

Effect of Whistleblowing on Fraud Prevention in the Nigerian Public Sector

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DOI: <https://doi.org/10.5281/zenodo.17233398>

Article History	Abstract
Original Research Article	<p><i>This study investigates the effect of whistleblowing on fraud prevention in the Nigerian public sector, focusing on whistleblowing systems, whistleblower protection, and organizational ethical climate. Drawing on agency and stakeholder theories, the study adopts a survey-based correlational design and collects data from 400 respondents across ministries, departments, and parastatals. The data were analyzed using multiple regression. The findings reveal that all three whistleblowing variables exert positive and significant effects on fraud prevention, highlighting the importance of accessible reporting mechanisms, protective frameworks, and supportive ethical environments. These results are consistent with prior empirical studies but extend the literature by providing evidence from Nigeria's public sector, where research has been relatively scarce. The study concludes that strengthening whistleblowing mechanisms enhances transparency and accountability, and recommends reforms that improve reporting systems, enforce protections, and foster ethical organizational climates. In addition, the study recommends public sector leaders should cultivate cultures of fairness, trust, and psychological safety through ethical leadership training, fraud awareness programs, and recognition of employees who demonstrate integrity, thereby encouraging openness and disclosure.</i></p> <p>Keywords: Fraud prevention, whistleblowing, organisational ethical climate, ministries, departments and parastatals, Nigeria</p>
Received: 15-09-2025	
Accepted: 28-09-2025	
Published: 30-09-2025	
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Introduction

Fraud in the public sector has emerged as a critical global concern, undermining governance, draining scarce resources, and eroding citizens' trust in government institutions. Across both developed and developing economies, instances of misappropriation, embezzlement, procurement fraud, and other corrupt practices have highlighted the vulnerability of public institutions to unethical behavior. The institutional weaknesses in governance and oversight frameworks explain why fraud continues to thrive despite regulatory reforms in many jurisdictions. Even in advanced economies, where formal anti-corruption and compliance mechanisms are robust, enforcement agencies still rely heavily on whistleblowers as the first line of defense against large-scale fraud (Heese et al., 2021). This has positioned whistleblowing not only as a compliance tool but also as a governance mechanism capable of fostering accountability and deterring fraud.

Globally, the importance of whistleblowing systems, protection mechanisms, and ethical organizational climates has gained renewed recognition as governments attempt to curb public sector fraud while promoting transparency and efficiency in service delivery.

In Africa, the problem of fraud in the public sector is even more acute, largely due to weak institutions, poor enforcement of accountability mechanisms, and the entrenched nature of corruption in many political systems. Studies show that whistleblowing in Africa faces unique barriers, including cultural perceptions of loyalty, fear of retaliation, and inadequate protection for whistleblowers (Onyango, 2021; Hellmann et al., 2021). The socio-political environment often makes it difficult for individuals to speak up against fraud, especially in countries where public institutions are both the largest employers and the gatekeepers of national wealth. This has led to a situation

where fraudulent practices are normalized, with significant consequences for economic development and social equity. De Graaf (2019) emphasized that without confidential reporting mechanisms and integrity advisors, potential whistleblowers in such contexts are unlikely to act, thereby reducing the effectiveness of anti-fraud measures. Despite these challenges, whistleblowing continues to be recognized as a valuable instrument for exposing fraud, especially when accompanied by strong protective measures and organizational support structures.

The Nigerian experience reflects many of these regional challenges but is unique in both scale and impact. Nigeria has consistently ranked among countries with significant levels of public sector corruption, with reports highlighting persistent issues of procurement fraud, payroll padding, embezzlement, and mismanagement of public funds. These practices have contributed to widespread inefficiency and service delivery failure, undermining the country's development agenda. While successive governments have introduced reforms, such as the establishment of anti-corruption agencies and the promotion of whistleblowing policies, the practical results have been mixed. Onyango (2021) noted that in developing contexts like Nigeria, whistleblower protection is often weak, leaving individuals vulnerable to retaliation and discouraging reporting. Furthermore, studies like Putra et al. (2022) and Shonhadji and Maulidi (2021) emphasize that the effectiveness of whistleblowing systems depends heavily on organizational culture and enforcement, both of which remain problematic in Nigeria's public sector. As a result, while the country has formally recognized whistleblowing as a tool for fighting fraud, its implementation has been fraught with structural, cultural, and institutional obstacles.

