we define the following statement:

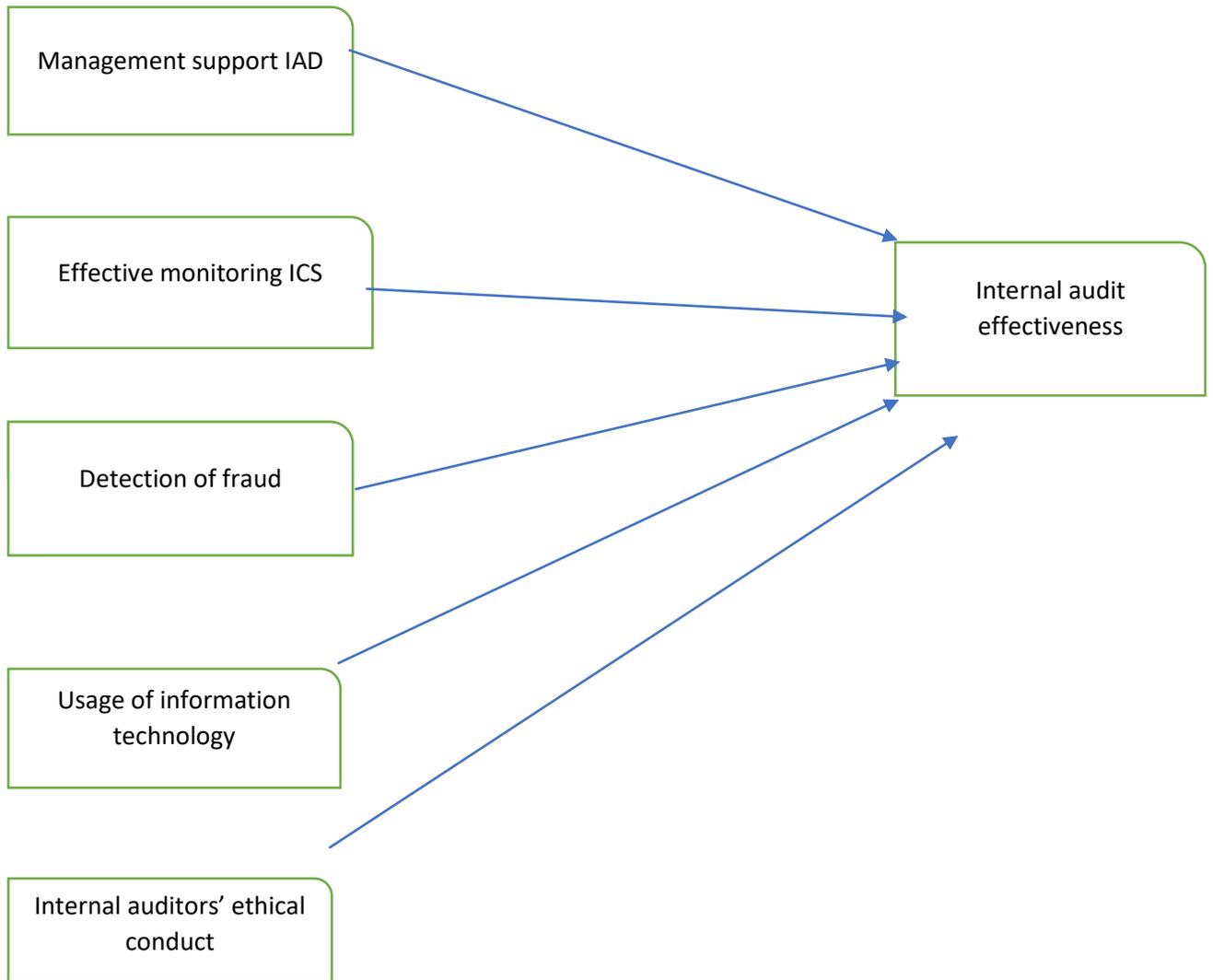
H5: *The internal auditors' ethical conduct has a positive impact on internal audit effectiveness.*

