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IMPACT OF FINANCIAL MANAGEMENT POLICIES ON FRAUD DETECTION IN THE NIGERIAN PUBLIC SECTOR

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Abstract

This study examines the impact of financial management policies on fraud detection in the Nigerian public sector, focusing on the Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPPIS), and Government Integrated Financial Management Information System (GIFMIS). Using regression analysis, the findings reveal that TSA has the most significant impact on fraud detection, demonstrating its effectiveness in reducing financial leakages. IPPIS also contributes to fraud detection, though challenges such as ghost workers persist. However, GIFMIS does not show a significant effect, suggesting weak implementation and institutional inefficiencies. Additionally, government interference plays a crucial role in shaping the effectiveness of these policies. The study underscores the need for comprehensive policy enforcement, stricter compliance mechanisms, and reduced political interference to strengthen fraud detection. Recommendations include full implementation of TSA across all MDAs, regular biometric audits to improve IPPIS efficiency, and enhanced training for GIFMIS personnel. Furthermore, strengthening anti-corruption institutions and leveraging technology for real-time monitoring can further improve fraud management. The findings contribute to the growing discourse on public sector financial accountability, providing empirical evidence for policymakers to enhance financial management strategies and mitigate fraud risks in Nigeria.

Keywords: Financial management policies, fraud detection, TSA, IPPIS, GIFMIS, Nigerian public sector

1. Introduction

The Nigerian public sector has long struggled with financial mismanagement, inefficiency, and corruption, making fraud detection a critical aspect of financial management policies. Fraud in the sector manifests in various forms, including embezzlement, procurement fraud, and payroll fraud, all of which undermine public trust and economic stability. Financial management policies are designed to enhance transparency, accountability, and efficiency in the allocation and utilization of public funds (Adebayo & Ilesanmi, 2020). However, despite the implementation of these policies, fraud detection remains a persistent challenge, as weak institutional structures, poor oversight mechanisms, and a lack of technological integration continue to hinder the effectiveness of fraud prevention efforts (Onukelobi et al., 2019).

Financial management policies in Nigeria's public sector incorporate various measures aimed at

improving fraud detection, including stringent budgeting processes, enhanced financial reporting, and robust internal auditing frameworks (Olaoye et al., 2021). The adoption of modern accounting standards, such as accrual-based accounting, seeks to improve financial transparency, making it easier to identify fraudulent transactions. However, institutional weaknesses, including inadequate monitoring mechanisms and insufficient technological adoption, often create loopholes that fraudulent individuals exploit (Liman et al., 2019). Therefore, financial management policies must be continuously reviewed and strengthened to enhance fraud detection capabilities and safeguard public resources.

One of the key strategies for improving fraud detection in Nigeria's public sector is the implementation of technology-driven financial management systems. The Treasury Single Account (TSA) has played a significant role in fraud detection by centralizing

public funds, reducing financial opacity, and minimizing opportunities for fund misappropriation (Bagau, 2022). By providing real-time transaction monitoring and reconciliation, the TSA enhances fraud detection by ensuring that discrepancies in government revenue and expenditure are promptly identified (Solomon et al., 2023). However, while the TSA has improved financial oversight, challenges such as non-compliance and institutional resistance continue to limit its effectiveness in fully eliminating fraudulent activities.

The Integrated Personnel and Payroll Information System (IPPIS) is another financial management initiative aimed at enhancing fraud detection, particularly in payroll management. Before its introduction, payroll fraud—particularly the issue of ghost workers—was rampant in the public sector, leading to substantial financial losses (Liman et al., 2019). By centralizing personnel records and employing biometric verification, IPPIS has significantly reduced fraudulent salary payments and improved accountability in public payroll management. Additionally, the system allows for real-time monitoring of salary disbursements, helping to detect irregularities and unauthorized payments before they escalate (Wale & Taye, 2021). However, there remain concerns about data integrity, compliance enforcement, and the need for continuous updates to prevent sophisticated payroll fraud schemes.

The Government Integrated Financial Management Information System (GIFMIS) also contributes to fraud detection by providing a centralized and automated platform for financial transactions across government agencies. By digitizing financial data and reducing manual interventions, GIFMIS minimizes human-related errors and manipulation, making it easier to track fraudulent activities (Otemu et al., 2018). The system's audit trails and electronic documentation enhance financial transparency and enable auditors to detect inconsistencies that may indicate fraud (Nwokike et al., 2022). Despite these advantages, limitations such as cybersecurity risks and technical inefficiencies must be addressed to ensure GIFMIS remains a reliable tool for fraud detection in the Nigerian public sector.

Despite the implementation of financial management policies such as the Treasury Single Account (TSA),

Integrated Personnel and Payroll Information System (IPPIS), and Government Integrated Financial Management Information System (GIFMIS), fraud continues to persist in Nigeria's public sector. The effectiveness of these policies in fraud detection is limited by challenges such as weak institutional structures, lack of technological integration, and poor compliance among government agencies (Nwokike et al., 2022; Orie, 2023). For instance, while TSA has centralized public funds and minimized fund misappropriation, issues like non-compliance and institutional resistance have hindered its full effectiveness (Bagau, 2022). Similarly, IPPIS has reduced payroll fraud, particularly the problem of ghost workers, yet data integrity and enforcement issues remain major concerns (Wale & Taye, 2021). GIFMIS, designed to enhance financial transparency and real-time auditing, still faces cybersecurity risks and operational inefficiencies that limit its fraud detection potential (Otemu et al., 2018). To empirically assess these issues, data will be collected through a structured questionnaire based on a 5-point Likert scale, which will capture respondents' perceptions of fraud detection mechanisms and the effectiveness of financial management policies in mitigating fraudulent activities.