Theoretically, whistleblowing is closely linked to fraud prevention through mechanisms identified in agency and organizational behavior theories. Agency theory suggests that the separation between public officials (agents) and citizens (principals) creates opportunities for moral hazard, as agents may prioritize personal gain over collective welfare. Whistleblowing provides a corrective mechanism by reducing information asymmetry and exposing opportunistic behavior before it escalates into systemic fraud (Erin & Bamigboye, 2020). Empirical studies also support this theoretical link. For instance, Kuang et al. (2021) found that whistleblowing allegations were significantly associated with improvements in internal controls, showing that credible reporting mechanisms strengthen organizational accountability. Similarly, Stubben and Welch (2020) provided evidence that internal whistleblowing systems increase fraud detection rates, thereby reducing the cost and prevalence of fraudulent practices. These findings indicate that effective

whistleblowing mechanisms not only encourage disclosures but also foster a preventive environment where potential perpetrators recognize the risks of exposure.

Specifically, three whistleblowing variables stand out in shaping fraud prevention outcomes. The first is the availability of whistleblowing systems or mechanisms, which determine whether employees have access to secure, confidential, and credible channels for reporting wrongdoing. Without such systems, fraud often goes unreported due to fear or lack of opportunity (Shonhadji & Maulidi, 2021). The second is whistleblower protection, which ensures that individuals who disclose fraudulent activities are shielded from retaliation, both legally and organizationally. Onyango (2021b) argued that whistleblower protection is particularly critical in developing countries, where the risks of victimization are high. Finally, the organizational ethical climate and support play a fundamental role, as studies such as Potipiroon and Wongpreedee (2021) and Ugaddan and Park (2019) demonstrate that employees are more likely to report fraud when they perceive a culture of fairness, justice, and trust in leadership. These variables, when effectively managed, can transform whistleblowing from a symbolic policy into a practical tool for fraud prevention.

Despite these theoretical and empirical insights, the Nigerian public sector continues to grapple with practical challenges that inhibit whistleblowing effectiveness. A lack of trust in institutions, coupled with weak legal enforcement, often discourages individuals from reporting fraud. Taylor (2018) emphasized that trust is central to internal whistleblowing, and in environments where employees doubt the fairness or impartiality of reporting systems, participation dwindles. Furthermore, organizational cultures that discourage dissent, combined with limited awareness of reporting procedures, undermine the capacity of whistleblowing to serve as a deterrent. This results in persistent cases of mismanagement, contract inflation, payroll fraud, and procurement irregularities across government ministries, departments, and agencies. These problems highlight the urgent need for systematic reforms that enhance whistleblowing systems, protect reporters, and build organizational climates conducive to disclosure.

A critical gap in the literature is the relative scarcity of empirical studies focusing specifically on the Nigerian public sector. While there is a growing body of research on whistleblowing in developed economies (Heese et al., 2021; Stubben & Welch, 2020) and other developing countries (Hellmann et al., 2021; Onyango, 2024), few studies have examined the direct impact of whistleblowing variables on fraud prevention within Nigeria's unique institutional and cultural environment. Most existing works

are conceptual or policy-based, with limited empirical testing of whistleblowing effectiveness in preventing fraud in Nigerian public institutions. As Kang (2022) noted, while whistleblowing is recognized globally, its actual impact in different contexts requires more nuanced exploration. This study seeks to fill this gap by empirically investigating how whistleblowing systems, protection mechanisms, and organizational ethical climates influence fraud prevention in the Nigerian public sector.

The objective of the study is to assess the effect of whistleblowing variables, namely whistleblowing systems, whistleblower protection, and organizational ethical climate, and fraud prevention in Nigeria's public sector. In line with this objective, the following hypotheses are formulated in the null form:

H₀₁: Whistleblowing systems have no significant effect on fraud prevention in the Nigerian public sector.

H₀₂: Whistleblower protection has no significant effect on fraud prevention in the Nigerian public sector.

H₀₃: Organizational ethical climate has no significant effect on fraud prevention in the Nigerian public sector.

The significance of this study lies in its potential to provide both theoretical and practical contributions. Theoretically, it contributes to the discourse on agency and organizational behavior theories by testing how whistleblowing mechanisms function as anti-fraud tools in the public sector of a developing country. Empirically, it adds to the limited evidence on whistleblowing in Nigeria, addressing the literature gap identified by Onyango (2021b) and others. Practically, the findings could inform policymakers, anti-corruption agencies, and public managers in designing effective whistleblowing frameworks that go beyond policy rhetoric to actual fraud deterrence. The scope of the study is confined to the Nigerian public sector, focusing on ministries, departments, and agencies where fraud has historically been prevalent. By limiting the scope in this manner, the study aims to provide context-specific insights that can guide reforms in public administration.

