

INTERNAL AUDIT AND STRATEGIC RISK MANAGEMENT OF LISTED MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

The study focused on the relationship between internal audit and strategic risk management of listed manufacturing companies in Nigeria with emphasis on internal audit quality, independence and identification, risk assessment. The study was based on Agency Theory which has explained the significance of monitoring mechanisms in minimizing information asymmetry and the potential conflict between organisation managers and the stakeholders. Based on the above, a model specification of 2 by 2 was used, that is, internal audit quality and internal audit independence as explanatory variables were placed in the first row and the second row, respectively, with risk identification and risk assessment as dependent variables. Primary Data was collected with the help of questionnaires, which were distributed 109 and received back 98, giving a response rate of 89.91%. Descriptive statistics were used for data analysis, in addition to Ordinary Least Squares regression, Breusch-Pagan-Godfrey and Ramsey RESET tests were used to check relevant model diagnostics. The results showed that the relationship between internal audit quality and risk identification was positive but not statistically significant, while the relationship between the internal audit independence and the identification of risk was positive and statistically significant. Internal audit quality also had a positive but statistically insignificant relationship with risk assessment, with internal audit independence having a positive and statistically significant relationship with risk assessment. The results indicate that internal audit independence has significant relationship with the implementation of the strategic risk management practices of listed manufacturing firms in Nigeria. The study suggests that the independence of internal audit, professional competence and resources of internal audit and incorporation of the findings of internal audit in strategic risk-management processes be strengthened.

Keywords: Internal Audit Quality, Internal Audit Quality, Risk Identification, Risk Assessment

INTRODUCTION

The origins of internal auditing go back to the early systems in organisations to check financial transactions, protect assets and ensure adherence to predetermined procedures. The need for a function within a business organisation that is able to review the activities of the organisation, without being connected to the management, was increasing (Jidda et al., 2025). In the meantime, internal auditing evolved from the traditional scope of financial and compliance oversight, to the audit of governance, internal controls and organisational risks. This was because of some part of the complexity of corporate affairs and the realization that the shortcomings in internal control may generate risks that go beyond financial reporting. As internal audit responsibilities grew, the issue of internal audit quality came to the fore, including the competence, resources, scope and effectiveness of internal audit activities. The quality of internal audit has, as a result, been a research focus that has been viewed as an organisational trait that could impact on the usefulness of the internal audit to management and governance (Purwohedi, 2025; Chairani & Siregar, 2021).

With the expansion of listed manufacturing companies, the relevance of internal audit and strategic risk management has further expanded due to the inter-connected manufacturing activities; procurement, production, inventory, financial, distribution and regulatory compliance. This interaction can put manufacturing companies at risk, with identification and assessment of risk potentially impacting on decisions and continuity (Ashraf & Michas, 2020). There have been more recent advances in internal auditing that have still looked at the relationship between the audit characteristics and the organisation's governance and risk-management processes in more complicated business contexts. The subject also intersects with SDG 9 (Industry, Innovation and Infrastructure), as listed manufacturing companies are part of the industrial sector, with the effectiveness of the organisation's risk processes as relevant to the stability and resilience of industrial enterprises. In light of this historical development, the link between internal audit quality and internal audit independence and the link between risk identification and risk assessment are areas of interest in the strategic risk-management practices of listed manufacturing companies in Nigeria.

Statement of the Problem

Business conditions in Nigeria are complex, with operations, finances, regulations, markets and strategic risks constantly on the rise, which places internal audit and strategic risk management in listed manufacturing companies in a new light of importance. Although some listed companies have internal audit functions, there is a concern that the quality of internal audit is not robust enough to provide adequate assurance over risk related processes, internal controls and over strategic decision making, especially in the context of the listed companies that operate with complex transactions and multiple sources of risk (Wang & Liang, 2025; Lonto et al., 2023). The quality of internal audit is a concern where the competence, professional capability, scope, resources and effectiveness of internal auditors are not aligned with the complexity of the risks faced by the organisation, which can impact on the identification of weaknesses by internal audit to support the organisation's strategic objectives.