Understanding how these financial management policies influence fraud prevention and detection requires an assessment of their impact on organizational culture, decision-making processes, and incentives for reporting fraudulent activities (Nnamani et al., 2016). The role of key stakeholders—including government officials, civil society organizations, and the general public—is crucial in determining the success of these policies in fraud detection. However, research on their perceptions and engagement with these policies remains scarce (Unuigbokhai, 2022). Addressing these gaps requires examining the barriers to effective policy enforcement, such as capacity-building constraints and resistance to institutional reforms (Olowu, 2022). To analyze the collected data, multiple regression analysis will be employed to determine the statistical significance and strength of the relationship between financial management policies and fraud detection outcomes. Additionally, comparative studies on best practices in financial management policies from other countries could provide valuable insights into strengthening fraud

detection mechanisms in Nigeria's public sector (Lyndon & Youpele, 2020).

The main objective of this study is to examine the impact of financial management policies on fraud detection in the Nigerian public sector. The specific objectives include to ascertain:

- (i) The effect of Treasury Single Account on fraud detection in the Nigerian public sector.
- (ii) The Effect of Integrated Personnel and Payroll Information System on fraud detection in the Nigerian public sector.
- (iii) The Effect of Government Integrated Financial Management Information System on fraud detection in the Nigerian public sector.

This study focuses on evaluating the impact of financial management policies namely, the Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPPIS), and Government Integrated Financial Management Information System (GIFMIS) on fraud management within key regulatory agencies in Abuja, Nigeria. The selected agencies, including the Central Bank of Nigeria (CBN), National Agency for Food and Drug Administration and Control (NAFDAC), Federal Inland Revenue Service (FIRS), Nigerian Communications Commission (NCC), National Insurance Commission (NAICOM), National Pension Commission (PENCOM), Nigerian Electricity Regulatory Commission (NERC), Department of Petroleum Resources (DPR), Independent Corrupt Practices and Other Related Offences Commission (ICPC), and Economic and Financial Crimes Commission (EFCC), are central to ensuring compliance, transparency, and financial accountability. By investigating the effectiveness of TSA, IPPIS, and GIFMIS in fraud prevention, detection, and reporting within these agencies, this study aims to bridge the knowledge gap regarding their practical enforcement and impact. A mixed-methods approach, incorporating both qualitative and quantitative research techniques, will be used to collect data through surveys, interviews, and secondary sources. The findings will offer valuable insights into the strengths and weaknesses of these financial management policies, helping policymakers, regulatory bodies, and stakeholders refine fraud

management strategies in Nigeria's public sector to enhance transparency, efficiency, and accountability.

2 Literature Review

2.1 Conceptual Review

Treasury Single Account (TSA): The Treasury Single Account (TSA) is a centralized framework for consolidating all government revenues into a single account maintained by the central bank. It aims to improve cash management, fiscal transparency, and budgetary discipline by eliminating fragmented accounts across ministries and agencies. TSA ensures real-time oversight of public funds, reduces idle balances, and curbs revenue leakages. It also minimizes government borrowing by optimizing available cash, thereby enhancing public financial efficiency and supporting broader economic stability (Bagau, 2022; Gbegi & Jennifer, 2019).

Integrated Personnel and Payroll Information System (IPPIS): IPPIS is a centralized platform for managing payroll and personnel data in public institutions. It streamlines salary administration, eliminates ghost workers, and integrates employee records within a unified database. The system enhances accuracy, reduces payroll fraud, and ensures timely salary payments. While it promotes transparency and cost efficiency, implementation challenges persist, including data inconsistencies, integration difficulties, and cybersecurity vulnerabilities. Addressing these requires robust validation processes, continuous updates, and enhanced digital infrastructure (Wale & Taye, 2021; Rotimi et al., 2021).

Government Integrated Financial Management Information System (GIFMIS): GIFMIS is a digital system designed to automate budgeting, accounting, and financial reporting within the public sector. It enables real-time tracking of revenues, expenditures, and procurement activities across government bodies. By reducing manual processes, it lowers risks of fraud and financial mismanagement. GIFMIS supports evidence-based decision-making and regulatory compliance. However, issues such as technical interoperability, limited user proficiency, and data security concerns necessitate sustained investment in capacity-building, software upgrades, and institutional oversight mechanisms (Yunusa, 2021; Owolabi et al., 2022).

Fraud Detection: Fraud detection involves identifying irregular activities that suggest intentional deception for financial gain. It utilizes tools such as forensic audits, anomaly detection, and data analytics to uncover inconsistencies in financial records. Techniques include AI algorithms, transaction monitoring, and pattern recognition. According to

Albrecht et al., (2018), effective fraud detection requires systematic analysis of trends and red flags. Organizations adopt early-warning systems and reporting mechanisms to prevent financial loss and uphold accountability, thereby safeguarding institutional credibility and public trust.