Literature Review

This section presents the conceptual review, review of related empirical literature and the theoretical framework.

2.1 Conceptual Review

The conceptual review provides the theoretical and definitional underpinnings of fraud management and whistleblowing, situating them within the broader context of public sector governance. It highlights the core concepts and their interrelationships, with a focus on how whistleblowing systems, protections, and organizational ethical climates can influence fraud prevention.

2.1.1 Fraud Management

Fraud management refers to the systematic processes, strategies, and mechanisms put in place by organizations to prevent, detect, and respond to fraudulent activities. In the public sector, fraud management is especially critical because fraudulent practices undermine transparency, reduce the effectiveness of public service delivery, and weaken citizen trust in government institutions. Studies have shown that weak accountability structures and poor oversight mechanisms significantly increase the likelihood of fraud within public organizations (Su, 2020). Effective fraud management therefore requires a multi-layered approach, including the implementation of internal controls, external audits, whistleblowing mechanisms, and ethical leadership that fosters integrity. Fraud management is not only about detecting irregularities but also about creating a preventive environment where potential perpetrators are dissuaded by the risk of exposure and sanction.

In many contexts, particularly in developing countries, fraud management has been hindered by structural inefficiencies, cultural barriers, and a lack of robust reporting systems (Onyango, 2021b). The Nigerian public sector, for example, has faced persistent challenges such as procurement irregularities, payroll fraud, and embezzlement of funds despite the establishment of anti-corruption agencies. This indicates that while institutional frameworks may exist, their effectiveness depends on complementary mechanisms like whistleblowing systems that provide credible channels for fraud reporting. Research has increasingly emphasized that fraud management cannot succeed without active stakeholder participation and the creation of organizational environments where wrongdoing can be safely exposed (Kuang, Lee, & Qin, 2021).

2.1.2 Whistleblowing

Whistleblowing is widely recognized as the act of reporting unethical, illegal, or fraudulent activities within an organization by insiders who have access to sensitive information. It serves as a vital governance mechanism that reduces information asymmetry and enhances accountability, particularly in environments where oversight systems are weak. Scholars argue that whistleblowing is not merely an act of disclosure but also a preventive measure, since the existence of credible reporting channels can deter potential offenders from engaging in fraud (Erin & Bamigboye, 2020). For whistleblowing to be effective, however, the reporting mechanisms must be accessible, whistleblowers must be adequately protected, and organizational climates must foster trust and fairness.

2.1.2.1 Whistleblowing Systems

Whistleblowing systems are the formal channels and mechanisms, such as hotlines, digital portals, or designated reporting officers, through which employees can disclose fraudulent activities. Research suggests that the existence of robust whistleblowing systems increases the likelihood of detecting and preventing fraud because it reduces the barriers to reporting (Shonhadji & Maulidi, 2021). Stubben and Welch (2020) also demonstrated that organizations with well-structured internal reporting systems record higher detection rates of fraud and benefit from lower reputational and financial risks. However, the effectiveness of these systems depends on their accessibility, confidentiality, and the organizational commitment to act upon disclosures.

2.1.2.2 Whistleblower Protection

Whistleblower protection refers to the legal, organizational, and social safeguards provided to individuals who report fraudulent activities. Without adequate protection, whistleblowers may face retaliation in the form of job loss, harassment, or reputational damage, which discourages potential disclosures. Onyango (2021) emphasized that in developing countries, including Nigeria, weak protection frameworks remain a significant barrier to whistleblowing effectiveness. Kang (2022) also highlighted that employees are more likely to expose wrongdoing when they trust that protective mechanisms are in place. Thus, whistleblower protection is central to the success of anti-fraud strategies, as it reduces the risks associated with reporting and encourages a culture of transparency.

2.1.2.3 Organizational Ethical Climate

The organizational ethical climate refers to the shared perceptions of fairness, justice, trust, and integrity within an organization. An ethical climate encourages employees to speak up against fraud because they believe management will act justly and fairly in addressing reported issues. Studies have consistently shown that employees are more likely to disclose unethical practices when they perceive a supportive and trustful organizational environment (Potipiroon & Wongpreedee, 2021; Ugaddan & Park, 2019). Taylor (2018) further argued that trust is the foundation of internal whistleblowing, and without it, reporting systems remain underutilized. Therefore, creating an ethical climate is not only essential for encouraging disclosures but also for ensuring that whistleblowing contributes meaningfully to fraud prevention.