3. Methodology

3.1 Research model

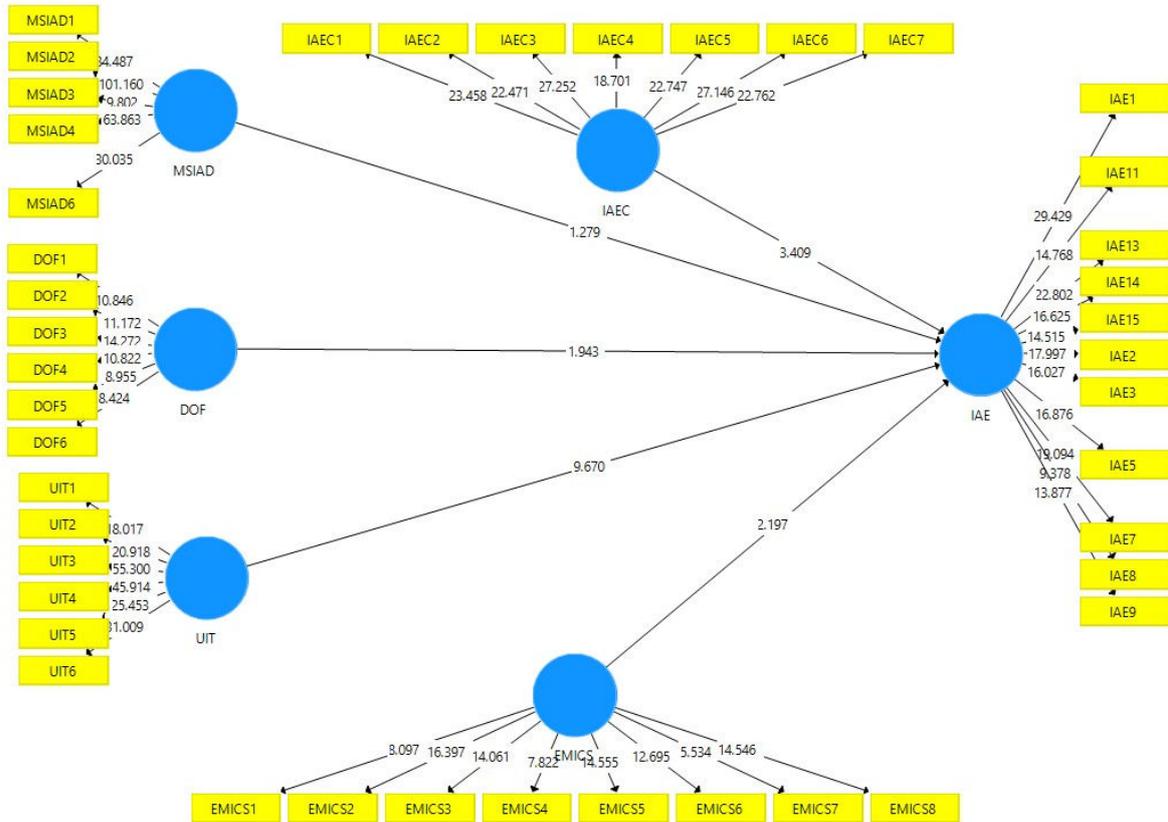
This study takes five hypotheses into account, which are shown in Figure 1, drawing on the literature review.

Figure 1 below shows how the framework is organised.



Source: Researcher's field work 2024

Path Coefficient Showing T-value



3.2 Data collection and sampling

The questionnaire was facilitated by Kano's director of internal audit agreed to send a survey package to the respondents and promised to assist in ensuring that the Chief, deputy chief, and senior internal auditors answered the survey questions within the designated time frame. Data collected electronically using a Google survey form from Nov to Dec 2023. The scales and questions were validated by three academics and one professional in the field of internal audit before made to the public. We employed the subsequent study conducted by (Podsakoff et al., 2003) to get around common method variance: (1) the cover letter outlining the study's goals, assuring participants that participation is voluntary and that their responses would be completely anonymous, listing contact information in case issues come up, and asking truthful responses to the queries; (2) the utilization of five-point Likert scales with labels for each point; (3) the use of scales that have been empirically validated, quantitative method measurement items, and questions about latent variables, ChiefInternal auditor,

deputy internal auditor and senior internal auditor from Kano state MDAs make up the study's target group. There were 172 questionnaire that was distributed and total of 168 responses were returned. The analysis of the 48 measurement indicators revealed that more than 10% of the data was missing. Our research is therefore based on a sample of 168 responses from chief, deputy chief and senior internal auditors. According to Ghaleb et al. (2020), a study framework-based sample is adequate for testing theoretical effects. Naturally, the ability to generalize the sample's results to the entire population is constrained by its sample.