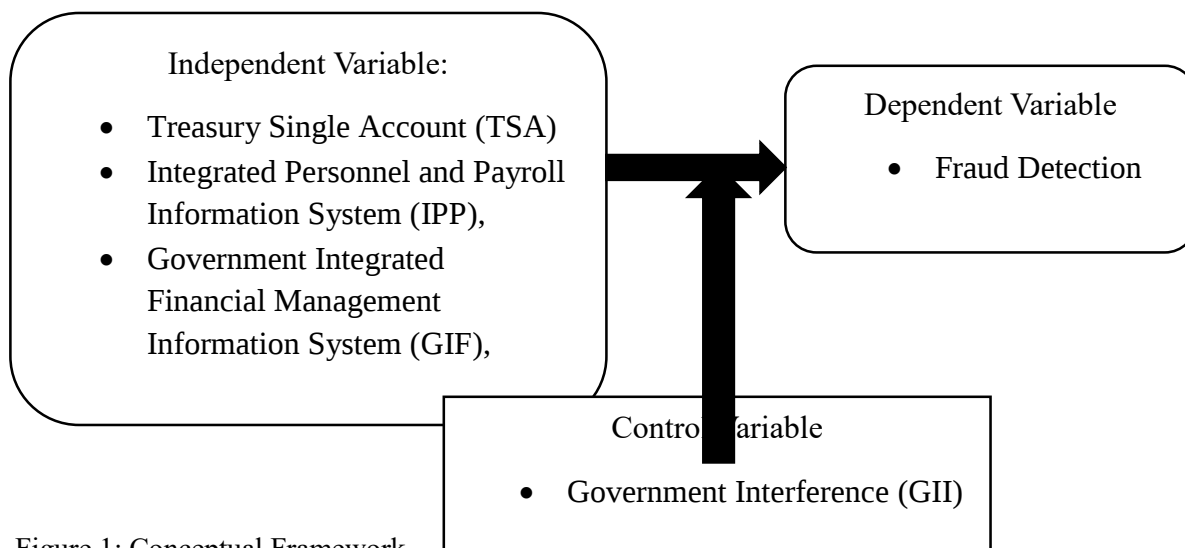


Figure 1: Conceptual Framework

Source: The Author

2.2 Theoretical Background

Stakeholder theory, developed by Freeman (1984), is highly relevant to the study of fraud detection and management in the Nigerian public sector as it emphasizes the need to consider the interests of all stakeholders in governance and financial oversight. Since fraud and financial mismanagement affect various groups—including government agencies, taxpayers, employees, and suppliers—adopting a stakeholder-oriented approach ensures that transparency, accountability, and ethical considerations guide decision-making processes. By prioritizing stakeholder engagement, public institutions can implement policies that strengthen fraud detection mechanisms, improve financial management practices, and foster trust among citizens and regulatory bodies. This theory underscores the necessity of aligning institutional goals with public expectations to minimize fraudulent practices and enhance the effectiveness of internal control systems (Freeman, 1984).

Agency theory, introduced by Jensen and Meckling (1976), is particularly useful in understanding the root causes of fraud in the Nigerian public sector, as it

highlights the conflicts of interest between principals (e.g., government and citizens) and agents (e.g., public officials and bureaucrats). Since public officials are entrusted with managing financial resources on behalf of the state and its citizens, the lack of proper monitoring and incentive structures can create opportunities for fraud and mismanagement. Fraud detection mechanisms, such as internal audits, financial reporting standards, and regulatory oversight, are necessary to address agency problems by ensuring accountability and transparency. By applying agency theory, policymakers can design effective monitoring and enforcement strategies that mitigate fraudulent activities and ensure that public officials act in the best interest of the government and its stakeholders (Jensen & Meckling, 1976; Eisenhardt, 1989).

2.3 Empirical Review

Several empirical studies have evaluated the efficacy of the Treasury Single Account (TSA) in improving financial accountability and mitigating fraud across Nigeria's public institutions. For instance, Nwokike et al. (2022) assessed federal tertiary institutions in Anambra State and found that TSA implementation significantly reduced financial misappropriation.

Bagau (2022) examined 26 federal ministries and reported that TSA facilitated transparency, curtailed revenue leakage, and enhanced cash management. Likewise, Rotimi et al. (2021) affirmed the TSA's effectiveness in curbing leakages, though implementation challenges related to IPPIS were noted, particularly among tertiary institution staff.

Further corroboration comes from Salihu (2020), who linked TSA with diminished corruption and financial leakage in federal agencies. Joseph et al. (2020) reinforced this position in their study of federal universities in North-East Nigeria, where TSA improved fraud control and accountability. Gbegi and Jennifer (2019), through a study of public finance experts in Benue State, found TSA positively impacted public budgetary discipline. Similarly, Enofe et al. (2017) concluded that while TSA, GIFMIS, and IPSAS improved financial integrity, IPPIS showed limited efficacy in corruption control. Together, these studies underscore the critical role of TSA in fostering public sector financial discipline.

The Integrated Personnel and Payroll Information System (IPPIS) has similarly attracted attention as a strategic reform against payroll fraud. Ike et al. (2023), guided by the UTAUT model, demonstrated IPPIS's success in eliminating salary-related irregularities and ensuring prompt payments. Nwambuko et al. (2022) also identified the system's role in removing ghost workers and preventing payroll manipulation through biometric authentication. However, despite these benefits, Rotimi et al. (2021) and others have observed persistent resistance from academic staff due to recurrent system errors and disputed deductions.