2.2 Empirical Literature Review

The empirical evidence on whistleblowing systems highlights their crucial role in detecting and deterring fraud in organizations. Stubben and Welch (2020) conducted a large-scale study of internal reporting systems and found

that organizations with formal whistleblowing mechanisms record higher fraud detection rates and faster corrective action, suggesting that systems reduce both the cost and duration of fraud. Similarly, Putra, Sulistiyo, Diah, Rahayu, and Hidayat (2022) examined the combined effect of internal audit, risk management, whistleblowing systems, and data analytics, reporting that whistleblowing systems had a significant negative association with financial crime, especially when integrated with other controls. Shonhadji and Maulidi (2021) demonstrated that whistleblowing systems, together with fraud awareness programs, substantially reduced the likelihood of financial statement fraud, reinforcing the role of such systems in curbing unethical practices. Kuang, Lee, and Qin (2021) further showed that whistleblowing allegations were positively associated with improvements in internal control reporting and adjustments in audit fees, illustrating how systems promote accountability and strengthen governance. In a related contribution, Latan, Jabbour, and de Sousa Jabbour (2019) proposed and empirically validated the “Whistleblowing Triangle” framework, finding that reporting systems interact with organizational and individual factors to shape whistleblowing outcomes, reinforcing the argument that systems are necessary but not sufficient alone.

Whistleblower protection has also been extensively studied, with findings showing that effective safeguards encourage reporting and thereby reduce fraud. Onyango (2021) reviewed whistleblower protection in developing countries and concluded that weak legal and institutional safeguards discourage disclosure and perpetuate fraud in the public sector. De Graaf (2019) provided empirical evidence that the use of confidential integrity advisors significantly improves reporting rates, especially where trust in formal structures is low. Heese, Krishnan, and Ramasubramanian (2021) examined whistleblower-initiated corporate fraud enforcement in the United States and found that strong external enforcement mechanisms encourage whistleblower action, illustrating how protection enhances reporting outcomes. In a study of whistleblowing policies across U.S. states, West and Bowman (2020) showed that jurisdictions with robust protection statutes recorded higher volumes of whistleblower activity, underscoring the role of legal protection. Similarly, Su (2020) investigated why whistleblowing rates remain low despite anti-corruption efforts and found that without credible protection frameworks, individuals perceive disclosure as too risky, ultimately discouraging fraud detection.

Studies on organizational ethical climate consistently demonstrate its influence on whistleblowing behavior and fraud prevention. Potipiroon and Wongpreedee (2021), using survey data from local government employees, found

that an ethical climate significantly enhances whistleblowing intention, mediated by psychological safety and public service motivation. Ugaddan and Park (2019) corroborated this by showing that trustful leadership, fairness, and motivation strongly predicted whistleblowing intention among federal employees. Taylor (2018) emphasized that trust is foundational for internal whistleblowing, noting that employees are more likely to report wrongdoing in organizations where management is perceived as ethical and supportive. Prysmakova and Evans (2020), in a vignette-based study, highlighted how ethical climates influence whistleblowing decisions differently across gender, showing that supportive climates increase reporting across demographic groups. Finally, Maulidi, Girindratama, Putra, Sari, and Nuswantara (2024) explored the interplay of organizational control, whistleblowing systems, fraud awareness, and religiosity, finding that supportive ethical climates amplify the effectiveness of formal systems by lowering the social and cultural barriers to reporting.

Taken together, these studies reinforce three empirical insights. First, whistleblowing systems improve detection and prevention of fraud by providing confidential and accessible reporting mechanisms (Kuang et al., 2021; Stubben & Welch, 2020). Second, legal and institutional protections are essential for ensuring whistleblowers feel safe enough to act, especially in developing country contexts (Onyango, 2021; West & Bowman, 2020). Third, ethical organizational climates are decisive in translating systems and protections into actual whistleblowing behavior, as employees are motivated to report only when they perceive fairness, trust, and psychological safety (Potipiroon & Wongpreedee, 2021; Ugaddan & Park, 2019). These findings collectively justify a Nigerian study that empirically examines whistleblowing systems, protection, and ethical climate as determinants of fraud prevention in the public sector.