The continuing challenges faced by industry in Nigeria raises worries about whether the quality and independence of internal audit are linked to differences in the effectiveness of risk identification and risk assessment practices of listed companies and given the operational and economic uncertainties of the manufacturing sector. The unfulfilled link between these internal audit dimensions and strategic risk management is also applicable to Sustainable Development Goal 9 (Industry, Innovation and Infrastructure) with its focus on resilient infrastructure and inclusive and sustainable industrialisation and innovation, as the weaknesses in the governance of organisational risk can impact the stability and resilience of industrial enterprises (Ta & Doan, 2022; Eulerich & Ratzinger-Sakel, 2025). The issue, therefore, is the ongoing confusion between the relationship between the quality of internal audit and the internal audit independence with risk identification and risk assessment of listed manufacturing companies in Nigeria and amidst the background of the fact that strategic risk management is yet to experience the expected success in the organisations due to organisational, governance and operational challenges.

Conceptual Framework

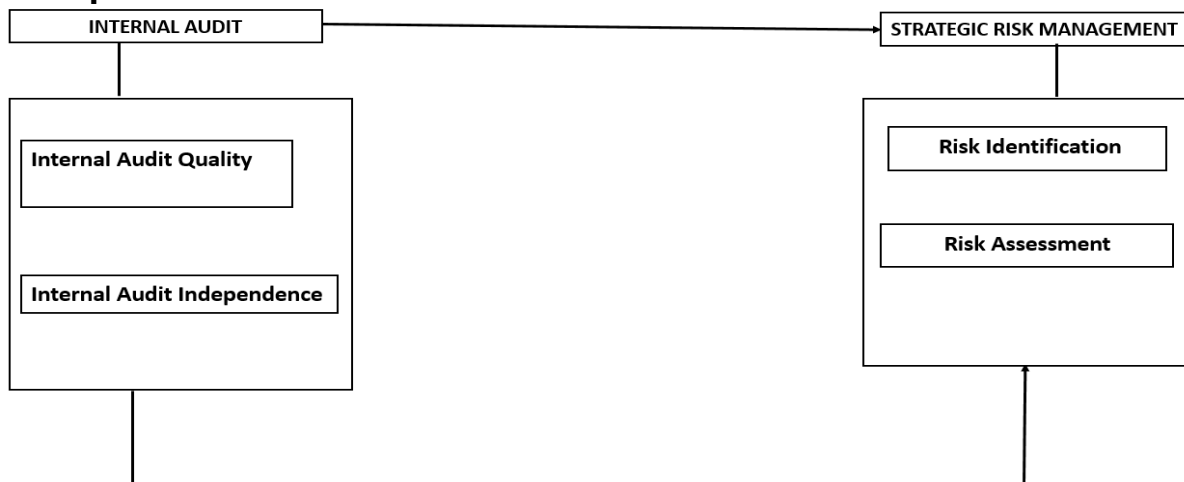


Figure 1: The conceptual framework on internal audit and strategic risk management of listed manufacturing companies in Nigeria.

Source:

Aim and Objectives of the study

The main aim of the study is to examine the relationship between internal audit and strategic risk management of listed manufacturing companies in Nigeria. The study specifically seeks to:

1. Ascertain the relationship between internal audit quality and risk identification of listed manufacturing companies in Nigeria.
2. Ascertain the relationship between internal audit independence and risk identification of listed manufacturing companies in Nigeria.
3. Determine the relationship between internal audit quality and risk assessment of listed manufacturing companies in Nigeria.
4. Determine the relationship between internal audit independence and risk assessment of listed manufacturing companies in Nigeria.

REVIEW OF RELATED LITERATURE

Concept of Internal Audit

Internal audit is an independent assurance and consulting activity that is built into an organisation to review the effectiveness of governance, risk and internal control processes. It gives management and those who have a role in governance information on whether organisational activities are being carried out in line with established policies, procedures and objectives (Neel & Xu, 2025; Abbott et al., 2022). Internal audit is now moving beyond the compliance and control checking to wider risk and organisational strategic assessments. This trend has made internal audit more relevant in the complex and uncertain world of business. The effectiveness of internal audit to a large extent is dependent on the competence of the auditors, the extent of their work and the quality of the assurance that is given to management. Islam and Stafford (2022) suggest that the nature of the internal audit function may have an impact on the quality of assurance that can be provided to an organisation. Internal auditors can also contribute to risk governance by reviewing the effectiveness of significant organisational risks being identified, assessed and managed.