Complementary findings by Wale and Taye (2021) indicate that while IPPIS limited payroll fraud, it inadvertently altered government expenditure patterns. Iloanya et al. (2020) confirmed IPPIS's effectiveness in the Federal Inland Revenue Service, though they pointed out deficiencies in managing records of deceased or dismissed employees. Onukelobi et al. (2019) argued that although IPPIS helped reduce corruption, its impact was less pronounced than TSA. Collectively, the research positions IPPIS as a useful, albeit imperfect, tool for promoting payroll integrity in the public service.

Finally, broader approaches to fraud detection have highlighted the significance of internal controls and

forensic accounting techniques. Enofe et al. (2017) linked fraud prevention with comprehensive financial management reforms, while Nwite et al. (2024) emphasized internal control mechanisms such as monitoring and control environments in Ebonyi State. In a similar vein, Solomon et al. (2023) demonstrated that strong institutional controls in Ekiti State enhanced fraud prevention efforts. Ewa (2022) and others explored the value of forensic accounting and financial data analytics in public institutions, concluding that modern methods such as data mining and IFMIS integration markedly increase fraud detection capacity. These findings suggest that enduring progress in fraud mitigation demands both robust institutional controls and adaptive technological innovations.

The literature on financial management policies TSA, IPPIS, and GIFMIS shows notable gaps regarding their impact on fraud prevention in Nigeria's public sector. While intended to enhance accountability, few studies offer rigorous empirical evidence of their effectiveness (Olaoye et al., 2021; Rufai & Philip, 2020). Most rely on theoretical or qualitative analyses and overlook Nigeria's complex socio-political environment (Orie, 2023). TSA excludes agencies like NNPC and NCC, limiting its reach. Despite IPPIS's goal to eliminate ghost workers, enforcement remains weak. GIFMIS, though designed to ensure payment integrity, is often undermined by bribery and project fraud. These shortcomings reveal a critical need for research that captures shifting fraud patterns and evaluates policy sustainability within Nigeria's unique institutional context.

3. Methodology

This study employs a descriptive survey design to examine how financial management policies influence fraud detection in Nigeria's public sector. It relies on objective, verifiable data, minimizing bias. Fraud detection is the dependent variable, while TSA, IPPIS, and GIFMIS represent financial policies; government interference serves as a control. Data will be collected from staff of selected Abuja-based regulatory agencies and analyzed using econometric tools to assess the policies' effectiveness in detecting fraud.

3.1 Population, Sample and Sampling Technique

The population for this study consists of six thousand, four hundred and sixty (6460) which are made up of

Staff from the selected regulatory agencies with offices in Nigeria. Table 3.1 presents the summary of the population. The target 10 regulatory agencies with head offices in Abuja Nigeria used for this study include: Central Bank of Nigeria (CBN), National Agency for Food and Drug Administration and Control (NAFDAC), Federal Inland Revenue Service (FIRS), Nigerian Communications Commission (NCC), National Insurance Commission (NAICOM), National Pension Commission (PENCOM), Nigerian Electricity Regulatory Commission (NERC), Department of Petroleum Resources (DPR), Independent Corrupt Practices and Other Related Offences Commission (ICPC) and Economic and Financial Crimes Commission (EFCC). These regulatory agencies play crucial roles in ensuring

compliance, consumer protection, safety, and promoting fair practices within their respective sectors in Nigeria.

The sample size is the part of the population that was selected for the study. Krejcie & Morgan's (1970) sample size determination is handy since the population is above 10,000. The formula is presented as follows:

$$\frac{x^2 N P (1-P)}{e^2(N-1)+x^2 P(1-P)} \quad (1)$$

x^2 =Chi-Square; e=Margin of error; N=Population; P=Proportion of Population; N=15460; P=0.5; e=0.05

At 95% confidence level with a degree of freedom 1, the chi-square $x^2=3.841$

$$\frac{3.841 * 15460 * 0.5 * 0.5}{0.05^2 * (15460 - 1) + (3.841 * 0.5 * 0.5)} = \frac{14,845.465}{0.0025 * 15459 + 0.96025} = \frac{14,845.465}{38.6475 + 0.96025} = \frac{14,845.465}{39.60775} = 374.812 = 375 \text{ approx}$$

Table 1 Sample Distribution

S/No	Names of Organisation	Population	Sample
1.	Central Bank of Nigeria (CBN)	1720	$\frac{1720}{15,460} * 412 = 46$
2.	National Agency for Food and Drug Administration and Control (NAFDAC)	1560	$\frac{1560}{15,460} * 412 = 42$
3.	Federal Inland Revenue Service (FIRS)	1748	$\frac{1748}{15,460} * 412 = 47$
4.	Nigerian Communications Commission (NCC)	1088	$\frac{1088}{15,460} * 412 = 29$
5.	National Insurance Commission (NAICOM)	1478	$\frac{1478}{15,460} * 412 = 39$
6.	National Pension Commission (PENCOM)	1671	$\frac{1671}{15,460} * 412 = 45$
7	Nigerian Electricity Regulatory Commission (NERC)	1698	$\frac{1698}{15,460} * 412 = 45$
8	Department of Petroleum Resources (DPR)	1062	$\frac{1062}{15,460} * 412 = 28$
9	Independent Corrupt Practices and Other Related Offences Commission (ICPC)	1523	$\frac{1523}{15,460} * 412 = 41$
10	Economic and Financial Crimes Commission (EFCC)	1912	$\frac{1912}{15,460} * 412 = 50$
Total		15,460	412

The sample size shows that out of the total staff population of 15,460 only 375 staff. This sample was increased by 10% which now gives a total of 412 staff selected. Meanwhile simple random techniques will be

used to distribute the instrument to the respondents. The sample were prorated using the following formula.

$$n = \frac{x}{N} * X \quad 2$$

Where n is the required sample for each institution; X is the population of each institution; N is total population; X is the determined sample size.

