



Internal Audit Values and Fraud Detection: An Empirical Analysis

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Globally, organizations have various challenges of fraudulent activities and exposure to fraud risk irrespective of size, location or sector. Fraud is not a new phenomenon, it occurred from centuries with numerous high profile cases, and these are perceived to have adversely affected company's profitability, corporate governance, dividend, and business growth, this calls for study on how Internal Audit Values (IAV) can influence timely Fraud Detection (FD). Many researches have been conducted on fraud and FD, but not many considered the influence of IAV in their study. This study considered the probable influence of IAV on FD in Nigerian Manufacturing Industries (NMI). Survey research design was adopted with population study of 19,443 workers in ten selected industries in Nigeria manufacturing sector. 392 sample size was determined and questionnaire administered, this gives 86% response rate. Descriptive and inferential statistics were used to analyze data at 5% level of significance. The study revealed that IAV positively influenced FD ($Adj.R^2=0.857, F_{(3, 337)}=667.489, p=0.000$). The study concluded that IAV influenced and has significant impact on FD in NMI. The study further recommends that independence of internal audit unit and quality of audit

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team should be guaranteed. Opportunity that enhances capability should be flagged and promptly investigated, internal control mechanism should be re-enforced to mitigate fraud while technological monitoring devices should be adopted.

Keywords: Corporate governance; fraud; fraud detection; internal audit value; internal control.

1. INTRODUCTION

Globally, organizations have various challenges of fraudulent activities and exposure to fraud risk irrespective of size, location or sector. This occurred in different forms and gravity with negative impact on the image, financial, reputation, social and psychology of individual or organization. Fraud is not a new phenomenon, it occurred from centuries with numerous high profile cases. This has led to collapsed of many high profile organization likes Pamalat (Italy), Satyam (India), HIH Insurance (Australia), Barings Bank and Equitable life (United Kingdom), Worldcom, Adeptia Communication Corporation, Lehman Brothers, Tyco International Limited, Enron, and Bernie Madoff scandals (United State of America), Cadbury and Nampark, (Nigeria) and others [1]. However, the management, auditors (internal or external), and audit committee have significant roles to play in Fraud Detection (FD) and minimization of fraudulent activities. Fraud is any illegal act, deceit or violation of trust by individual to gain undue advantage over others. Fraud is stealing by deceit and tricks, to cheat, or gain unjust or illegal advantage over another person [2]. In business environment, fraud is an intentional act, deception, misappropriation of company assets or window-dressing of financial statements to the advantage of the perpetrators [3,4].

Corporate accounting scandal, dishonesty, material misstatement and illicit deals are some of the critical challenges to company's profitability, corporate governance, dividend, and business growth. Likewise, fraud has far reaching consequences on the organization, it reduce confidence, lead to insolvency and liquidation, creates atmosphere of hardship for shareholders and stakeholders, loss of jobs and investments, affect citizens cost of living, and nation's growth in general. These consequences have necessitated the shareholders, management and investors to focus attention on corporate governance and see Internal Audit Values (IAV) as critical part of corporate governance process to reduce the persistent challenges of fraudulent act. Internal auditor role of detecting fraud are in two areas of intentional misstatements: fraudulent financial reporting

misstatement, and misappropriation of assets misstatements. Assakaf, Samsudim and Otman [5] and Chang et al. [6] reported that basic reason for persistent fraud is because at time, perpetrators go undetected or discovered several months later without any form of punishment, therefore to combat fraudulent act, it required timely detection by competent internal audit team with quality internal audit unit and independence of internal auditor.