Internal Audit Quality

Internal audit quality is the degree of competence, resources, procedures and characteristics that an internal audit function has in order to be able to offer reliable and beneficial assurance. Internal auditors must have the necessary technical knowledge, professional competence and an understanding of the organisation's operations and risks to maintain high quality internal auditing

(Francis, 2023; Hapsoro et al., 2026). The quality of internal audit is also related to the scope and effectiveness of audit procedures applied to audit internal control and organisational processes. When organisations are involved in complicated transactions and are dealing with strategic risks that are changing quickly, the quality of internal audits is becoming increasingly important. The internal audit's effectiveness is affected by the organisational capacity and professional performance factors related to the internal audit function.

Internal Audit Independence

Internal audit independence is the ability of the internal auditors to carry out their duties in an unbiased and impartial manner subject to any inappropriate influence or restriction of management (El Haiba & Maimoun, 2024; Hazaea et al., 2024). Independence enables auditors to review activities of the organisation and report on the weaknesses they detect without pressure from the people under audit. Reporting relationship, organisational authority, access to information and interference with audit activities have an impact on the independence of internal auditors. An internal audit function can be qualified in terms of personnel and procedures, but may be in a situation where its organizational status creates a limitation of objective judgment. According to Baharom (2025), the effectiveness of internal audit is related to conditions within the organisation that enable the exercise of suitable authority and independence. Credibility of internal audit reports is also relevant to independence, as management and governance bodies need to be assured that audit results are not compromised by conflicting interests.

Strategic Risk Management

Strategic risk management is the systematic approach used to identify, assess and monitor risks which can impinge upon the ability of an organisation to deliver the strategic goals. It goes beyond running a business, and takes into account risks stemming from business decisions, markets, competition, regulations, technology, finance and changes in the business environment (Dinh et al., 2021; Jaber et al., 2024). Organisations need to be familiar with the current and future risks that could affect their long-term goals to have an effective strategic risk management plan. The ability to identify risks is the starting point for organisations to be able to assess and monitor risk in an adequate way, as they can't do this if they have not been identified. The next step in risk assessment is to think about the chance and impact of the identified risks, which will help management. These processes can be assisted by internal audit by assessing the effectiveness and design of risk-management systems.

Risk Identification

Risk identification involves the identification and recording of events, conditions or circumstances that can hinder an organisation from reaching its goals. It calls for organisations to review the financial, operational, strategic and compliance risk exposures that may arise from internal and external risks (Mujalli, 2024; Novatiani et al., 2024; Quampah et al., 2021). Relevant information, monitoring and knowledge of the organisation's activities and environment are important for effective risk identification. There is a need to have a wide range of risk identification in manufacturing companies due to various activities including production, procurement, logistics, human resource, financial, and relations with the market. Technological change, regulatory requirements, supply-chain disruption and changes in customer demand can also pose a risk.

Risk Assessment

Risk assessment is the process of systematically assessing identified risks based on various factors, including likelihood, severity of consequences, and importance to the organisation's objectives. It helps management to identify the difference between the risks and the effect they could have and how much attention they need. Appropriate risk assessment requires information on the nature, frequency and potential impact of identified risks (Liu et al., 2024; Salifu et al., 2022). If risk

information is lacking or not reliable, then management might be less able to identify the relative importance of different risk exposures. If risk assessment procedures are necessary, internal audit can review if they are properly designed and/or used consistently throughout organisational activities. Internal auditors can also review the congruence of management's risk assessment with the risk assessment conducted as part of the audit activities.

Theoretical Review

Agency Theory

In 1976, Michael C. Jensen and William H. Meckling created this Agency Theory to explain how principals (shareholders) and agents (managers) in an organisation relate to one another because the agents control its resources. The theory is based on the premise that the interests of the managers are not necessarily aligned with those of the owners since managers make decisions and owners are the ones who will suffer the consequences. This separation of ownership from management, particularly in the case of a listed manufacturing company, can lead to an information imbalance, as managers typically have more up-to-date information concerning the operations, financial position and risks of the company than the shareholders (Vuko et al., 2022; Yeboah, 2020).

Stakeholder Theory

Stakeholder Theory was primarily developed by R. Edward Freeman in 1984, which suggests that organisations ought to take into account the issues of all groups that can impact or are affected by an organisation's operations. Stakeholder Theory is different from Agency Theory, which focuses mainly on the relationship between shareholders and managers, in that it extends to many other interested parties besides: employees, customers, suppliers, creditors, government, communities and shareholders (Eulerich & Ratzinger-Sakel, 2025; Neel & Xu, 2025). This view is especially applicable to listed manufacturing companies as manufacturing can impact multiple stakeholder groups regarding employment, supply chain, environmental impact, taxation, product quality and financial results. Strategic risk management can thus be considered an activity in which organizations identify and evaluate risks that can impact its goals and stakeholder interests. However, the Stakeholder Theory serves as a useful theoretical framework in the study of the relationship between quality and independence of internal audit and risk identification and risk assessment of listed manufacturing companies in Nigeria.