However, the study also adopted Simple Random Sampling as the technique for sampling because the technique captures responses from different cadres that enabled the generalization of a larger sample size of percentage of the total population. Similarly, Simple Random Sampling was used because it is cheaper to study a sample than the entire population. It also affords the study to be more thorough and to obtain quicker results than would a complete coverage of the population. A total of 412 questionnaires shall be administered to cater for those who may not return their questionnaires.

Table 2: Reliability Statistics

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Fraud Detection	0.888	0.814	20
TSA	0.835	0.828	20
IPPIS	0.845	0.874	20
GIFMIS	0.865	0.827	20
Government Interferences	0.852	0.878	20

Sources: Author's Computation

3.3 Test of Validity and Reliability

The credibility of the research instrument, essential in quantitative studies, was established through a rigorous process ensuring both validity and reliability. Given the categorical nature of the dependent variable and the study's focus on assessing the impact of financial management policies on fraud detection, regression analysis was employed. The questionnaire was initially reviewed by the researcher's supervisor, validated by academic experts, and refined through a pilot study. Pearson correlation confirmed construct validity, and face/content validity adjustments were made based on expert input. Reliability testing involved administering the questionnaire twice with a two-week interval, producing consistent results and a t-test coefficient of 0.05. Internal reliability was confirmed using Cronbach's alpha, yielding values of 0.888 for fraud detection, 0.835 for TSA, 0.845 for IPPIS, 0.865 for GIFMIS, and 0.852 for government interference. These results, along with an overall alpha

3.2 Method of Data Collection

The researcher will employ a structured questionnaire to collect primary data from staff members of selected regulatory agencies in Abuja, Nigeria. This method is chosen for its ability to generate original data directly from the study population and for its practicality in gathering extensive information from a large number of respondents within a short timeframe and at relatively low cost. The instrument, designed on a five-point Likert scale, is divided into two sections: Part A covers respondents' biodata, while Part B elicits their views on the effect of workforce diversity on staff performance in the selected institutions.

of 0.82, affirm the instrument's adequacy for field research.

3.4 Model Specification

The model specification follows the established conceptual framework in section 2. Fraud detection, in this regard, is the dependent variable. The independent variables include the elements of financial management policies which are: Treasury Single Account, Integrated Personnel (TSA) and Payroll Information System (IPPIS) and Government Integrated Financial Management Information System (GIFMIS).

Thus, the working model for this research is as follows.

$$FM = f(\text{Fraud management Policies}) \quad (3)$$

The elements of financial management policies have been identified to include Treasury Single Account, Integrated Personnel (TSA) and Payroll Information System (IPP) and Government Integrated Financial Management Information System (GIF). Therefore, the model is expanded as follows:

$$FM = f(TSA, IPP, GIF) \quad (4)$$

Equation 3 can be represented in econometric form with the inclusion of a control variable (government Interference (GII)) as follows:

$$FM_i = \varphi_0 + \varphi_1 TSA_1 + \varphi_2 IPP_2 + \varphi_3 GIF_3 + \varphi_4 GII_3 + \mu_i \quad (5)$$

Where:

$\varphi_1, \varphi_2, \varphi_3, \varphi_4$, are the parameters to be estimated and φ_0 stands for the constant.

μ_i stands for the white noise error term or the stochastic error term. This is introduced into the model to capture all other variables that can cause variation which are not included in the study.

3.5 Method of Data Analysis

To examine the effect of financial management policies on fraud detection in Nigeria's public sector, Ordinary Least Squares (OLS) regression is utilized for its ability to estimate linear relationships between the dependent variable (fraud detection) and key independent variables—namely, TSA, IPPIS, GIFMIS,

and government interference. OLS is chosen for its clarity in interpretation, making it suitable for policy-oriented research. The method accommodates diagnostic tests for multicollinearity, heteroscedasticity, and autocorrelation, ensuring the statistical soundness of the model. Its robustness with large datasets enhances the reliability and generalizability of findings across public institutions (Azu et al., 2025).

The purpose of data analysis is to systematically organize, reduce, and interpret data into meaningful information (Yusuf et al., 2023). This involves editing, coding, and tabulating the data collected into structured summaries (Yusuf et al., 2024). Both quantitative and qualitative analysis techniques were employed. Questionnaires were coded according to study variables to ensure analytical consistency. All hypotheses were tested at the 0.05 alpha level. Multiple regression analysis was used to evaluate the study's objectives, and hypothesis testing was conducted using IBM SPSS version 27, with t-tests employed to assess the significance of observed effects.