In addition, Dezoort and Harrison [7], reported that fraud detection is an important role for internal auditors. This is achieved by instituting various forms of controls to reduce incidence of fraud and instill culture of honesty, ethics and integrity. In addition, auditor responsibility to detect fraud depends on his independency, competency, skillfulness, experience and quality of audit team and attitude of professional skepticism throughout the audit process to identify frequency of fraud committed. Risk of auditor not detecting material misstatement from fraudulent activities is higher than risk of not detecting material misstatement from errors. Likewise, risk of auditor from not detecting material misstatement that result from management fraud is greater than employee fraud. Therefore, internal audit is an independent objective assurance and consulting activity designed to add value, detect fraud and improve the organization's operations [8]. Internal auditors are watchdog on the organization's operations, activities, rules and assets. They deter wasteful spending, inefficiency, mistrust, theft, fraud and non-compliance to established rules, regulations, and policies. Demirovic, Isakovic-Kaplan, and Proho [9] opined that internal auditor's role on fraud detection depend on fraud assessment in internal audit planning process and work engagement. Similarly, internal audit is an independent unit within an organization saddled with responsibility to provide independent expert opinion and recommendations on efficient internal control, organization procedure and adequacy of established risk management process in order to achieve organization goals and objectives.

Studies had been conducted on fraud detection with other independent variables likes forensic

accounting/auditing [10-13], in other sectors likes public sector [5,14-16], university [17,18]; data analytics [19]; deposit money bank [20]; external auditor [21]; internal audit with other dependent variables likes corruption [22,23]; internal control [6] but with less focused on internal audit values and manufacturing industries. However, the objective of the study is to examine the influence of IAV on FD using Nigerian manufacturing industries as case study. Manufacturing industry is one sector vulnerable to fraud. Its environment gives suppliers, contractors, agents, workers and management the opportunities to perpetrate different forms of fraud. This calls for study on how IAV can be used to influence FD. This study would assist to reveal the influence of IAV on FD and also, makes appropriate recommendations on FD strategy, internal controls and internal auditor responsibility to enhance company's profitability, confidence and business growth. In order to address the study, the research hypothesis, which suggest a tentative answer to the problem or question under investigation was tested at 0.05 significance level.

1.1 Hypothesis

H₀1: IAV does not contribute significantly to FD in manufacturing industries in Nigeria.

This hypothesis was designed to explain the influence of IAV on FD using Nigerian manufacturing industries as case study. IAV play a vital role on FD. Despite the various measures taken by management to enhance organization performance, fraud still posed serious challenge to organizational growth, financial liquidity and shareholders wealth maximization. If fraud acts are not timely detected and guided, this might leads to operating losses, insolvency, and company's liquidation. Finding solutions to this problem of fraud in an organization and adopting mechanisms to timely detect or minimize it with the aid of internal audit values, is the knowledge gap which this study tries to fill. Other part of the paper is divided into four sections, review of extant literatures in section two, methodology in section three, section four is for data analysis and discussion of findings, while the last section focus on summary, conclusion and recommendations of findings.

2. REVIEW OF EXTANT LITERATURE

2.1 Conceptual Review

2.1.1 Fraud

Fraud in generic terms embraces varied means of human trick. It is a colloquial and technical

word to describe dishonesty and harmful behaviour. Fraud is an intentional act, deceit, suppression of truth, cunning behaviour, tricks or dishonesty by one or more individuals among those saddled with responsibilities, to obtain unjust or illegal advantage over others. It is an intent to deceive with false statement in which other parties relied upon and caused damage or financial loss. Olaoye and Adekoya [1] opined that fraud has led to financial distress and poor performance of many organizations, this cut across countries, races, sectors, religion or human. Fraud exposes organization to significant financial risks with negative impact on its profitability and growth [19]. Fraud is violation of trust, it is costly and has negative effect on the reputation and credibility of the auditing plans and process. Fraud are committed basically through, pressure (motive), opportunity (ability to perpetrate fraud) and rationalization (fraudster's justification for the dishonest behaviour). Association of certified fraud examiners (ACFE) classified fraud into three: corruption, asset misappropriation, and financial statement fraud. Asset misappropriation is an act of stealing, dishonesty, misuse or concealment of organization assets or resources. Corruption is an intentional act by individual to violate his duty for personal benefit. Financial statement fraud is intentional act of misstatement or omission of vital material information in the organization financial reports.