The information used in this study was collected from primary sources. After being gathered from respondents through self-administered questionnaires, the data was quantitatively analysed to meet the objectives of the study. The five-Likert scale, which goes from 1 strongly disagree to 5 strongly agree, was used to code the respondents.

3.3 Measurement of Variables

IAE was measured using fifteen (15) items modified from the work of Alzeban and Gwilliam (2014) on a Linkert scale ranging from 1 (strongly disagree) to 5 (strongly agree), MSIAD was assessed using six (6) items modified from Alzeban and Gwilliam (2014) on a Linkert scale from 1 (strongly disagree) to 5 (strongly agree). Eight (8) items, taken from Fourie and Ackermann (2013), were used to assess EMICS.

Six (6) questions from Association of Certified Fraud Examiners (2018) were used to measure DOF. Using a six-item scale modified from Bagranoff (2010) and Davis et al. (2010), UIT was assessed. A seven-item scale that was modified to suit the demands of this research and adapted from Adekoya et al.'s (2020) work was used to measure IAEC. With a five-point Likert-type scale ranging from one (strongly disagree) to five (strongly agree), IAE, MSIAD, EMICS, DOF, UIT and IAEC were evaluated.

The respondent's mean item response was used to calculate the construct scores for IAE, MSIAD, EMICS, DOF, UIT and IAEC. The scores for each item were added up to determine the IAE scores. We adopted their strategy when creating the original scales.

Using the Smart PLS 3.0 software (Ringle et al., 2015), PLS-SEM was employed to evaluate the measurement variables' effectiveness and test the five study hypotheses.

4. Empirical results

4.1 Measurement model

Table 2 lists the criteria used to judge the measurement model, including the Cronbach's alpha, item loadings, Average Variance Extracted (AVE) and composite reliability (CR) are two examples. The fact that each variable's composite reliability is within the permitted range of 0.7 to 0.90 confirms the internal consistency dependability of all constructs (Hair et al., 2019). The AVE and the items' standardized factor loadings provided evidence of the constructs' convergent validity. By maintaining the indicators with outer loadings between 0.4 and 0.708 and the items with outer loadings above the cut-off of 0.708, the original scales were improved through an interactive process. This demonstrated that the constructs' composite reliability or AVE did not fall below the suggested threshold figures (Hair et al., 2017). Hair et al. (2019) report that the AVE of the first-order structures is greater than the 0.5 cut-off threshold.

It is confirmed that discriminant validity exists. First, for each of the constructs, the AVE's square root ought to be larger than the construct with the highest association (Fornell & Larcker, 1981) reported by (Sarstedt et al., 2023; Voorhees et al., 2016).

According to the findings (Table 3), all constructions meet the Fornell and Larcker criterion. All conceptually distinct notions have Heterotrait-Monotrait (HTMT) ratio values less than 0.85, as shown in Table 3 (Hair et al., 2019). The concepts of EMICS and MSIAD are like one another. The two structures' HTMT value is below the cut-off point of 0.90 in this instance (Hair et al., 2019). Therefore, the discriminant is further supported by the HTMT criteria validity of the test. We used two of the approaches indicated in Hair et al. (2017) to validate the finding. First, we investigated any potential concerns with collinearity between the IAE and DOF constructs. According to Table 4 (Hair et al., 2017), the Variance Inflation Factor (VIF) values are below the 3 conservative level. In the following stage, we evaluated the importance and applicability of the constructs. The findings demonstrate the statistical significance of the weights of the correlations between the variables, and in some instances, the strength or moderateness of the link is relatively high.