Table 3 Questionnaire Distribution

S/No	Names of Organisation	Distributed	Received
1.	Central Bank of Nigeria (CBN)	46	44
2.	National Agency for Food and Drug Administration and Control (NAFDAC)	42	41
3.	Federal Inland Revenue Service (FIRS)	47	45
4.	Nigerian Communications Commission (NCC)	29	28
5.	National Insurance Commission (NAICOM)	39	38
6.	National Pension Commission (PENCOM)	45	44
7	Nigerian Electricity Regulatory Commission (NERC)	45	43
8	Department of Petroleum Resources (DPR)	28	27
9	Independent Corrupt Practices and Other Related Offences Commission (ICPC)	41	39
10	Economic and Financial Crimes Commission (EFCC)	50	48
Total		412	397

4. Results and Discussion

Table 3 illustrates the distribution and retrieval of questionnaires across ten Nigerian public sector organizations. A total of 412 questionnaires were distributed, with 397 successfully retrieved, reflecting

a high response rate of approximately 96.4%. The Economic and Financial Crimes Commission (EFCC) had the highest distribution (50) and retrieval (48), followed by the Federal Inland Revenue Service (FIRS) with 47 distributed and 45 received. The Department of Petroleum Resources (DPR) recorded the lowest

distribution (28) and retrieval (27). This high response rate enhances the reliability and representativeness of the collected data for analysis.

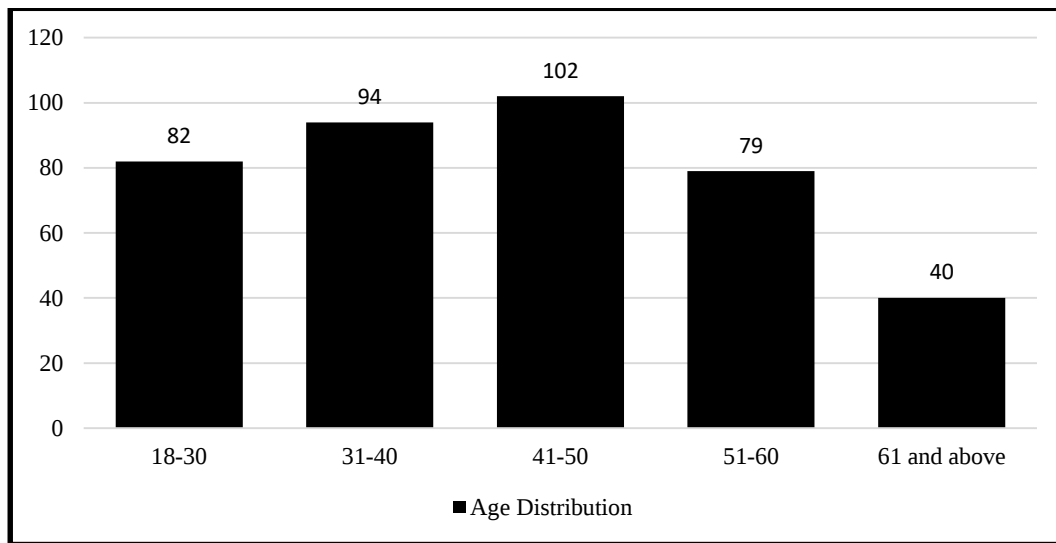


Figure 2: Age Distribution of the Respondents

Figure 2 illustrates the age distribution of respondents across five categories. The highest number of respondents, 102, falls within the 41-50 age group, indicating a strong presence of middle-aged individuals. The 31-40 category follows closely with 94 respondents, while the 18-30 group accounts for 82 participants. The 51-60 age group consists of 79 respondents, and the lowest representation is from

individuals aged 61 and above, with 40 participants. This distribution suggests that the majority of respondents are in their active working years, particularly between 31 and 50 years. The lower representation of older individuals (51 and above) may indicate retirement trends or fewer individuals remaining in active service.