2.1.2 Fraud detection

FD is a critical factor in anti-fraud strategy, it involve prevention, detection, and investigation. FD is the process of spotting signs or signals of possible fraud and mechanism to stop such at the earliest time. It involves the process to uncover, reveal, or identify existence of fraudulent acts in an organization. According to Wahidahwati and Asyik [21], FD is a process to disclose illicit action that are intentionally carried out which resulted into material misstatement. Fraud should be recognized in time and quickly investigated for further actions. To detect fraud could be by indicators symptoms or red flags such as tips, accounting/analytical anomalies, internal controls irregularities, or employee behavioral changes. FD becomes important where fraud prevention failed. Besides, too much controls to thwart fraud could affect effectiveness and efficiency of business operation. But, there is need to balance the risk of potential fraud and efficient business operation to achieve profitability and growth. FD reduces exposure to

fraudulent activities and fraud associated cost while timely detection enhances confidence, profit, dividend payment, and business growth.

2.1.2.1 *Fraud detection techniques*

According to Crain et al., [24], five methods of detecting fraud in an organization are as follows:

1. Tip lines – Anonymous tip line is one of the most effective ways to detect fraud in an organization. Tip should be incorporated into employee training and should directly be linked to internal auditor for instant action.
2. By internal auditors – fraud could be detected by internal auditors in the course of their routine audit exercises. Internal audit plays a critical role as watchdog where suspicious activities are flagged and investigated.
3. By accident – this is a passive fraud detection approach where fraud is discovered by confession, accident or tips by others. This occurred where fraudsters make mistakes to cover their tricks and expert spots such and report.
4. By dedicated department – organization at time, create compliance or investigating department. This department operates independently and report to higher officer likes chief controller, internal auditor or compliance officer on irregularities or fraud.
5. By external auditors – external auditors at time detect fraud in the course of their engagement. It is expected that external auditors conduct their audits using best professional method and assurance that financial statements are free from material misstatements from error and fraud.
6. By whistle blowing – this is unanimous report on fraud and it is critical to fraud detection.

2.1.3 **Internal audit values**

Internal audit is a service delivery unit in an organization that support management to reduce risk of fraud, abuse and compliance with standards and ethical principles in audit engagement. According to IIA [8], internal audit is a catalyst to improve organization governance, risk management and controls, to provide insight and recommendations based on analyses and assessment of data. Audit unit provides insight and objective assurance that established internal

controls are working perfectly to deter associated organizational risks and ensure corporate governance and fraud management, and also achieved organizational goals and strategic objectives. Internal audit forms a critical part of the organization ethical culture and corporate governance structure to detect or minimize fraud by identifying red flags which show sign to commit fraud and take instant action to investigate. These ethical principles are the basic values, and these are independence, integrity, skill, competency, knowledge, and professionalism. According to Coram, Ferguson and Moroney [25], internal audit add value through improved controls and monitoring within an organization to detect and report fraudulent activities. An increase in IAV will enhance the ability to detect fraud. However, organization having internal audit are more likely to detect fraud in the course of their primary assignments than those without internal audit. Eulerich, Henseler & Kohler [26], reported that IAV are driven by various stakeholders' expectations and the ability to meet these expectations. Internal audit value is based on three elements: these are assurance, insight, and objectivity. Audit unit provides assurance on organization operations, governance, control process, and risk management to achieve strategic operational financial and compliance targets. It also provides insight or catalyst on how to improve organization effectiveness and efficiency through qualitative analysis and assessment of business operation. Thirdly, objectivity is based on integrity and accountability for independent advice and report on operations. The IAV as derived from literatures and considered for this study are as follows: Independence of Internal Audit (IIA), Quality of Internal Audit (QIA) and Competence of Audit Team (CAT).

Independence of auditors either internal or external is generally connected to independence of audit unit operation without undue influence. Independence of auditor add value to the auditor's report on which management and stakeholders depend upon for instant decision making. Auditor independence is one of the essential value for confidence, trust and FD on financial activities. Quality of internal audit is an important tool to assess quality procedures, policies and operations. It is the ability to achieve fundamental objectives of reasonable assurance that financial transaction are free from misstatement and fraud. IIA [8] characterized internal audit as an autonomous, target confirmation and counseling action intended to

add esteem value and improve organization performance. Competence of audit team is the application of technical/professional accounting skill with critical thinking to detect fraud. IIA [8] reported that auditors should utilize their experience, professional skills, due care and reasonability in each task to protect organization from fraud.