Empirical Review

Baharom (2025) investigated internal audit, digital transformation, artificial intelligence, blockchain, and the technology development of robotic process automation. Instead of a traditional respondents or a sample, the study applied a bibliometric research method, which was based on published documents related to digital technologies and internal auditing between the years 1980 and 2024. The results revealed key research areas and the growing research interest in technologies like artificial intelligence, blockchain and RPA in internal auditing. The study found that digital technologies are changing the nature of internal audit research and suggested further research be conducted on new technologies and how they are applied in internal audit roles.

In the study of Chairani and Siregar (2021), they examined the effect of enterprise risk management (ERM) and financial performance and firm value, the moderating variable in the study is the impact of environmental, social and governance (ESG) performance. The study adopted a quantitative panel research approach in which the listed companies of ASEAN-5 countries for the years 2014 to 2018 were treated, and fixed-effects regression was used, the data for the study were obtained from financial reports, annual reports and Thomson Reuters with 680 firm-year observations. The results indicated that ERM had a significant positive effect on the financial performance and firm value, and ESG had a significant positive effect on the link between ERM and firm value, which prompted the authors to call for increased focus on ERM and ESG-related risks.

In this study, Hapsoro et al. (2026) investigated the influences of auditor independence, competence and ethics on audit quality, and how the implementation of risk-based internal audit (RBIA) moderated the effects of such influences. The study adopted the primary-data survey research design of Government Internal Supervisory Apparatus (APIP) working in the political and law-enforcement sectors, with 112 auditors analysed using SmartPLS 4, and the sampling technique was survey-based while the available data used in the study does not clearly indicate the use of a probability sampling technique. The findings revealed that the dimensions of independence, competence and auditor ethics had a positive and significant impact on audit quality, whereas the dimension of RBIA had a positive and significant effect on the dimensions of independence and competence but a negative and significant effect on the dimension of ethics. The study suggested strengthening the auditor's independence, competence and ethical standards, ensuring that RBIA is put in place in a manner which would facilitate rather than detract from the audit quality determinants.

Islam and Stafford (2022) investigated the possible determinants of the use of data analytics in internal audit; data-specific IT knowledge, critical-thinking skills, business knowledge, fraud risk responsibilities, and technological culture. This study employed quantitative secondary data analysis approach from the IIA Common Body of Knowledge Internal Auditing Database, for which the analysis was conducted based on the responses from the auditors, and not based on a new questionnaire population, and regression/statistical analysis was employed to identify factors associated with the adoption of analytics. The results demonstrated that data-specific IT knowledge was the most significant factor for the adoption, whereas critical-thinking skills, chief audit executives' business knowledge, fraud-risk responsibilities and technological culture were also signified with the adoption. The study suggested that there is a need to build internal auditors capacity in the technological and analytical aspects so that data analytics can be more adopted to the internal audition functions.

Jaber et al. (2024) investigated the effect of internal audit on the effectiveness of enterprise risk management (ERM) for Jordanian public-listed companies, specifically on the part of internal audit in ERM and the effect of internal audit with regard to ERM effectiveness and objectivity of internal-auditors. The study used quantitative cross-sectional survey design, the population of the study were the 119 listed companies in Jordan, and the sample were the relevant respondents in the listed companies, and use of SPSS and SmartPLS were used for analysis. It was found that the role of the internal auditor and his or her objectivity towards ERM had significant positive impacts on the effectiveness of ERM, and that increasing the objectivity of internal auditor in ERM did not impact the relationship between the internal auditor's role in ERM and the effectiveness of ERM significantly. The study suggested that internal audit involvement in ERM should be enhanced but auditor objectivity and appropriate professional boundaries should be maintained.