Table 1. Evaluation of the Measurement Model

Constructs	Cronbach's Alpha	Items	Cross-Loading	Composite Reliability	AVE
MSIAD	0.864	MSIAD1	0.961	0.951	0.664
		MSIAD2	0.970		
		MSIAD3	0.609		
		MSIAD4	0.960		
		MSIAD6	0.912		
EMICS	0.865	EMICS1	0.687	0.890	0.506
		EMICS2	0.791		
		EMICS3	0.728		
		EMICS4	0.668		
		EMICS5	0.762		
		EMICS6	0.699		
		EMICS7	0.571		
		EMICS8	0.761		
DOF	0.898	DOF1	0.721	0.922	0.664
		DOF2	0.877		
		DOF3	0.846		
		DOF4	0.874		
		DOF5	0.769		
		DOF6	0.791		
UIT	0.948	UIT1	0.890	0.959	0.797

		UIT2	0.755		
		UIT3	0.951		
		UIT4	0.940		
		UIT5	0.909		
		UIT6	0.899		
IAEC	0.925	IAEC1	0.790	0.939	0.688
		IAEC2	0.825		
		IAEC3	0.876		
		IAEC4	0.769		
		IAEC5	0.826		
		IAEC6	0.875		
		IAEC7	0.840		
IAE	0.922	IAE1	0.806	0.932	0.555
		IAE2	0.793		
		IAE3	0.715		
		IAE5	0.776		
		IAE7	0.771		
		IAE8	0.674		
		IAE9	0.668		
		IAE11	0.745		
		IAE13	0.773		
		IAE14	0.763		
		IAE15	0.694		

Source: Researcher's field work, 2024

Table 2. Discriminant Validity FORNELL-LARCKER CRITERIOR

	DOF	EMICS	IAE	IAEC	MSIAD	UIT
DOF	0.815					
EMICS	0.401	0.711				
IAE	0.261	0.547	0.745			
IAEC	0.481	0.434	0.488	0.829		
MSIAD	0.313	0.561	0.390	0.597	0.893	
UIT	0.363	0.609	0.719	0.476	0.467	0.893

Source: Researcher’s field work, 2024

Table 3. HETEROTRAIT-MONOTRAIT RATIO (HT-MT)

	DOF	EMICS	IAE	IAEC	MSIAD	UIT
DOF						
EMICS	0.456					
IAE	0.287	0.564				
IAEC	0.542	0.453	0.504			
MSIAD	0.342	0.613	0.421	0.643		
UIT	0.394	0.673	0.704	0.499	0.498	

Source: Researcher’s field work, 2024

4.2 Structural model

Prior to the structural model's evaluation, the existence of a collinearity issue between the independent variables was analysed. The VIF values varied from 1.396 to 1.958 below the proposed critical value of (Hair et al., 2019). The R² criteria allows the explanatory power of the model to be assessed and shows the predictive capacity of the model by calculating the variance of the dependent variable that is explained by the independent variables. According to Hong et al. (2006), the R² for the IAE was 0.568, which was above 50% which have a high score (Hair et al., 2017). We next calculated the Stone-Geiser's Q² measure using a blindfolding technique with a 9-omission distance to evaluate the predictive significance of the model. The Q² value was 0.135, and because it is more than zero, it provides proof that the model has only marginal predictive ability (Hair et al., 2017).

Finally, the statistical significance of the standardized beta values of the path coefficients, which indicate the contribution of several independent latent variables to the explanation of the variance of the dependent latent variable (Table 6). The findings indicates that MSIAD and DOF have a detrimental impact on IAE. The likelihood that internal auditors may act inappropriately is significantly reduced by time constraints. We discovered that UIT, IAEC, EMICS, and DOF respectively are the four factors that have the most influence on how well an internal audit is conducted. Finally, the findings reject the hypothesis that MSIAD is a contributing element influencing the calibre of internal audit.