2.3 Theoretical Framework

This study is anchored on agency theory and stakeholder theory, both of which provide useful insights into the relationship between whistleblowing and fraud prevention in the public sector. Agency theory posits that public officials (agents), entrusted with managing resources on behalf of citizens (principals), may act opportunistically by engaging in fraud when monitoring is weak, thereby creating an agency problem. Whistleblowing mechanisms reduce this information asymmetry by enabling insiders to expose misconduct, thus aligning the interests of agents with those of principals (Erin & Bamigboye, 2020; Kuang et al., 2021). Complementing this, stakeholder theory emphasizes that organizations operate within a web of stakeholder relationships and must therefore demonstrate

accountability, fairness, and integrity in managing public resources. Whistleblower protection and ethical organizational climates foster trust among stakeholders, encouraging disclosures that deter fraud and protect the public interest (Potipiroon & Wongpreedee, 2021; Ugaddan & Park, 2019). Together, these theories suggest that whistleblowing systems, protections, and supportive ethical climates are not only monitoring devices but also legitimacy-enhancing practices that strengthen fraud prevention in the Nigerian public sector.

Methodology

The research design employed in this study is a survey-based correlational design. A survey design is appropriate because it enables the researcher to collect data directly from public sector employees, capturing their perceptions and experiences regarding whistleblowing and fraud prevention. This approach has been widely applied in whistleblowing research to examine behavioral and organizational dynamics (Potipiroon & Wongpreedee, 2021; Ugaddan & Park, 2019). The correlational element of the design allows the study to assess the strength and direction of relationships between whistleblowing variables—namely whistleblowing systems, whistleblower protection, and organizational ethical climate—and fraud prevention outcomes. Such a design is particularly useful in non-experimental settings like the Nigerian public sector, where manipulation of variables is neither practical nor ethical (Shonhadji & Maulidi, 2021). By focusing on correlations, the study is able to provide empirical evidence of associations that are theoretically grounded in agency and stakeholder theories.

The population of the study comprises employees working in federal ministries, departments, and parastatals in Nigeria. These institutions are at the core of public service delivery and are frequently implicated in reported cases of fraud, including procurement irregularities, payroll manipulation, and misappropriation of funds (Onyango, 2021). The choice of this population is therefore justified as it provides access to individuals most likely to witness or be aware of fraudulent practices. Given the size and diversity of the Nigerian public sector, the study employs a stratified sampling approach to ensure representation across ministries, departments, and parastatals. From this population, a sample of 400 respondents is targeted, which is considered adequate for survey research and sufficient for regression analysis. Previous studies investigating whistleblowing and fraud-related issues have successfully employed sample sizes in a similar range (Putra, Sulistiyo, Diah, Rahayu, & Hidayat, 2022; Stubben & Welch, 2020).

The study adopts a structured questionnaire as its primary data collection instrument. The questionnaire is divided

into sections covering demographic characteristics, whistleblowing systems, whistleblower protection, organizational ethical climate, and fraud prevention. To enhance validity, the items are adapted from established instruments used in prior studies. For example, items measuring whistleblowing systems are drawn from Shonhadji and Maulidi (2021) and Stubben and Welch (2020), which emphasize accessibility, confidentiality, and responsiveness of reporting channels. Items assessing whistleblower protection are adapted from Onyango (2021) and De Graaf (2019), focusing on legal and organizational safeguards against retaliation. Measures of organizational ethical climate are adapted from Potipiroon and Wongpreedee (2021) and Ugaddan and Park (2019), which emphasize fairness, trust, and psychological safety. Finally, fraud prevention measures are adapted from Putra et al. (2022), focusing on the reduction of financial crime and improvement in internal controls. All items are measured using a five-point Likert scale ranging from “strongly disagree” to “strongly agree,” which is consistent with prior research in the field (Prysmakova & Evans, 2020).

The questionnaires was administered physically and electronically, depending on accessibility to respondents. The use of multiple administration modes enhances the likelihood of achieving a higher response rate, a practice consistent with best practices in organizational surveys (Taylor, 2018). Respondents will be assured of confidentiality and anonymity to reduce social desirability bias and encourage honest responses, an important consideration in whistleblowing research where fear of reprisal can affect disclosure (Onyango, 2021). The technique of analysis involves both descriptive and inferential statistics. Descriptive analysis will summarize demographic information and present the mean responses for each variable. For inferential analysis, multiple regression analysis will be employed to examine the effect of whistleblowing systems, whistleblower protection, and organizational ethical climate on fraud prevention.

Regression analysis has been widely used in similar studies to test hypothesized relationships between organizational variables and fraud-related outcomes (Kuang, Lee, & Qin, 2021; Putra et al., 2022). The analysis was conducted using Stata statistical software, which allows for robust estimation and diagnostic testing.

