

The Effect of Public Sector Financial Management Reforms on Fraud Prevention and Control in South-South Nigeria

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Abstract

Public financial management is at the crux of the public sector as it covers government revenue generation, public procurement/expenditure reporting, and accountability. For a smooth functioning public financial management process, there must be mechanisms to ensure transparency and accountability, which are done through reforms. This paper evaluates the effectiveness of public financial management reforms on fraud prevention and control in the Nigerian public sector. Specifically, this study considers the adoption of the Treasury Single Account and Integrated Payroll and Personnel Information system and their effect on fraud prevention and control in South-South Nigeria. A 5-point Likert scale structured questionnaire was issued to 269 auditors and accountants across MDAs in six south-south states of Nigeria. The data obtained were analyzed using the non-parametric method models to see the effect of these reform initiatives on fraud prevention and control in the region's public sector. The results of the OLS show that treasury single account, integrated payroll, and personnel information system have a positive and significant effect on fraud prevention and control in the public sector, South-South Nigeria. Following the results of the findings, it is recommended that in addition to enhancing the use of ICT, the government should ensure the proper implementation and functioning of these reform initiatives collectively and individually to reap their full potential. To ensure these procedures are followed and relevant, they must ensure regular reviews and monitoring. These systems should be regularly reviewed and monitored to ensure that any vulnerabilities and flaws can be exploited, found, and fixed as soon as feasible.

Keywords: Public Sector, Financial Management Reform, Fraud Prevention and Control, Treasury Single Account, Integrated Payroll and Personnel Information System

1. Introduction

In Nigeria, the public sector accounting and finance have undergone several reforms. These reforms arise from Nigeria's desire to be among worldwide nations striving for transparency and accountability in their public finance systems. With the introduction of the World Bank Reports on Developing Economies, developing countries like Nigeria have been forced to evaluate public financial management (PFM) to spur development and end poverty (USAID, 2008).

All government action is based on public financial management (PFM), which includes raising money, assigning it to various projects, spending it, and accounting for spent funds (Kinyanjui & Jane 2017). PFM manages and oversees the revenue and expenses of public authorities, including those in the federal, state, and local governments. When public employees budgeted for a program, issued a purchase order, examined an expense report, or prepared documentation for external audit scrutiny, they participated in the budget cycle's phases (Kinyanjui & Jane 2017). Improved service delivery, poverty reduction, and accomplishing the millennium development goals are all advantages of sound public financial management systems (Pretorius & Pretorius, 2008). The solutions would, in principle, help transparency and accountability in government achieve long-term economic success while improving financial efficiency and transparency.

The Nigerian economy has recently experienced massive declines due to high corruption levels and fraudulent activities in the public and private sectors. According to Enoefe, Afiangbe, and Agha (2017), fraud has spread worldwide and now threatens businesses, governments, and entire countries. The hardest affected nations by this global threat are emerging nations, while fraud and fraudulent practices are universal acts committed by established and developing economies (Okoye & Gbegi, 2013). Both the governmental and private sectors are rife with fraud. Nevertheless, the public sector is particularly vulnerable to fraud and fraudulent practices due to its size, weak control activities, and low levels of accountability and responsibility. The public sector organizations in Nigeria are riddled with several fraudulent practices, including theft, forgeries, payroll fraud, blatant stealing, and asset misappropriation. The Nigerian economy suffers enormous losses due to these activities, hindering the government's efforts to improve the general welfare.

The Nigerian federal government has worked hard to address the impact of fraud on the country's economy. The past administrations implemented several measures to combat this fraud and fraudulent practices scourge in the public sector and open the door for Nigeria's proper and desired development. These changes were designed to hasten economic growth so that the country could join the League of Developed World Economies by reducing pervasive corruption, establishing fiscal discipline, assuring efficient resource allocation, and fostering an accountable and transparent culture in public financial administration.

Every society is plagued by fraud, and Nigeria is no exception. In the public sector, fraud has permeated all levels and tiers to the point where it is nearly the standard. Due to these fraudulent tactics, the government spends a lot of money on capital and ongoing expenses, yet there is little to show for it. Nigeria is one of the nations that has stepped up its efforts to assure the decrease or, more likely, elimination of the act of "fraud" that has permeated our society so profoundly. Finding the right strategies to minimize this plague effectively is a major problem in the effort to accomplish this. Corruption in the public sector manifests in various ways, including outright fraud, using public monies for personal gain, embezzlement, forgeries, and inappropriate resource use. These threaten the government's ability to improve public living standards and restrain economic expansion. In the Nigerian public sector, unethical actions and practices, corruption, a lack of accountability, inadequate internal control systems, weak internal audit functions, dubious budget and procurement procedures, and payroll fraud have all gained prominence.