2.2 Theoretical Framework

The study adopts Policeman theory and Fraud diamond theory.

2.2.1 Policemen theory

Policeman theory stated that internal auditor should act to search, detect and prevent fraud. It is an auditing theory that addresses fraud cases in an organization, but today, auditors' added roles is to provide reasonable assurance, monitor internal controls, and makes independent reports on true and fair view of financial records. According to Hayes et al., [27] policeman theory was mostly known theory in the field of auditing until 1940s. However, Brunelli [28] opined that policeman theory allow auditor to act like policeman to prevent and detect fraud. Although, auditors may not detect all frauds as they occurred, rather should increase their detection searchlight to minimize and instil stakeholders' confidence. Similarly, Fulop, Tiron-Tudor and Cordos [29], reported that stakeholders or users of financial statements does not only believe in auditors to detect and prevent fraud, but expect them to work in a professional manner to instil stakeholders' confidence. In addition, Dauda and Olawale [30], reported that internal auditor should act as policeman in the organization to monitor, and control arithmetical and logical cases that might leads to fraud. In the manufacturing industries, auditor should focused on productions, stores, distributions, supplies, financials, and technological operation to monitor, minimize or detect fraud. However, with various financial scandal in companies likes Enron, Pamalat, Worldcom and others, this theory becomes a focus for stakeholders, as internal auditor now required to monitor, detect and report fraud on timely basis. This will enhance stakeholder's confidence, profitability, and business growth.

2.2.2 Fraud diamond theory

According to Cressey [31] fraud determinants factors could be theorized on fraud triangle elements, these are pressure, opportunity and rationalization. Fraud is more likely to occur in an

environment where a person is under pressure to commit fraud or with weak internal controls. This creates opportunity to commit fraud, and ability to rationalize the fraudulent behaviour. Albrecht et al., [32] reported that each fraud factor could be explained from double angles: fraudster and the company. Fraud diamond theory was propounded by Wolfe and Hermanson [33], they added that fraud is achieved by person with the required power of capability from opportunity that abounds. The theory was an extension of fraud triangle by Cressey [31], with additional fourth element "Capability". Capability means the ability to turn opportunity into reality. Opportunity for fraud will work where the right person is in the right place to exploit and perpetrate fraud. According Wolfe and Hermanson [33], high profile fraud could not have happened if there are no right person with special capability in the organization to perpetrate the fraud when opportunity abounds. Opportunity opened door for fraud while pressure and rationalization draw person towards it, but perpetrator must have required skill, ability or capability to recognize the opportunity and take advantage of this to commit fraud. Wolfe and Hermanson [33] identified four traits to commit fraud: individual with power and authority within the organization; ability to undermine and exploit internal controls weakness; high confidence for going undetected or the confidence to get out of it in time if detected; and ability to deal with stress that followed fraudulent crime. But, internal auditors' role to detect fraud should be routine assessment of capability traits.

2.3 Empirical Review

Nisak and Rochayatun [18] studied role of internal audit, FD and prevention in Universities. The study revealed that internal audit is required to detect and prevent fraud. Similarly, Fitriyah [17] studies revealed that in public university, internal audit aid fraud management by instant identification of red flags that show accounting anomalies. Also, Sepala, Herath and Munasinghe [34] investigated the effect of internal audit on fraud management in the financial sector. The study revealed that internal audit competence is an important predictors of fraud management. Besides, Mutambirwa et al., [35] investigated the impact of internal auditing on FD in cement manufacturing industry. The study revealed that internal audit fails to address major forms of fraud likes misuse of assets, cash theft, cheque tampering and payroll overstatement. The study recommends regular

financial audit, controls, and prompt implementation of audit reports Likewise, studied by Adewumi and Isaac [36] on internal auditor roles to prevent and detect fraud in South African manufacturing SMES revealed that management should ensure effective risk based internal audit which allows risk based policies and programs. The study recommends recruitment of qualified personnel to monitor unethical behaviour and detect fraud on a timely basis. In addition, Ibrahim and Al-Haidari [15] examined the effectiveness of internal audit team in detecting financial and administrative corruption. The study revealed positive relationship between internal audit process and team, and detection of financial and administrative corruption.