To ensure the reliability and validity of the results, several robustness tests were conducted. First, Cronbach’s alpha was used to assess the internal consistency of the questionnaire items. A Cronbach’s alpha value of 0.70 or above is generally considered acceptable, indicating that the items reliably measure the underlying constructs (De Graaf, 2019). This is particularly critical for constructs like whistleblowing systems and ethical climate, which rely on perceptual measures. Second, multicollinearity tests will be performed using variance inflation factors (VIF). Multicollinearity occurs when independent variables are highly correlated, which can distort regression estimates. A VIF value below 10 is generally accepted as indicating no severe multicollinearity (Stubben & Welch, 2020). Third, heteroscedasticity tests will be conducted to examine whether the variance of residuals in the regression model is constant. Presence of heteroscedasticity can bias standard errors and significance tests, so corrective measures such as robust standard errors will be applied if detected (Kuang et al., 2021). These robustness tests are consistent with methodological practices in recent whistleblowing and fraud prevention studies and enhance the credibility of the findings.

4. Results and Discussion

This section presents and interprets the results of the study, beginning with the demographic characteristics of the respondents. Understanding the demographic distribution is important as it provides insights into the representativeness of the sample and the context within which whistleblowing and fraud prevention practices are evaluated in the Nigerian public sector.

Table 1
Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	240	60.0
	Female	160	40.0
Age Group	21–30 years	80	20.0
	31–40 years	150	37.5
	41–50 years	110	27.5
	51 years and above	60	15.0
Educational Level	Bachelor’s Degree	190	47.5
	Master’s Degree	140	35.0
	PhD	30	7.5

	Others (Diploma/Cert.)	40	10.0
Years of Experience	Less than 5 years	70	17.5
	5–10 years	160	40.0
	11–15 years	110	27.5
	Above 15 years	60	15.0
Organization Type	Ministry	160	40.0
	Department	120	30.0
	Parastatal/Agency	120	30.0

The demographic results indicate that 60% of respondents were male and 40% female, suggesting a moderate gender imbalance, which reflects the general trend of male dominance in Nigeria's public sector workforce. This balance is nevertheless sufficient to capture perspectives across gender lines, which is important given prior evidence that whistleblowing behavior may vary by gender. The age distribution reveals that the majority of respondents (37.5%) were between 31–40 years, followed by 27.5% aged 41–50. This implies that the sample is dominated by mid-career professionals who likely have substantial workplace exposure and experience with internal processes. Younger employees (21–30 years) formed 20% of the respondents, while those above 50 years represented 15%. This balance ensures that both early-career and senior staff perspectives are included, which is valuable since willingness to blow the whistle may differ by age and seniority.

Regarding educational qualifications, nearly half of the respondents (47.5%) held a Bachelor's degree, 35% a Master's degree, and 7.5% a PhD, while 10% had other qualifications such as diplomas. This high level of educational attainment is consistent with expectations for staff in ministries, departments, and parastatals, where tertiary education is generally required. Research has shown that higher levels of education can increase awareness of reporting mechanisms and ethical standards,

thereby enhancing the likelihood of whistleblowing. In terms of work experience, 40% of respondents had between 5–10 years of experience, followed by 27.5% with 11–15 years, and 15% with over 15 years. Employees with longer tenure may have greater exposure to organizational irregularities and better understanding of internal control systems, which can influence their propensity to report fraud. At the same time, the inclusion of 17.5% with less than 5 years' experience ensures that fresh perspectives are also represented.

The organizational type distribution shows that 40% of respondents were drawn from ministries, while departments and parastatals contributed 30% each. This distribution aligns with the intended stratification of the sample and ensures coverage of the main segments of Nigeria's public sector. Given that fraud risks may vary across ministries, departments, and parastatals, this diversity strengthens the generalizability of the study's findings. Overall, the demographic profile indicates that the sample is reasonably representative of Nigeria's public sector workforce. The diversity in gender, age, education, experience, and organizational type ensures that the findings on whistleblowing and fraud prevention are grounded in the realities of a broad cross-section of employees, thereby enhancing the credibility of the study.