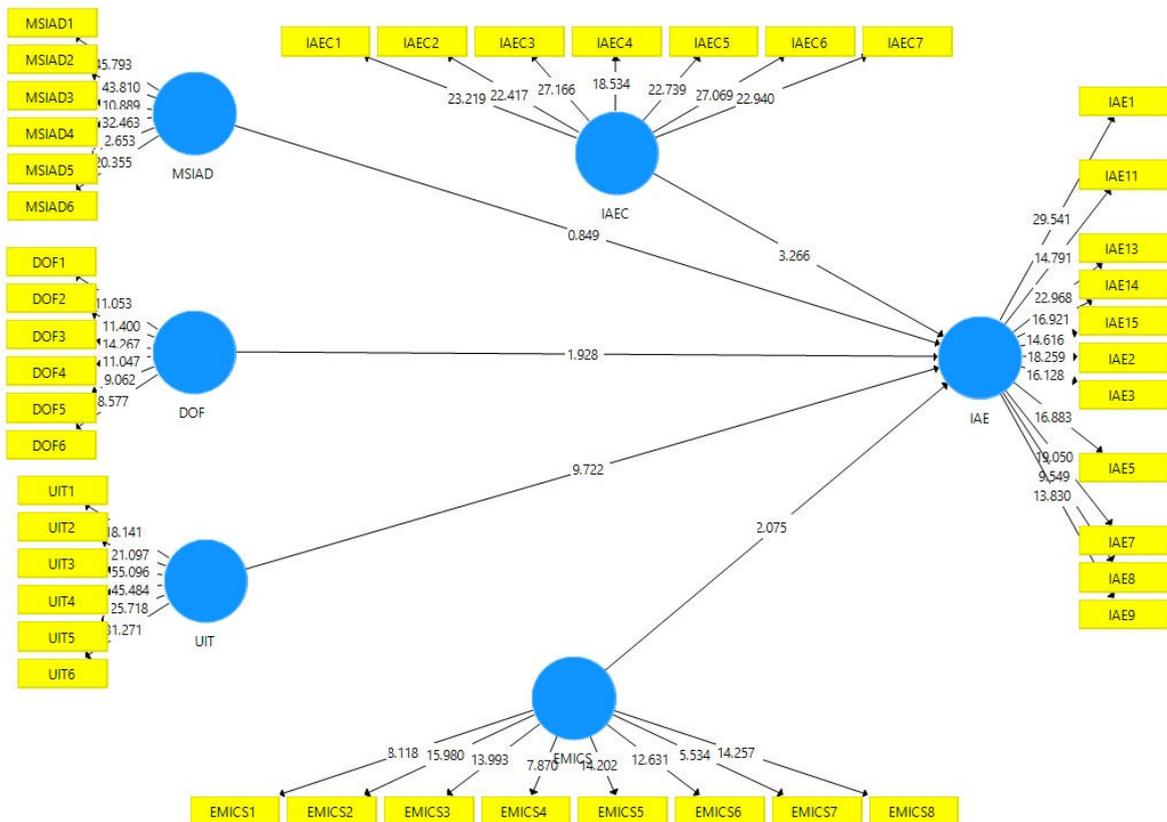


Table 4. Predictive relevance (Q^2)

Endogenous constructs	SSO	SSE	$Q^2 (=1-SSE/SSO)$
IAE	1328.000	1143.921	0.139
IAEC	1162.000	797.503	0.314

Source: Researcher’s field work, 2024

Table 5. Coefficient of determination (R-Squared)

Endogenous	R-Squared
IAE	0.568

Source: Researcher’s field work, 2024

Table 6. Structural model assessment

Structural relations	Path coefficient	t-statistics	p-values	Decisions
H1: MSIAD → IAE	-0.094	1.279	0.201	Rejected
H2: EMICS → IAE	0.192	2.197	0.028	Accepted
H3: DOF → IAE	-0.110	1.943	0.052	Accepted
H4: UIT → IAE	0.571	9.670	0.000	Accepted
H5: IAEC → IAE	0.242	3.409	0.001	Accepted

Source: Researcher’s field work, 2024

4.4 Discussion of the Results

The finding of this study is unable to demonstrate H1, using the calculated coefficient. According to the literature, MSIAD has a negative effect on IAE and the outcome of the finding is not also supported, if the internal auditor felt that

their employer valued and supported their work (Adeyemi & Olarewaju, 2018; Saputra et al., 2020; Ajao & Oluwadamilola, 2020). Since the EMICS variable's considering that the mean score was 4.67, which is a moderate value, the internal audit effectiveness should be anticipated considering two distinct conditions. Internal audit departments have a long way to go before they can fully realize the potential of rewards both internal and external, which ought to encompass the various kinds of internal rewards (Singh et al., 2020). The development of professional activities skilfully and meticulously is the second. The management does not always support the determinants of IAE Ratmono and Darsono (2022), and in some situations, this is the cause of the non-adoption of professional standards (Khan et al., 2023). Our H1 was not supported despite this background, which may be understood by looking at people's inherent traits. Alias et al. (2019) asserts that those with strong ethical and personal standards typically gravitate toward effective IA function. Internal auditors may be encouraged to refrain from acting negatively in their profession because of the potential for poorer recognition if they are aware of the importance of internal auditing in enhancing corporate governance. The internal auditors' commitment to serving others makes it likely that their satisfaction as professionals in doing their tasks effectively and correctly is further important compared to how others perceive the worth of their work.