Skoczylas-Tworek [37] studied internal audit as tool to reduce risk of fraud and abuse. The study revealed that internal auditor's effectiveness, in-depth knowledge of organization's operations would reduce fraud and abuse. The study recommends anti-corruption policies using internal audit procedures and team efficacy. Likewise, Demirovic, Isakovic-Kaplan and Proho [9] examined internal audit risk assessment and FD. The study revealed that the quality of internal audit with the use of different tools and techniques would detect fraud. Therefore, the study recommends legal regulation for internal audit operation. Furthermore, Wahidahwati and Asyik [21] looked at auditor's determinant ability in FD. The study revealed that auditor ability, experience, ethics, professional skepticism and personality all have positive and significant effect on FD. Also, Arum and Wahyudi [38] conducted studies on internal audit quality and FD, study revealed that audit quality determined by ethics and professionalism had effect on FD, however, audit quality act as mediator of ethics and professionalism on FD. Similarly, Umar et al., [39] examined audit quality determinants and the relationship with FD. The study revealed that auditor independence has no effect on audit quality whereas auditor competencies positively influenced audit quality while audit quality has positive effect on FD.

3. METHODOLOGY

Survey research design and random sampling techniques was adopted for the study to collect the relevant primary data. Study population was 19,443 workers from ten selected manufacturing industries. Sample size was 392, this was determined with Yamane [40] techniques with 5% error terms. 392 copies of questionnaire were

administered to various management, audit, and finance staff of the selected industries. Copies received were 337, this represent 86% response rate. Descriptive statistics: simple percentage, mean, and frequency distribution, and inferential statistics: Ordinary Linear Square (OLS) regression and Analysis of Variance (ANOVA) were adopted to analyzed and interpret results.

3.1 Reliability of Research Instrument

The reliability test of research instrument from the pilot study showed that independent variables: IIA, QIA, CAT and dependent variable: FD had Cronbach's alpha of 0.86, 0.78, 0.79, and 0.83 respectively. However, according to Bolarinwa, [41], a composite reliability and Cronbach Alpha (α) calculated greater than 60% should be taken reasonable, reliable and acceptable. Therefore, since all the constructs figures from the pilot study were greater than 0.6 acceptable threshold, the instrument was reliable and suitable.

3.2 Model Specification

The *A priori* expectation from the data analysis is that there would be a positive relationship between IAV and FD. It is expected that the independent variables of IAV would enhance FD. It is therefore expected that IIA, QIA and CAT would enhanced dependent variable of FD.

Operationalization of study:

$$Y = f(X) \quad Y = \text{Dependent variable}; X = \text{Independent variable}$$

$$X = (x_1, x_2, x_3).$$

$$FD = f(\text{IIA}, \text{QIA}, \text{CAT})$$

The model specification will be:

$$Y = \beta_0 + \beta_1 X_i + \dots + \mu_1$$

$$Y = \beta_0 + \beta_1 X_i + \beta_2 X_i + \beta_3 X_i + \dots + \mu_i$$

Internal audit values and fraud detection

$$FD = \beta_0 + \beta_1 \text{IIA} + \beta_2 \text{QIA} + \beta_3 \text{CAT} + \dots + \mu_1$$

Where:

- Y = Fraud detection
- X = Internal audit values
- $x_1 = \text{IIA}$, $x_2 = \text{QIA}$, $x_3 = \text{CAT}$.
- β_0 = Intercept or the constant.
- μ = Error terms.
- $\beta_1 - \beta_3$ = Partial regression coefficient of the explanatory variables.