Liu et al. (2024) investigated the relationship between the quality of internal audit and the quality of accounting-information comparability, with the quality of internal audit as the primary variable and the quality of accounting-information comparability as the result variable, and internal control quality, high-technology industry, industry competition, and major-shareholder capital occupation as mechanism variables or moderating variables. The study adopted the quantitative archival research design, and analyzed the internal audit data manually collected from non-financial A share listed companies in China from 2007 to 2022 by not using a questionnaire sample. The results indicated that accounting-information comparability increased with the quality of internal audit, in part because of the decrease in agency costs and increase in financial-information transparency, and that internal control quality and high-technology status increased the relationship. The study recommended the need to enhance the quality of the internal audit and internal control systems to ensure the accounting information of the companies is more comparable and useful.

Novatiani et al. (2024) investigated internal auditor competence and internal control as determinants of internal audit quality and prevention of fraudulent financial statements. The method of the study was a quantitative survey with respondents (BUMNs) consisting of 475 general managers/

accountants managers, internal audit managers/audit committee members and the test of the hypothesis used SEM-PLS. The results indicated that the competence of internal auditors, internal control, and internal audit quality significantly influenced internal audit quality and fraud prevention, with internal audit quality also significantly influencing fraud prevention to a certain extent and mediating the effect of internal control. The study suggested an improvement of auditor competence and of the quality of internal controls and internal-audit to diminish financial reporting fraud.

Gaps Literature

The existing studies have focused on the importance of Internal Audit to governance, control and risk management and little evidence is available on the relationship between Internal Audit Quality (IAQ), Internal Audit Independence (IAI), Risk Identification (RI) and Risk Assessment (RA) in listed manufacturing companies in Nigeria. The studies, including Hapsoro et al. (2026), Hazaea et al. (2024), Islam and Stafford (2022), Jaber et al. (2024), Purwohedi (2025), Quampah et al. (2021), Salifu et al. (2022), Ta and Doan (2022) concentrate primarily on the effectiveness of the internal audit function, governance, and enterprise risk management, but they do not differentiate between the four. Likewise, Ashraf and Michas (2020) offer evidence on audit quality and audit independence but do not sufficiently study the relationships between audit quality and audit independence with risk identification and risk assessment. There is also a sectoral and a contextual gap.

The Nigerian studies, such as those by Yeboah (2020) and El Haiba and Maimoun (2024) mostly tie internal audit practices to financial reporting, enterprise risk management or firm performance, but do not directly link them to strategic risk management results. Furthermore, numerous studies employ general internal audit and governance and control indicators which makes it challenging to isolate the impact of IAQ and IAI. The manufacturing industry also has specific risks which relate to production, supply chains, stocks, technology and regulations, and which mandate evidence specific to the manufacturing industry. The conceptual and methodological gap hence is the low level of integration of the explanatory variables, namely IAQ and IAI with the two dimensions of strategic risk management, namely RI and RA in listed manufacturing companies in Nigeria. This study aims to fill this gap, by exploring and analysing the two by two relationships in a single context, and by providing evidence on risk governance and organisational resilience for the manufacturing industry sector, that is relevant to SDG 9 (Industry, Innovation and Infrastructure).

METHODOLOGY

The study is of the survey research design while the data are primary data obtained using structured questionnaires administered to the personnel of selected listed manufacturing companies in Nigeria. The population is 150 employees and management personnel and the sample size is 109 people at a 5% level of precision determined by Taro Yamane formula. The sampling method used is "simple random sampling. The questionnaire has five-point Likert Scale and measures Internal Audit Quality (IAQ), Internal Audit Independence (IAI), Risk Identification (RI), Risk Assessment (RA). The reliability of the instruments is measured by Cronbach's Alpha which is ≥ 0.70 . The retrieve questionnaire were 98% filled and data were collected, coded and analysed using the EViews programme. For this study, two regression models are used – one model to test the impact of IAQ and IAI on RI and one model to test the effects of IAQ and IAI on RA.

Model:

$$RI = \beta_0 + \beta_1 IAQ + \beta_2 IAI + \mu \dots\dots\dots \text{Model 1}$$

$$RA = \beta_0 + \beta_1 IAQ + \beta_2 IAI + \mu \dots\dots\dots \text{Model 2}$$

Where:

RI = Risk Identification, RA = Risk Assessment, IAQ = Internal Audit Quality, IAI = Internal Audit Independence, β_0 = Constant/intercept, β_1 – β_2 = Regression coefficients, μ = Error term

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Table 1 Least Squares for Risk Identification (LOGRI)