Governments in the past and the present have developed several reform measures to enhance the financial performance of the public sector. These public sector reforms sought to improve cash management and promote governance, accountability, and transparency while reducing

fraud and corruption. They also intended to address flaws in the budgeting system and the government’s enormous salary bill. Despite these reform measures, the Nigerian public sector continues to engage in fraud and other dishonest behaviors. According to a recent report by the Office of the Auditor General of the Federation (OAuGF), the government’s integrated financial management and payroll and personnel information systems were inefficiently costing the federal government billions of naira annually. The report goes on to list other indicators of the inefficiencies of the government-integrated financial management information system and integrated payroll and personnel information system, including the non-remittance of third-party deductions, inadequate capacity building, and incomplete functionality of all modules on the integrated payroll and personnel information system (IPPIS). Investigating how well these reform initiatives are working to strengthen transparency and accountability in public financial management will help to regulate and prevent fraud and dishonest behavior in the public sector. In light of the preceding, this study aims to evaluate how well the public financial management changes implemented in 2004 have controlled and prevented fraud in the South-South public sector of Nigeria. In light of the preceding, the following hypotheses are put forth:

Ho: treasury single account does not positively and significantly affect fraud prevention and control in the South-South public sector of Nigeria.

Ho: integrated payroll and personnel information system implementation have no positive and significant effect on fraud prevention and control status in the South-South public sector of Nigeria.

2. Review of Related Literature

2.1 Conceptual Framework

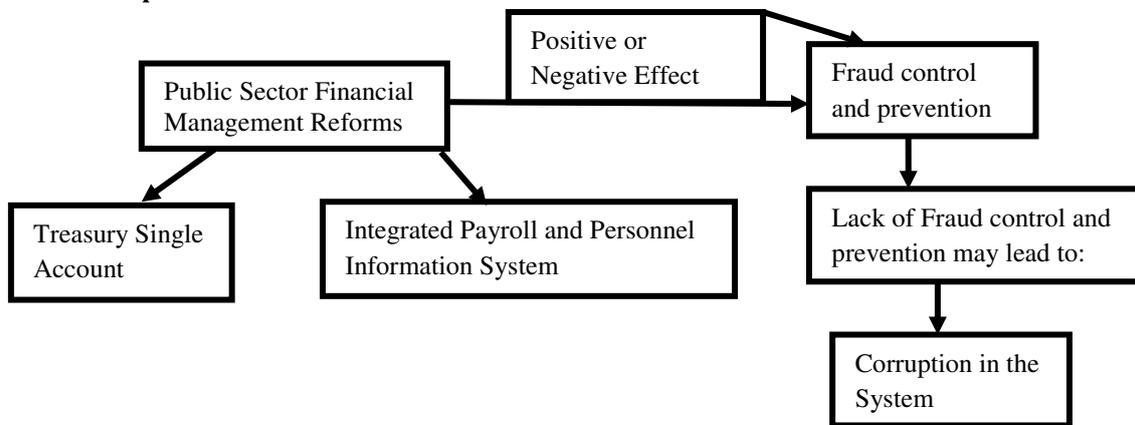


Figure 1: Conceptual Model of Public Financial Management Reforms and Fraud Control and Prevention

2.2 Concept Review

2.2.1 Concept of Fraud

The definition of fraud has varied across authors. According to the definition of fraud in Black’s Law Dictionary (1970), it is “An intentional perversion of truth to induce another in reliance upon it to part with some valuable thing belonging to him or to surrender a legal right.” The Association of Certified Fraud Examiners (ACFE) defines fraud as “any intentional or deliberate

act to deprive another of property or money by guile, deception, or other unfair means." Fraud is intentionally denying someone their legal privileges to profit oneself. Fraud includes making a materially false statement, knowing the information is untrue, having another person depend on it, and suffering losses due to that other person's reliance. Despite the advent of democracy, information technology, technological improvements, etc., fraud is still damaging. These innovations have opened the door to new kinds of fraud and more sophisticated techniques for disguising these fraudulent acts (Giriunas & Mackevicius, 2014).