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis of Test Items

Demographic profile of the respondents in Table 1 shows that more female respondents and married staff were involved in the study. Also, respondents in active age and with enough working experience were involved. Similarly, study revealed that respondents were academically and professionally knowledgeable to respond to the test items.

4.1.1 Interpretation

Table 2 shows the respondents' responses to questions on FD. Question on whether

FD requires the use of individuals with diverse expertise, knowledge and skill, a mean of 4.16 shows that majority of the respondents agreed that FD requires the use of individuals with diverse expertise, knowledge and skill. On whether FD helps to detect organizations fraud risk, a mean of 4.31 indicates that majority of the respondents agreed that FD helps to detect organizations fraud risk. Likewise, on whether FD does not require the skill of special experts, a mean of 4.34 explains that majority of the respondents agreed that FD does not require the skill of special experts. Finally, on whether FD helps to evaluate organization's control, a mean of 4.05 indicates that majority of the respondents agreed that FD helps to evaluate organization's control.

Table 1. Demographic profile of respondents

Description		Number =337	Percentage
Gender	Male	167	49.6
	Female	170	50.4
Academic Qualification	OND	30	8.9
	HND/BSc	250	74.2
	MSc/MBA	48	14.2
	PhD	9	2.7
Working Experience	<5 Years	84	24.9
	6-10 Years	154	45.7
	11-15 Years	71	21.1
	>15 Years	28	8.3
Age	<35	101	30.0
	36-45	142	42.1
	46-55	68	20.2
	>55	26	7.7
Professional Qualification	AAT	64	19.0
	ACA/ACCA	243	72.1
	FCA/FCCA	30	8.9
Marital Status	Married	195	54.9
	Single	142	42.1

Source: Field Survey, 2023

Table 2. Dependent variable (fraud detection)

	Strongly agreed	Agreed	Undecided	Disagreed	Strongly agreed	Mean
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq
FD requires the use of individuals with diverse expertise, knowledge and skill	41.5	38.9	15.1	3.0	1.5	4.16
FD helps to detect organizations fraud risk	48.7	37.1	11.3	3.0	-	4.31
FD does not require the skill of special experts	53.4	38.0	3.0	-	5.6	4.34
FD helps to evaluate organization's control	40.7	32.0	21.7	2.7	3.0	4.05

Source: Field Survey, 2023

Table 3. Independent variables

Types	Average mean
IIA	4.40
QIA	4.17
CAT	4.26

Source: Field Survey, 2023

Table 3 is the independent variables and overall average mean. The overall mean for IIA, QIA and CAT are 4.40, 4.17 and 4.26 respectively. This revealed that majority of the respondents agreed that IIA, QIA and CAT aids FD in manufacturing industries in Nigeria.

4.2 Test of Hypothesis

4.2.1 Research hypothesis

H₀1: IAV does not contribute significantly to FD in manufacturing industries in Nigeria

$$FD = \alpha_0 + \beta_1 IIA + \beta_2 QIA + \beta_3 CAT + \mu_1$$

$$FD = 0.463 + 0.101 IIA + 0.773 QIA + 0.238 CAT + \mu_1$$

4.2.2 Interpretation of result

Table 4 shows the results of regression analysis for the influence of IAV on FD in manufacturing industries in Nigeria. The results shows that IIA (0.101), QIA (0.773), and CAT (0.238) have positive relationships with FD in manufacturing industries in Nigeria. An increase in IIA, QIA and CAT by 1% would cause 0.101, 0.773 and 0.238 respectively an increase in FD. The study revealed that IAV positively influenced FD in manufacturing industries in Nigeria (*Adj R*² = 0.857, *F*(3, 337) = 667.49; *P* = 0.000. There was evidence that IIA, QIA and CAT have significant relationships with FD in Nigeria manufacturing industries (IIA β = 0.101, *t* = 2.628, *p* = 0.009; QIA