Understanding how top management and internal auditor's factors affect the effectiveness of IA was the goal of this work. EMICS, according to H2, has a significance effect on IAE. According to the findings, it is supported, which is consistent with those of Ajao and Oluwadamilola (2020), who discovered a positive connection between EMICS and IAE. Internal auditors that likely feel part of the company are more likely to ensue misconduct that degrades the standard of internal auditing. Compliance with internal auditing standards can be under looked. Our findings ought to motivate top management and shareholders of issues that affect the selection, participation, and loyalty of internal auditors to pay more attention to them.

The synergy between the effective monitoring of internal control system and the values of each internal auditor should be the first point of emphasis. A collection of people's shared values, beliefs, and behaviours are represented by the EMICS. management influences internal auditors' ethical conduct and is frequently a key factor in luring and keeping these experts (Kahyaoglu et al., 2019). An essential factor in lowering the ineffectiveness of IA function may be the creation of a strong ethical culture. To achieve this goal, formal tools such as a code of conduct that has been adopted and effectively internalized or orientation and training programs may be useful.

Second, the findings imply that full integration of the work done by internal auditors improves IAE. Management support is the readiness to put out individual initiatives for the benefit within the organization to enhance IA function (Alqudah et al., 2019). Several initiatives in internal auditing are likely to demonstrate how level of internal control affects internal auditor's effectiveness. According to the results of the most recent IIA international survey, professional standards are occasionally not followed because of their complexity and a lack of qualified internal audit employees (Koutoupis & Tsamis, 2009). Internal auditors can overcome these obstacles if they persevere, look for information to demystify complexity, or engage in their own advancement. Internal auditors cannot, according to Wilfred et al. (2014), only bide their time until more employers, particularly those in smaller internal audit teams get the training, are offering. The top management's efforts to comprehend stakeholder wants and what must be done to satisfy them also demonstrate initiative on the part of the organization. This means aligning the company's strategic objectives with the assurance, insight, and goal-advising work done by internal audit. Internal auditors contribute value in this way, which is a powerful indicator of their commitment to the organization coupled with enhanced management support. Highly engaged internal auditors are not as inclined to act that damage investors trust or result in professional standards not being followed. Internal auditors who are actively involved in the organization instead want to work more arduously, innovatively, and sincerely regarding the company and its objectives (Silviana & Zahara, 2015).

Third, the findings imply that compliance with international auditing standards and management support can improve IAE. One of the profession's current imperatives is to keep good team members (Diya, 2022). To achieve this goal, tools that support the satisfaction of the internal auditors will be used. Internal auditors are motivated to want the best for the organization when they feel like they are part of it. This rationale applies to internal audits which entails completing their expertise obligations with greater fervour, elevating the practice of the IIA's requirements necessitate higher levels of appropriate professional care (IIA, 2017c). Internal auditors that are wary are less likely to use irregular procedures, forget to properly record their work, lose sight of their tasks, or disregard the demands and expectations of the organization. When internal auditors commit more time to the organization, internal audit effectiveness increases.

Data corroborate the prediction made in H3, that detection of fraud and IAE will be positively correlated. Internal auditors whose primary duty to safe guide assets and internal control system stick to allotted professional duty exhibit dysfunctional behaviour. The ever-changing corporate landscape and organizational modifications necessitate frequent adaptations to the audit plan Gansberghe and Nordin (2005), making internal audit activities rather

unpredictable. Even though internal auditors are required to carry out a greater range of duties, the number of internal auditors is not necessarily what is needed to satisfy criteria. The audit processes are not significantly supported by Tazilah et al. (2019), or the technology employed, notably instruments and methods for computer-assisted auditing (Ahmi et al., 2017). These elements raise the likelihood that the inability of internal auditors to complete tasks by detecting fraud. Our research shows how crucial it is for firms to consider the function and approach of internal auditing to make those elements clear, frequently observed, and communicated all through the organization.