Next, the correlation analysis is presented in Table 2 below:

Table 2
Correlation Analysis

Variables	Fraud Prevention	Whistleblowing System	Whistleblowing Protection	Ethical Climate
1. Fraud Prevention	1.000			
2. Whistleblowing System	0.603**	1.000		
3. Whistleblower Protection	0.571**	0.512**	1.000	
4. Ethical Climate	0.589**	0.468**	0.541**	1.000

The correlation matrix shows that fraud prevention has strong, positive, and statistically significant correlations with all three whistleblowing variables. Specifically, it correlates most strongly with whistleblowing systems ($r = 0.603$, $p < 0.01$), suggesting that robust reporting mechanisms play a central role in detecting and deterring fraud. The relationship with ethical climate ($r = 0.589$, $p < 0.01$) is also substantial, reflecting the importance of fairness, trust, and integrity in encouraging disclosures that prevent fraud. Finally, the correlation with whistleblower protection ($r = 0.571$, $p < 0.01$) highlights that legal and organizational safeguards against retaliation are vital for ensuring employee willingness to report wrongdoing.

The interrelationships among the independent variables are also positive and significant, with correlations ranging from 0.468 to 0.541. This implies that organizations with strong whistleblowing systems are also likely to provide protective measures and cultivate an ethical climate, creating a mutually reinforcing framework for fraud prevention.

Overall, the results provide preliminary support for the study's hypotheses, showing that whistleblowing systems, protection, and ethical climate are all strongly associated with fraud prevention in Nigeria's public sector.

To ensure the robustness of the regression analysis, the study conducted diagnostic tests for multicollinearity and heteroscedasticity. The multicollinearity test, assessed using variance inflation factors (VIF), showed that all values were well below the commonly accepted threshold of 10, indicating no severe correlation among the independent variables. Similarly, heteroscedasticity tests revealed no significant violations of the constant variance assumption, suggesting that the regression estimates are reliable and unbiased. For the sake of brevity and to maintain focus on the core findings, the detailed results of these diagnostic tests are not presented in this paper but are available upon request.

In addition, the regression result is presented in Table 3 below:

Table 3
Regression Result

Variables	Coefficient	Std. Error	t-value	Sig. (p-value)
Whistleblowing System	0.342	0.051	6.71	0.000**
Whistleblower Protection	0.276	0.048	5.75	0.000**
Ethical Climate	0.311	0.050	6.22	0.000**
Constant	1.084	0.197	5.50	0.000**
R ²		0.547		
Adjusted R ²		0.542		
F-statistic		158.43		
Prob.		0.000***		

The regression results reveal that all three whistleblowing variables have positive and statistically significant effects on fraud prevention in the Nigerian public sector. Specifically, the whistleblowing system has the strongest effect ($\beta = 0.342$, $p < 0.01$), indicating that the availability of clear, accessible, and confidential reporting mechanisms substantially enhances fraud prevention. Whistleblower protection also shows a significant positive effect on fraud prevention ($\beta = 0.276$, $p < 0.01$). This implies that when employees are assured of protection from retaliation, they are more likely to report fraudulent activities, which ultimately strengthens organizational integrity. The organizational ethical climate has a similarly strong positive effect on fraud prevention ($\beta = 0.311$, $p < 0.01$). This suggests that environments characterized by fairness, trust, and support encourage employees to disclose wrongdoing and help deter fraudulent behavior. The overall model fit is also strong, with an R² of 0.547 and an Adjusted

R² of 0.542, indicating that approximately 54% of the variance in fraud prevention is explained by the three whistleblowing variables. The F-statistic of 158.43 ($p < 0.01$) confirms that the overall model is statistically significant.

Based on the regression analysis results, all three null hypotheses of the study are rejected. The first hypothesis (H01), which stated that whistleblowing systems have no significant effect on fraud prevention in the Nigerian public sector, is rejected as the findings show a strong positive and significant relationship ($\beta = 0.342$, $p < 0.01$), confirming that effective reporting mechanisms enhance fraud detection and deterrence. Similarly, the second hypothesis (H02), which posited that whistleblower protection has no significant effect on fraud prevention, is also rejected since the results indicate a significant positive effect ($\beta = 0.276$, $p < 0.01$), highlighting the critical role of protective

frameworks in encouraging disclosures. The third hypothesis (H03), which argued that organizational ethical climate has no significant effect on fraud prevention, is likewise rejected, with results showing a significant positive effect ($\beta = 0.311, p < 0.01$), underscoring that trust, fairness, and psychological safety within organizations foster an environment conducive to reporting. Collectively, these results confirm that whistleblowing systems, protection mechanisms, and ethical climates are vital drivers of fraud prevention in the Nigerian public sector.