In both the governmental and private sectors, fraud is a severe problem. According to Giriunas & Mackevicius's (2014) statistical data analysis, the public sector commits fraud at a higher rate than the private sector, with a public sector fraud rate of 50% compared to a private sector fraud rate of 39%. They attribute this to a lack of public sector audits and weaker internal controls in the public sector. According to the fraud triangle theory (FTT), the persistence of fraud in the public sector is made simple by the presence of weak internal control and opportunity, pressure, and rationalization. According to a PWC (2011) survey, almost two-thirds of crimes committed in the public sector are committed by employees, indicating a significant rise in employee-perpetrated fraud. According to them, this rise is due to an absence of effective sanctions against fraudsters, which in most cases, should deter fraudulent behavior.

2.2.2 Concept of Public Sector Financial Management Reforms

To improve efficiency, effectiveness, and value for money for consumers of public goods, attract skilled workers, lower government spending, and increase public and private sector confidence in the government as a regulator/service provider, public sector reforms (PSR) are necessary (Manning, 2001). Public sector reform was described by Adejuwon (2012) as an effort by the government of a given nation to alter how it carries out its functions. He added that PSR is an intervention strategy designed to improve public service performance while minimising the cost of governance. It aims to improve the governance of the public sector. Public sector reform usually constitutes a country's comprehensive institutional and political reforms focusing on internal organizational matters such as size, workforce, remuneration, promotion, and career management (Ofoegbu, Onodugo, & Onwumere 2015).

Public Sector financial management reforms, are usually a component of these public sector reforms designed to strengthen and improve the functioning of general financial management. Designing, planning, obtaining, and utilizing government financial resources are all aspects of public financial administration. It also entails developing the appropriate policies to help citizens fulfill their goals. The core of government operations and fiscal policy is public financial management. According to the Nigerian Governors Forum (NGF), sound PFM encourages fiscal responsibility, improves the distribution of public resources, and provides value for money when implementing governmental strategic goals. The government may be accountable to the public for how public monies are used with an effective PFM. Policy development, budgeting, public procurement, auditing, and reporting are all included in public financial management.

According to Zubairu (2016), the Nigerian economy is volatile, has significant external debts, low levels of accountability and transparency, high levels of corruption, and a generally weak public sector, necessitating the urgent need to strengthen the economy. The main goals of the changes were to improve service delivery, promote governance and accountability, and minimize corruption. The most recent PFM reform initiatives include integrated payroll and personnel information system, a government-integrated financial management information system, a single treasury account, E-Payment, international public sector accounting standards, Internal audit

modernization, Federal Treasury Academy, Efficiency Unit, National Chart of Account (NCoA). This reform's core idea is to uphold fiscal discipline, accountability, and openness in public sector expenditure and revenue collection.

2.2.3 Treasury Single Account and Fraud Prevention and Control

According to the Central Bank of Nigeria [CBN] (2016) and Omolehinwa & Naiyeju (2015), a treasury single account (TSA) is a single government bank account or a group of linked accounts through which all government revenues and payments, including loans and grants, are carried out. The order on TSA, which went into effect on August 11, 2012, marked the start of Ministries, Departments, and Agencies' (MDAs') retirement of revenues due to the Federal Government into a unified account maintained by the CBN (Eme, Chukwurah & Iheanacho 2015b).

The TAS policy is crucial for the country's revenue push, transparency, and anti-corruption efforts (Ocheni, 2016). To finance the expenditures of some agencies, consolidating financial resources through TSA helps prevent borrowing and paying extra interest fees. A TSA account enables consolidation and better use of government cash resources. This measure explicitly promotes transparency and facilitates compliance with sections 80 and 162 of the 1999 Constitution. This accounting system replaced the previous one, which had multiple fragmented accounts for government revenues, incomes, and receipts.

Before the introduction of TSA, several accounts run by different MDAs in the public sector were not accounted for, giving public officeholders a chance to defraud the country by transferring public funds into private accounts. Poor financial management in the public sector and the system at the time made it simple for public officials to divert public funds into private accounts while concealing their actions by maintaining multiple accounts ostensibly associated with the government but used for personal gain.

One cannot overstate the importance of any government adopting and fully implementing a treasury single account primarily designed to protect government revenue, increase transparency, and prevent the misappropriation of State funds (Mbotor & Bassey 2018). Accordingly, Eme et al. (2015) believed that the TSA would allow for timely payments and the collection of all revenues going into the government treasury without using multiple banking arrangements. Creating TSA will stop revenue-generating organizations from misusing public funds, as well as inflation, excess liquidity, high-interest rates, round-tripping of government deposits, and the depreciation of the naira. According to Adeolu (2015), a treasury single account's primary goals should be to assure accurate accountability of all revenues collected by the government, promote transparency, and stop the theft of public funds. If properly implemented, the TSA will lower the likelihood of fraud in the public sector and ensure efficient cash management by delivering money that does not sit idle in commercial banks.