Since some of the tasks carried out by internal auditors, such as identifying and looking into dishonest tactics, takes professional conduct (Okoye & Mbanugo, 2020). Businesses may need to spend more to detect fraud to increase audit effectiveness (Burnaby et al., 2011). The internal audit function's performance evaluation measurements naturally contain a variety of internally focused indicators pertaining to meeting compliance goals because organizational financial resources are limited (Zammit et al., 2021). Thus, a possible conflict could arise between the need to keep up high standards of auditing compliance with auditing requirements and the demand to detect fraud. According to our research, internal audit work plans should comply with audit standards to detect fraud to encompass all duties which increase as well as safeguard corporate principles which enable help firms carry out their missions and reach their objectives. The chief internal auditor and his deputy must create a strategy that prioritizes the tasks in line with the objectives of the company, according to the IIA's 2010 criteria (IIA, 2017b).

However, according to Harrington and Piper (2015), fewer than half of departments of internal audit regularly update their audit plans, which are not necessarily based on the strategic plan. The issue of fraud detection is crucial for the effectiveness of internal audits because of the difficult and complex tasks faced by internal auditors' face (such as threat of being dismissed) and the increased contact with stakeholders (such as the audit committee). Our research demonstrates, in conclusion, that internal auditors may take or refuse to take activities that jeopardize IAE to complete a task on fraud detection.

The data are consistent with H4, affirming to the findings of Cilli (2004) as well as Alkebsi and Aziz (2017) conclusions that usage of information technology enhances internal audit effectiveness. It can be inferred from this that internal auditors perform their jobs more effectively when they are not intimidated or fear reprisal for doing so. Internal auditing must be independent in accordance with the IIA's 1100 criteria IIA (2017b), which is characterized by the absence of circumstances that could jeopardize internal auditors' capacity to carry out their duties objectively. Since internal auditors frequently work for the company, they

internal audit, this can cause issues with their freedom of thought and action, the way they present their findings, and how they interact with other internal audit staff.

Additionally, internal auditing carries out assurance, insight, and unbiased advice-giving tasks (Alimoradi & Ahmad, 2019). Internal auditors' independence may be jeopardized by the effects of these actions, which can occasionally make them fearful. According to the most recent international study conducted by the IIA, 24% of auditors experience frequent pressure to modify their audit conclusions (Hegazy & Farghaly, 2017). Non adherence to the growing technology can result in a variety of consequences, including spread of misinformation, less personal time, and low communication among people (Oyebode et al., 2022). Our results support the idea that UIT is an essential component of internal auditing. Organizations can improve the effectiveness of internal auditors by setting up the conditions and establishing the structures necessary to support internal audit work.

Lastly, we were able to empirically demonstrate H5. Internal auditors must frequently exercise professional judgment when carrying out their duties, and this judgment may be influenced by how internal auditors' ethical conduct (Iankova Natchkova, 2019). The agency theory and policemen theory holds that internal auditor's attitude toward a conduct is a function of his or her ideas regarding the likely outcomes of the deed and believes that the purpose of an action to be performed are immediately related to completion (Purwanto et al., 2018). The findings of this study demonstrate that IAEC is supported by IAE. According to Nour and Tanbour (2023), internal auditors' ethical conduct have an impact on internal audit effectiveness, with IAEC being linked to the characteristics of an outgoing, honest, gregarious, kind, and diligent person (Koodamara et al., 2021). This present study emphasizes how significance is further researching the influence of human behaviour characteristics, such as character attributes, soft talents, education, or experience on internal audit function. Furthermore, the findings imply the fact that internal auditors are unique, diverse, productive assets with the ability to differentiate IAE.

5. Conclusion

The findings of this study demonstrate that EMICS, DOF, UIT and IAEC have a significance impact on IAE. Furthermore, when internal auditors adhered to internal auditing international standards, the likelihood of experiencing the effectiveness of IA rises. The findings, however, do not support the notion that MSIAD is a determinant of IAE. This result confirms that the agency problems as envisaged in most literature limit IA's ability to add value and enhance the organization's operations.

5.1 Research Implications

This study has four different theoretical implications. First off, this work adds to the body of knowledge on the determinants that influence IAE, a subject that has received little attention. This study is ground breaking in that it examines how the EMICS, DOF, UIT and IAEC affect the effectiveness of internal auditors, except for MSIAD. Additionally, the findings indicate that UIT, IAEC, EMICS, and DOF respectively are the four determinants that have the most influence on the effectiveness of internal audits. As a result, our research demonstrates that the EMICS, DOF, UIT, and IAEC are factors that influence the effectiveness of internal audits.