Dependent Variable: LOGRI

Method: Least Squares

Date: 09/28/26 Time: 05:47

Sample: 1 98

Included observations: 98

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGIAI	0.820731	0.038675	21.22099	0.0000
LOGIAQ	0.017451	0.033967	0.513757	0.6086
C	0.495043	0.010446	47.38846	0.0000
R-squared	0.835916	Mean dependent var	0.661393	-
Adjusted R-squared	0.832462	S.D. dependent var	0.047461	-
S.E. of regression	0.019426	Akaike info criterion	5.014225	-
Sum squared resid	0.035852	Schwarz criterion	4.935093	-
Log likelihood	248.6970	Hannan-Quinn criter.	4.982217	-
F-statistic	241.9859	Durbin-Watson stat	2.516871	-
Prob(F-statistic)	0.000000			

Source: Evview v13 Output (2026)

The OLS regression result obtained for Risk Identification (LOGRI) with 98 observation reveals that Internal Audit Independence (LOGIAI) has a positive and statistically significant effect ($\beta = 0.820731$, $p = 0.0000$) which implies that higher the internal audit independence, higher the risk identification within listed manufacturing companies in Nigeria. The positive relationship between Internal Audit Quality (LOGIAQ) and the other measures is not significant at the 0.05 level statistically ($\beta = 0.017451$, $p = 0.6086$). The R-squared is 0.835916 which means that the explanatory variables collectively explain about 83.59% of the risk identification. The R-squared value is adjusted to 0.832462, which indicates that the model has a high level of explanatory power. The F-statistic is 241.9859 with a p-value of 0.0000, which confirms the statistical significance of the model as a whole. A Durbin-Watson statistic value of 2.516871 is a preliminary clue to the existence of residual auto-correlation, but additional tests may be needed. The results of this relationship analysis between internal audit independence and the other variables are presented. Overall, internal audit independence is statistically significantly related to risk identification, while internal audit quality is not. The OLS regression result obtained for Risk Identification (LOGRI) with 98 observation reveals that Internal Audit Independence (LOGIAI) has a positive and statistically significant effect ($\beta = 0.820731$, $p = 0.0000$) which implies that higher the internal audit independence, higher the risk identification within listed manufacturing companies in Nigeria. The positive relationship between Internal Audit Quality (LOGIAQ) and the other measures is not significant at the 0.05 level statistically ($\beta = 0.017451$, $p = 0.6086$). The R-squared is 0.835916 which means that the explanatory variables collectively explain about 83.59% of the risk identification. The R-squared value is adjusted to 0.832462, which indicates that the model has a high level of explanatory power. The F-statistic is 241.9859 with a p-value of 0.0000, which confirms the statistical significance of the model as a whole. A Durbin-Watson statistic value of 2.516871 is a preliminary clue to the existence of residual auto-correlation, but additional tests may be needed. The results of this relationship analysis between internal audit independence and the

other variables are presented. Overall, internal audit independence is statistically significantly related to risk identification, while internal audit quality is not.

Table 2 Least Squares for Risk Assessment (LOGRA)

Dependent Variable: LOGRA
Method: Least Squares
Date: 09/28/26 Time: 05:53
Sample: 1 98
Included observations: 98

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGIAI	0.790877	0.042304	18.69529	0.0000
LOGIAQ	0.071381	0.037154	1.921225	0.0577
C	0.485732	0.011426	42.50940	0.0000
R-squared	0.805479	Mean dependent var	0.660404	
Adjusted R-squared	0.801384	S.D. dependent var	0.047679	
S.E. of regression	0.021249	Akaike info criterion	4.834893	
Sum squared resid	0.042894	Schwarz criterion	4.755761	
Log likelihood	239.9097	Hannan-Quinn criter.	4.802886	
F-statistic	196.6892	Durbin-Watson stat	2.368468	
Prob(F-statistic)	0.000000			

Source: Eview v13 Output (2026)

The OLS results for Risk Assessment LOGRALOGRA show that Internal Audit Independence LOGIAILOGIAI has a positive and statistically significant relationship with risk assessment $\beta=0.790877$, $p=0.0000$ $\beta = 0.790877$, $p = 0.0000$. The internal audit quality, $\beta=0.071381$, is also positive, but not significant at the 5%-level, $p=0.0577$, however, it is significant at the 10%-level. The R-squared of 0.805479 indicates that the model accounts for 80.55% of the variation in risk assessment, with the adjusted R-squared of 0.801384 demonstrating a high explanatory power. An F-statistic of 196.6892 with $p = 0.0000$ $p = 0.0000$ means that the explanatory variables are jointly significant. The Durbin-Watson statistic indicates that the data does not show any serious positive serial correlation (DW = 2.368468). In that regard, the internal audit independence has a significant relationship and is positive to risk assessment and internal audit quality is positive but weak. Identify material issues and identify quality risks within the internal audit function.