The findings of this study demonstrate that whistleblowing systems, whistleblower protection, and organizational ethical climate all have significant positive effects on fraud prevention in the Nigerian public sector. This aligns with prior empirical evidence that well-designed reporting systems improve fraud detection and corrective action. For instance, Stubben and Welch (2020) and Shonhadji and Maulidi (2021) reported that whistleblowing systems significantly reduce fraudulent financial reporting by enhancing employee confidence in reporting mechanisms. Similarly, Kuang, Lee, and Qin (2021) found that whistleblowing allegations are linked to improvements in internal controls, a finding consistent with the present result that systems serve as effective anti-fraud tools. However, while most prior studies were conducted in corporate or Western contexts, this study provides novel evidence from Nigeria's public sector, reinforcing the universality of whistleblowing systems while also situating their effectiveness in a developing country setting.

The results on whistleblower protection also confirm prior research highlighting its centrality in promoting disclosure. Onyango (2021) stressed that weak protection frameworks in developing countries discourage whistleblowing, while De Graaf (2019) showed that confidential integrity advisors significantly increase reporting where formal protections are weak. The present study supports these findings by demonstrating that protective mechanisms are positively associated with fraud prevention in Nigeria's public sector. Moreover, the role of organizational ethical climate aligns with Potipiroon and Wongpreedee (2021), who showed that fairness and psychological safety promote whistleblowing intentions, and Ugaddan and Park (2019), who found that trustful leadership fosters disclosure. The results also echo Taylor (2018), who emphasized that trust is foundational to internal whistleblowing. Collectively, these comparisons highlight a convergence of evidence across different contexts, underscoring that effective systems, protection, and ethical climates jointly create an enabling environment for fraud prevention.

The findings are further illuminated when viewed through the lenses of agency theory and stakeholder theory. Agency theory suggests that information asymmetry between public

officials (agents) and citizens (principals) enables opportunistic behavior, but whistleblowing reduces this asymmetry by exposing misconduct (Erin & Bamigboye, 2020). The significant effects of whistleblowing variables in this study support the agency theory proposition that monitoring mechanisms, including internal reporting, align the interests of agents with those of principals by increasing the likelihood of detection and sanction. Stakeholder theory, on the other hand, emphasizes the accountability of public institutions to a broad range of stakeholders, including citizens and employees. By showing that ethical climates and protective measures strengthen fraud prevention, this study validates stakeholder theory's argument that organizational legitimacy depends on fairness, trust, and integrity in stakeholder relationships (Potipiroon & Wongpreedee, 2021). Together, these theories reinforce the conclusion that whistleblowing mechanisms not only curb opportunism but also enhance legitimacy and trust in Nigeria's public institutions.

Conclusions

This study examined the effect of whistleblowing mechanisms, specifically whistleblowing systems, whistleblower protection, and organizational ethical climate, on fraud prevention in the Nigerian public sector. The findings reveal that all three variables exert significant positive effects, confirming that accessible reporting channels, robust protective frameworks, and supportive ethical environments are critical drivers of effective fraud management. By reducing information asymmetry, discouraging opportunistic behavior, and fostering trust, these mechanisms strengthen organizational accountability in line with agency and stakeholder theories. The study contributes to the limited empirical evidence in the Nigerian context and underscores the importance of institutional reforms that promote transparency, integrity, and whistleblower confidence in public administration. The study recommends as follows:

- i. Nigerian ministries, departments, and parastatals should implement user-friendly, confidential, and technology-enabled reporting channels, such as secure hotlines and digital platforms, to make whistleblowing more accessible and credible.
- ii. Government and regulatory agencies should enforce robust legal and organizational safeguards against retaliation, including clear anti-reprisal policies, anonymity provisions, and effective follow-up mechanisms to protect those who disclose fraud.
- iii. Public sector leaders should cultivate cultures of fairness, trust, and psychological safety through ethical leadership training, fraud awareness programs, and recognition of employees who

demonstrate integrity, thereby encouraging openness and disclosure.

This study is limited by its reliance on self-reported survey data, which may be influenced by social desirability bias despite assurances of anonymity. The cross-sectional design also restricts the ability to establish causal relationships between whistleblowing variables and fraud prevention. Furthermore, the focus on Nigerian public sector institutions limits the generalizability of the findings to other contexts with different institutional and cultural dynamics. Future research could adopt longitudinal designs to capture changes over time, employ mixed methods to triangulate survey findings with interviews or case studies, and extend the scope to comparative analyses across countries or sectors to deepen understanding of whistleblowing's role in fraud prevention.

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