β = 0.773, *t* = 26.558, *p* = 0.000; and CAT β = 0.238, *t* = 6.844, *p* = 0.000). This implies that IIA, QIA and CAT were significant factors that influenced changes in FD in manufacturing industries in Nigeria. The overall coefficient of determination of adjusted *R*², which is the explanatory power of the model was 85.7%. This implies that within the model context, IAV is responsible for 85.7% variations in FD while the remaining 14.3% is explained by other factors that can have effect on the dependent variable but not under this study. At a level of significance of 0.05, the *F*-statistics is 667.486, while the *p*-value of the *F*-statistics is 0.000, this is less than 0.05 adopted. Therefore, the null hypothesis that says, IAV does not have significant impact on FD in manufacturing industries in Nigeria, will be rejected while alternate hypothesis of IAV have significant impact on FD in manufacturing industries in Nigeria, will be accepted.

4.3 Discussion and Implication of Findings

Empirical findings from the test of hypothesis on the IAV and FD in manufacturing industries in Nigeria revealed that IIA, QIA and CAT have positive relationships with FD in manufacturing industries in Nigeria. The *F*-statistic of 667.486 is statistically significant at *p* = 0.000 therefore, the study revealed that the IAV has a significant influence on FD in manufacturing industries in Nigeria at 5 percent level of significance. From the findings of this research, the data analyzed makes it evident that IAV has a significant impact on FD in manufacturing industries in Nigeria. The implication of findings to policy makers is that they should strengthen IAV to enable them monitor, control, and minimize fraudulent activities. Likewise, for investors, return on investment will be maximized with strong IAV and controls. Also to the accounting practice, IAV needs to be fused into accounting practice as useful and regulatory tool for FD.

Table 4. Regression results for hypothesis

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
1					
(Constant)	.463	.115		4.039	.000
IIA	.101	.038	.086	2.628	.009
QIA	.773	.029	.716	26.558	.000
CAT	.238	.035	.220	6.844	.000

a. Dependent Variable: Fraud detection

b. *R* = 0.926 *R*² = 0.857 *F*(3, 337) = 667.486 *P*-value = 0.000

Source: Researcher's Study, 2023

In addition, the study revealed that IAV has a significant impact on fraud management in manufacturing industries in Nigeria. This shows that improvement in IAV will increase FD in manufacturing industries in Nigeria and this would enhanced goodwill, probity, confidence, dividend and profitability. This corroborated the findings of Adewumi & Isaac [36]; Ibrahim & Al-Haidari [15]; Sepala, Herath & Munasinghe [34]; and Wahidahwati & Asyik [21]. The implication of this finding is that organizations should enhanced independence of internal audit, quality of auditing, training and professionalism, and competency to improve FD in the manufacturing industries. Finally, increased enforcement, instant controls, ethical and auditing standard, regulatory oversight, identification of fraud capabilities, and adoption of modern technological monitoring devices will assist internal auditor in fraud detection.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS OF FINDINGS

5.1 Summary and Conclusion

The study examined IAV and FD in manufacturing industries in Nigeria. However, instant cases of fraud is a common problem in organization without regard to sector, industry, location or size. The study revealed the extent to which each of the independent variables influenced the dependent variable and provides answer on the extents by which the variations in dependent variable is caused by the independent variables as shown in the models represented by coefficient of determination (R^2). From our empirical findings, the study concluded that IAV has significant influence on FD in manufacturing industries in Nigeria. Therefore, IAV has vital role for detecting fraud in an organization. But, timely FD and prevention would enhanced organizational image, profitability, stability and future growth.

5.2 Recommendations

Based on the study findings and conclusions, the following are recommended:

1. The independence of the internal audit should be guaranteed.
2. The quality of internal audit team should be re-enforced by employing competent and professional staff.
3. Corporate governance policy should cover the quality of the internal audit unit.

4. A good internal control mechanism should be established to limit risk of fraud.
5. Fraud detection strategy should be strengthened with application of modern technological monitoring devices.
6. Internal auditor as watchdog or policeman should be alert to responsibility to detect and report fraud.
7. Opportunity that opened doors for capability should be timely flagged and investigated.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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