Summary Table of Findings

Hypothesis	Relationship	Coefficient	t-Statistic	Probability	Decision
H01	IAQ → RI	0.017451	0.513757	0.6086	Not Rejected
H02	IAI → RI	0.820731	21.22099	0.0000	Rejected
H03	IAQ → RA	0.071381	1.921225	0.0577	Not Rejected
H04	IAI → RA	0.790877	18.69529	0.0000	Rejected

Discussion of Findings

Internal Audit Quality and Risk Identification

The result shows that Internal Audit Quality (IAQ) is positively related with Risk Identification (RI) but the result is not statistically significant ($\beta = 0.017451$; $p = 0.6086$). Improved audit quality may be a drivers of better risk identification, but there is not sufficient evidence to conclude there is a significant relationship. This result is in line with Chairani and Siregar (2021) and Vuko et al. (2022) who investigated the effectiveness of internal audit and enterprise risk management, respectively. The inconsequential outcome may be because of management support, organisational procedures and information systems that affect the identification of risk.

Internal Audit Independence and Risk Identification

Internal Audit Independence (IAI) is positively and statistically significant with Risk Identification (RI) ($\beta = 0.820731$, $p = 0.0000$). This means that the higher the level of auditor independence, the better the strategic risks were identified. The findings corroborates with Eulerich and Ratzinger-Sakel (2025) and Abbott et al. (2022) who studied auditor independence in the corporate sector of Nigeria. Independent internal auditors can relay emerging risks and control weaknesses in a more objective manner, helping to identify risks in a timely manner.

Internal Audit Quality and Risk Assessment

There is a positive, but not statistically significant, relationship between Internal Audit Quality (IAQ) and Risk Assessment (RA) ($\beta = 0.071381$, $p = 0.0577$). The result indicates a positive correlation but fails to achieve the standard significance level of 5%. The result is related to the research conducted by Wang and Liang (2025) and Baharom (2025) about the quality of the internal audit and risk management. The result indicates that that audit quality alone is not the only factor that is able to offer an explanation for the disparities in risk assessment practices between the selected companies.

Internal Audit Independence and Risk Assessment

The correlation between Internal Audit Independence (IAI) and Risk Assessment (RA) is positive and statistically significant with a value of $\beta = 0.790877$, $p = 0.0000$. This means that the more independent a person is, the better they perform in risk assessment in the organisation. The results are in line with Dinh et al. (2021), and Francis (2023), who studied the internal audit functions and enterprise risk management. Independence can help with objective risk assessment and communicate risk exposures with management.

CONCLUSION

The study suggests that there is a positive relationship between quality and independence of internal audit and strategic risk management amongst listed manufacturing companies in Nigeria. However, only relationships between internal audit independence and risk identification and risk assessment at 5% level are statistically significant.

RECOMMENDATION

1. Management's responsibilities should include enhancing the independence of internal audits, including the internal audit function's reporting to the audit committee or the board and the safeguarding of the internal audit function's independence from interference.
2. Companies should ensure that their internal auditors have sufficient training, technology, qualified staff and other resources that will enable them to conduct high-quality audits.
3. Management should integrate findings from internal audit systemically in strategic process of identifying risk and assessing risk.

4. Audit committees should review, from time to time, internal audit's independence, professional competence, audit quality and management's response to the risks identified by internal audit.