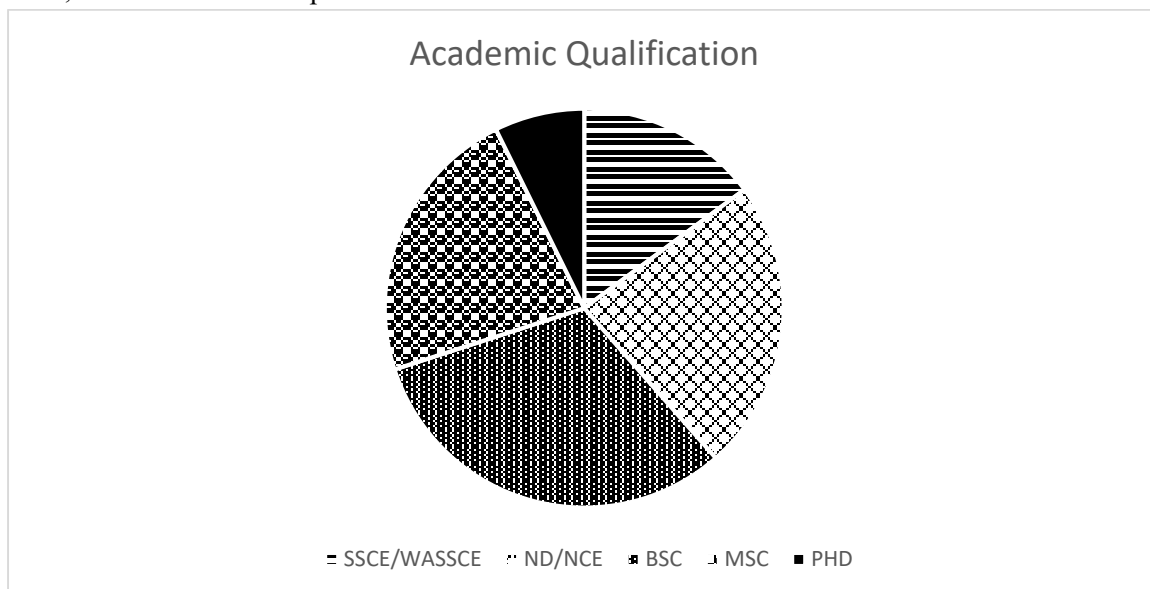


Figure 3 presents the academic qualifications of respondents, categorized from SSCE/WASSCE to PhD. The majority hold a Bachelor's degree (BSC), totaling 125 respondents, indicating a highly educated group. This is followed by 94 individuals with an

ND/NCE and 90 with an MSC. The SSCE/WASSCE category includes 59 respondents, while the lowest representation is among PhD holders, with 29. The distribution suggests that most respondents have attained higher education qualifications, with a

significant proportion holding postgraduate degrees (MSC and PhD), reflecting an academically advanced sample.

Table 4: Descriptive Statistics

	FT	TSA	IPP	GIF	GII
N	397	397	397	397	397
Range	4	3.6	3.8	4.0	3.333
Minimum	1	1.4	1.2	1.0	1.667
Maximum	5	5.0	5.0	5.0	5
Sum	1559	1565	1569.6	1417.2	1552.3
Mean	3.927	3.942	3.954	3.570	3.9101
Std. Deviation	0.8382	0.6707	0.8489	0.7487	0.6878
Variance	0.703	0.450	0.721	0.560	0.473
Skewness	-1.348	-1.271	-1.060	-0.776	-0.994
Kurtosis	2.775	3.364	1.213	1.691	1.682

The descriptive statistics table presents key insights into five variables: Fraud Detection (FT), Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPP), Government Integrated Financial Management Information System (GIF), and Government Interference (GII). Each variable has 397 observations, with mean values ranging from 3.57 (GIF) to 3.954 (IPP), indicating

overall positive perceptions. The standard deviations suggest moderate variability, with IPP showing the highest at 0.8489. Negative skewness values indicate left-skewed distributions, while kurtosis values highlight differing levels of peakedness, with TSA (3.364) and FT (2.775) being more peaked. The data reflects structured distribution trends.

Table 5: Correlation Matrix

Variables	FT	TSA	IPP	GIF	GII
FT	1				
TSA	.647**	1			
IPP	.579**	.589**	1		
GIF	.594**	.628**	.503**	1	
GII	.593**	.648**	.776**	.730**	1

Sources: Author's Computation

The correlation matrix in Table 5 shows the relationships between Fraud Detection (FT), Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPP), Government Integrated Financial Management Information System (GIF), and Government Interference (GII). All correlations are positive and statistically significant ($p < 0.01$), indicating strong associations. The highest correlation is between IPP and GII (0.776), suggesting a strong link. TSA correlates highly with GII (0.648) and GIF (0.628), while FT has moderate correlations with other variables, ranging from 0.579 (IPP) to 0.647 (TSA). The results indicate that these financial

management systems and government interference influence fraud detection effectiveness.

4.1 Hypothesis Testing

The regression analysis presented in Table 3 evaluates the impact of financial management policies—Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPPIS), Government Integrated Financial Management Information System (GIFMIS), and Government Interference (GII)—on fraud detection in the Nigerian public sector. The model demonstrates a high explanatory power, with an R-Square value of 0.843, indicating that approximately

84.3% of the variance in fraud detection is explained by the independent variables. The Adjusted R-Square value of 0.710 suggests that even after adjusting for the number of predictors, the model maintains a strong predictive capacity. Furthermore, the Durbin-Watson statistic of 2.107 indicates that there is no significant autocorrelation in the residuals, validating the model's reliability.

Examining the individual predictors, the TSA variable shows the highest impact on fraud detection, with a coefficient of 0.660 ($p = 0.000$). This suggests that TSA significantly enhances fraud detection,

reinforcing its role in promoting financial transparency and reducing fund leakages within the public sector. The standardized beta coefficient (0.528) further indicates that TSA has the strongest influence among the independent variables. Similarly, IPPIS exhibits a statistically significant effect on fraud detection, with a coefficient of 0.106 ($p = 0.034$), though its impact is comparatively weaker than that of TSA. This finding suggests that while IPPIS contributes to fraud detection by addressing ghost workers and payroll discrepancies, its effectiveness may be constrained by implementation challenges.

Table 6: Regression on Impact of Financial Management Policies on Fraud Detection in the Nigerian Public Sector

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.355	0.142		-2.506	0.013
TSA	0.660	0.057	0.528	11.548	0.000
IPP	0.106	0.050	0.107	2.132	0.034
GIF	0.070	0.062	0.062	1.122	0.262
GII	0.259	0.096	0.213	2.693	0.007
R-Square		0.843		Durbin-Watson	2.107
Adjusted R-Square		0.710			

Dependent Variable: Fraud Detection

Independent Variable: Treasury Single Account (TSA); Integrated Personnel and Payroll Information System (IPP), Government Integrated Financial Management Information System (GIF), Government Interference (GII)

On the other hand, GIFMIS does not significantly impact fraud detection, as indicated by its coefficient of 0.070 ($p = 0.262$). This implies that despite its intended role in streamlining financial transactions and enhancing accountability, its actual effect on fraud detection remains limited, possibly due to institutional inefficiencies or corruption within government agencies. Lastly, Government Interference (GII) has a significant effect on fraud detection, with a coefficient of 0.259 ($p = 0.007$). This finding suggests that excessive government intervention in financial management policies may either facilitate or hinder fraud detection, depending on the level of oversight and transparency in the system.