Second, regulators' concerns and regulations as well as a variety of factors that influence stakeholders' demands for IAE on how well the internal audit function works. By recognizing traits that internal auditors have personally motivated to provide IAE, this study contributes to Kano state internal audit and Nigeria at large.

Third, the concept of IAE is complicated and is perceived differently by various stakeholders in governance. This study focuses on the internal auditor's perspective while they carry out their duties, a research trend that has not been widely noticed in the literature. However, internal auditors' assessments of their own wrongdoing provide another means to compare the calibre of their job on alternative indicators, for instance, internal auditing quality.

Fourth, there are various IAE measurement scales. Internal auditors' professional judgment and conduct may raise ethical questions, according to the factors that determine internal audit effectiveness. Our findings highlight the significance of researchers not concentrating on technical expertise, experience, and education as key components of IAE along with the internal auditors' ethical capabilities.

The model of measurement identified numerous things possessing satisfactory degrees of reliability. Regarding the methodological implications, we created a scale based on literature to quantify IAE. The external audit effectiveness literature makes use of the IAE measurement. To the best of our knowledge, this study is the first to adapt this statistic for use in the internal audit effectiveness. Additionally, we applied PLS-SEM approach, a data analysis tool of the second generation that allows for more precise estimation of second-order structures and greater understanding of more complex measurement as well as structural models. Ordinary least squares regression, for example, has been employed in previous investigations.

This study can help internal audit departments be managed more effectively. Internal auditors acknowledged that their performance was not always as intended. Three things follow from this discovery.

To begin with the IIA's 1300 standard's recommendations for quality assurance and improvement programs should be developed and maintained by internal audit departments, which is first stressed by this. According to The Common Body of Knowledge in 2015, Coetzee and Fourie (2019), practically internal audit units do not follow professional standards in two thirds of cases on the effectiveness of internal audits. Our research demonstrates the urgent necessity to implement continuing monitoring initiatives, regular self-assessments, or external evaluations to enhance IAE.

Furthermore, to improve internal audit effectiveness, firms can address the factors that affect internal auditors' performance by using the knowledge our study offers on these factors. Alternative strategies for raising IAE, particularly in smaller internal audit units, can include the creation of challenging policies that enhance MSIAD or lessen commitment of fraud and ensuring adequate adherence to internal control systems. According to Mail et al. (2014), firms may use insight management techniques that, for instance, entail moral considerations, societal ideals, and value judgments based on familiarity with ideal internal auditing procedures.

In conclusion, the audit committee uses the findings of the internal audit to help it improve governance, risk management, and internal control. Regarding, the interests of the audit committee ought to be appropriately expressed in line with the performance of internal auditors. The findings of our study show how crucial the audit committee's creation and execution of internal policies are to enhance the effectiveness of IA to improve IA functions. Improving soft talents among internal auditors to lessen the impacts of tension, providing a budget that aligns with internal audit's duties, and other measures may be included in these policies. A top-notch internal auditing is a component certainty, counsel, and a useful tool in enhancing public sector processes and adding value to the aspects of the business that are most important.

The study has policy implications, to sum up. The findings demonstrate that UIT has a favourable effect on IAE. The governing councils frequently finds internal audit results to be inconvenient, as well it is not always the case that internal auditors answer to an impartial internal committee in a functional manner. Internal auditors are reportedly under intense pressure to alter or conceal audit findings, according to the common body of knowledge in 2015 (Seago, 2015). To lessen opposition towards the function as well as responsibilities of regulators and internal auditors and government MDAs in Kano state Nigeria should develop

regulations that enhance public sector by elevating the position of the internal audit department within firms.

A mandated systems of external quality control for internal audit work performed by an outside team or internal auditors may also be implemented by the regulators of the businesses that have the most economic impact. The idea that internal auditors must be genuinely professional may be strengthened by this. Because IAE is prioritized, internal auditors are better able to recognize and address the most important problems within the business.

5.2 Research Limitations and Directions for the Future

The fact that "political correctness" might have affected how the items were measured was a study weakness. By using the social desirability measure, future studies might regulate the direct effects of social desirability on outcomes. Examining additional elements, future research endeavours could benefit from examining topics including the ethics culture, employment of artificial intelligence, career prospects inside the organization, and the nature and training of internal auditors may prove beneficial.

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