REFERENCES

- Abbott, L. J., Barr-Pulliam, D., Buslepp, W. L., & Parker, S. (2022). The real effects of internal audit function quality: Evidence from investment strategies. *Journal of Accounting, Auditing & Finance*, 39(2), 540–567.
- Ashraf, M., & Michas, P. N. (2020). The impact of audit committee information technology expertise on the reliability and timeliness of financial reporting. *The Accounting Review*, 95(5), 23–56.
- Baharom, Z. (2025). Theoretical and practical insights into digital technologies in internal auditing: A bibliometric analysis of trends and future directions (1980–2024). *Discover Data*, 3(5), 4-1.
- Chairani, C., & Siregar, S. V. (2021). The effect of enterprise risk management on financial performance and firm value: The role of environmental, social and governance performance. *Meditari Accountancy Research*, 29(3), 647–670.
- Dinh, T. H., Pham, D. C., & Nguyen, T. T. (2021). Factors affecting the internal audit effectiveness of steel enterprises in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(1), 271–283.
- El Haiba, F., & Maimoun, A. (2024). The impact of digitization on internal audit: Opportunities and challenges in the era of digitalization. *African Scientific Journal*, 3(22), 850-860.
- Eulerich, M., & Ratzinger-Sakel, N. V. S. (2025). From compliance to strategic partnerships: The role of internal audit in enterprise risk management and opportunities for future research. *Journal of Risk and Financial Management*, 18(12), 707.
- Francis, J. R. (2023). What exactly do we mean by audit quality? *International Journal of Auditing* 14(3), 54-59.
- Hapsoro, D. D., Anwar, C., & Musyaffi, A. M. (2026). The implementation of risk-based internal audit as a moderating variable in the effect of independence, competence, and auditor ethics on audit quality. *International Journal of Economic Literature* 4(6), 20-28.
- Hazaea, S. A., Al-Matari, E. M., Omer, A. M., Farhan, N. H. S., & Zhu, J. (2024). The impact of internal audit system on performance: Evidence from emerging markets. *Humanities and Social Sciences Communications*, 11(1), 3-7.
- Islam, S., & Stafford, T. (2022). Factors associated with the adoption of data analytics by internal audit function. *Managerial Auditing Journal*, 37(2), 193–223.
- Jaber, T. A., Shah, S. M., Johari, J., & Mustapha, M. (2024). The impact of internal audit on enterprise risk management effectiveness in Jordanian public-listed companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 14(1), 49-57.

- Jidda, D. J., Zhen, L., Ashraf, S. F., Nasir, A., & Amoako, T. (2025). Value of enterprise risk management integration and supply chain performance: Mediating role of firm's resilience capability. *SAGE Open* 5(2), 12-16.
- Liu, G., Wang, J., Sun, Y., Guo, J., & Zhao, Y. (2024). Internal audit quality and accounting information comparability: Evidence from China. *PLOS ONE*, 19(10), 31-95.
- Lonto, M. P., Sukoharsono, E. G., Baridwan, Z., & Prihatiningtias, Y. W. (2023). The effectiveness of internal audit for fraud prevention. *Australasian Business, Accounting and Finance Journal*, 17(3), 171–190.
- Mujalli, A. (2024). Factors affecting the implementation of risk-based internal auditing. *Journal of Risk and Financial Management*, 17(5), 196-200.
- Neel, M., & Xu, J. (2025). Does enterprise risk management bolster investor confidence? Evidence from options-based restatement contagion, investment, and misstatements. *Contemporary Accounting Research*, 42(4), 2826–2860.
- Novatiani, R. A., Kusumah, R. W. R., Yadiati, W., Rachmata, R. A. H., & Rachmana, A. A. (2024). Internal auditor competence and internal control: Improving internal audit quality to prevent fraudulent financial statements. *Cogent Business & Management*, 11(1), 240-259.
- Purwohedi, U. (2025). Too much stress? The moderating effect of role-stress on the nexus of internal auditor competence and internal audit effectiveness. *International Journal of Ethics and Systems* 14(9), 6–10.
- Quampah, D. K., Salia, H., Fusheini, K., & Adoboe-Mensah, N. (2021). Factors affecting the internal audit effectiveness in local government institutions in Ghana. *Journal of Accounting and Taxation*, 13(4), 255–269.
- Salifu, I., Mohammed, D., Alhassan, N., & Amaning, N. (2022). Effectiveness of internal audit function in public sector organisations in Northern Region of Ghana. *African Journal of Accounting, Auditing and Finance*, 8(2), 132–153.
- Ta, T. T., & Doan, T. N. (2022). Factors affecting internal audit effectiveness: Empirical evidence from Vietnam. *International Journal of Financial Studies*, 10(2), 37.
- Vuko, T., Čular, M., & Slapničar, S. (2022). Effectiveness of cybersecurity audit. *International Journal of Accounting Information Systems*, 44(1), 15-18.
- Wang, P., & Liang, S. (2025). Internal audit independence, legal person governance structure, and financial reporting quality. *International Review of Economics & Finance*, 10(1), 10-14.
- Yeboah, E. (2020). Critical literature review on internal audit effectiveness. *Open Journal of Business and Management*, 8(1), 1977–1987.