Overall, the results highlight the varying degrees of effectiveness of financial management policies in fraud detection within the Nigerian public sector. While TSA and IPPIS contribute significantly to

reducing fraud, GIFMIS appears to be less effective, and government interference plays a crucial role in shaping the outcomes of these policies. These findings underscore the need for improved policy implementation, enhanced oversight mechanisms, and stronger institutional frameworks to optimize the effectiveness of financial management policies in combating fraud in Nigeria.

4.2 Discussion of Findings

The regression results align with previous empirical findings on the impact of financial management policies on fraud detection in the Nigerian public sector. The significant positive effect of the Treasury Single Account (TSA) on fraud detection ($\beta = 0.528$, $p = 0.000$) is consistent with the findings of Olaoye et al. (2021), who highlighted that TSA has played a critical role in minimizing financial leakages and enhancing

transparency in government transactions. Similarly, Rufai and Philip (2020) found that TSA implementation led to improved monitoring of public funds, thereby reducing corruption and unauthorized expenditures. However, despite its effectiveness, some ministries, departments, and agencies (MDAs) are still not fully compliant with the TSA framework, which limits its overall impact (Adebayo & Ilesanmi, 2020).

The positive but weaker impact of the Integrated Personnel and Payroll Information System (IPPIS) ($\beta = 0.107$, $p = 0.034$) corroborates findings by Orie (2023), who noted that while IPPIS has been instrumental in addressing the issue of ghost workers, the system is still vulnerable to manipulation. Nwokike et al. (2022) also emphasized that despite the introduction of IPPIS, cases of fraudulent payroll activities persist due to collusion among officials responsible for payroll processing. The inefficiencies in the enforcement of biometric verification and irregular auditing practices have contributed to the continued existence of fraudulent salary payments.

In contrast, the Government Integrated Financial Management Information System (GIFMIS) does not significantly impact fraud detection ($\beta = 0.062$, $p = 0.262$), suggesting that its intended role in promoting due diligence in financial transactions is not being fully realized. This finding supports the argument by Rufai and Philip (2020), who pointed out that while GIFMIS was designed to enhance financial accountability, its effectiveness is often undermined by poor implementation, lack of technical expertise, and the persistence of corrupt practices among public officials. According to Adebayo and Ilesanmi (2020), certain government staff charged with managing GIFMIS processes have been compromised, leading to continued financial mismanagement.

The significant impact of Government Interference (GII) ($\beta = 0.213$, $p = 0.007$) on fraud detection aligns with the work of Olaoye et al. (2021), who argued that excessive political influence can either strengthen or weaken the effectiveness of financial management policies. While government intervention can ensure stricter enforcement of fraud detection mechanisms, it can also create loopholes for corrupt practices if regulatory institutions are not independent (Orie, 2023). The findings reinforce the need for stronger institutional frameworks and less political interference

in the implementation of financial management policies to enhance their effectiveness in fraud prevention.

Overall, the results support previous empirical literature, reinforcing the notion that while TSA and IPPIS have demonstrated effectiveness in fraud detection, GIFMIS remains largely ineffective, and government interference plays a crucial role in determining policy outcomes. The findings highlight the need for continuous policy refinement, stricter enforcement mechanisms, and institutional independence to strengthen fraud detection in Nigeria's public sector.

5. Conclusions and Recommendations

The study examines the impact of financial management policies, including the Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPPIS), and Government Integrated Financial Management Information System (GIFMIS), on fraud detection in the Nigerian public sector. The findings reveal that TSA has the most significant impact on fraud detection, underscoring its effectiveness in curbing financial leakages and improving transparency. IPPIS also contributes to fraud detection, albeit to a lesser extent, suggesting that while it has reduced payroll fraud, challenges such as ghost workers and irregular auditing persist. However, GIFMIS does not show a significant effect on fraud detection, indicating that its implementation has not been robust enough to enhance financial accountability. Additionally, government interference plays a critical role, influencing the extent to which these policies succeed in mitigating fraud. These results highlight the need for stronger institutional frameworks to enhance the effectiveness of financial management policies in the Nigerian public sector.

To strengthen fraud detection and improve the effectiveness of financial management policies, the government should ensure full compliance with TSA across all MDAs and implement stricter monitoring mechanisms to eliminate financial leakages. Regular audits and biometric verification should be enforced to enhance the effectiveness of IPPIS in tackling payroll fraud. Furthermore, the implementation of GIFMIS should be strengthened by improving technical expertise, training government personnel, and ensuring transparency in financial transactions.

Additionally, reducing political interference in financial management policies by promoting institutional independence and strengthening anti-corruption agencies will further enhance fraud detection. Finally, continuous policy evaluation and

technological innovation should be encouraged to adapt financial management systems to emerging fraud risks and ensure sustainable public sector accountability.

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