2.2.4 Integrated Payroll and Personnel Information System and Fraud Prevention and Control

The Integrated Payroll and Personnel Information System is a Federal Government of Nigeria's Public Financial Management reform initiative. It attempts to enhance human resources management and eliminate fraud in the Nigerian Public Service. Omolehinwa and Naiyeju (2015) described IPPIS as a centralized computer-based payroll and management system that aimed to do away with payroll. It focuses on quickly ascertaining the precise number of employees and the overall compensation cost. It also seeks to ensure data integrity so that the personnel information is correct and intact.

Payroll is one of the areas of the public sector that is most susceptible to fraud. Payroll systems are necessary to pay officials' salaries. However, human resource systems in low- and middle-income nations suffer problems with corruption in payroll administration, including paying ghost workers and fabricating timesheets (Chêne 2015; Water Integrity Network 2019). Most PFM improvements in this sector focus on strengthening the connections between personnel, social welfare, and payment systems, which frequently entails enforcing data sharing across government agencies (Long 2019).

Using electronic payment methods can improve the transparency of payroll systems. An automated payroll system lowers the possibility of ghost workers by immediately depositing funds into individual bank accounts. According to a staff survey on the perception of public officials in the Rivers State of Nigeria, the IPPIS, a computerized payroll system, was believed to lower the incidences of corruption in government ministries and state-owned enterprises in the state (Obara, Nangih, & Agba 2017).

2.3 Empirical Review

Researchers have undertaken numerous investigations in this area. Some scholars combined the analysis of many reform projects, while others focused on just one. In a recent survey, Rotimi et al. (2021) examined Public Financial Management Tools and Performance in Nigeria's Public Sector. They discovered that while fraud is reduced, it is not entirely eliminated by TSA, IPPIS, and government-integrated financial management information systems. According to the analysis's findings, the three tools have some influence over the financial performance of Nigeria's public sector. In their study, Iheduru & Enoefe et al. (2017) used a survey research approach to examine the relationship between financial management changes and corruption in the Nigerian public sector, concentrating on 90 MDAs from the federal, state, and local levels of government. They used techniques from ordinary least square regression to analyze the research topics. According to the study's findings, TSA's adoption of international public sector accounting standards and the government-integrated financial management information system positively correlated with corruption. On the other hand, IPPIS negatively correlated with corruption.

In a related study, Effiong et al. (2017) investigate the impact on Nigerian public interest entities implementing a TSA, IPPIS, and a government-integrated financial management information system. They used the descriptive study approach and distributed questionnaires to respondents from the chosen MDAs. Their findings show a positive and significant correlation between fraud and fraud management and TSA, IPPIS, and government-integrated financial management information systems.

The outcomes of the Okafor, Ifeanyichukwu, and Omeh (2018) investigation differed. They used Enugu State as a case study to investigate whether Nigeria's IPPIS impacted payroll fraud. Both qualitative and quantitative methodologies were used to collect data. The study's findings suggest that implementing IPPIS has shown and blocked several channels through which government revenue was siphoned and enhanced planning and budgeting quality.

3. Methodology

The survey research design was adopted for the study. The survey design enables the researcher to create the questionnaire required to gather first-hand information from respondents on the impact of public sector reforms on fraud control and prevention. The independent variable is Public Sector Financial Management Reforms proxies with TSA and IPPIS. On the hand, the dependent variable is Fraud Prevention and Control. The study population consists of 895

auditors and accountants working for 288 MDAs in the six south-south Nigerian states of Akwa Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers. The Kreijce and Morgan (1970) sampling method was used to get a sample of 269. The stratified random sample technique was adopted since the population of this study is heterogeneous and to ensure sufficient and equal inclusion of all the population categories. The non-parametric method was used to analyze the data that had been gathered.

3.1 Model specification

The models for the study are expressed as follows:

$$FPC = f(\text{PSFMR}) \tag{1}$$

Specifically,

$$FPC_t = \beta_0 + \beta_1TSA_t + \epsilon_t \tag{2}$$

$$FPC_t = \beta_0 + \beta_1IPPIS_t + \epsilon_t \tag{3}$$

Where:

FPC= Fraud Prevention and Control

TSA = treasury single account

IPPIS = integrated payroll and personnel information system

β_0 = intercept

β_1 = coefficient of the independent variable

ϵ_t = Error term

4. Test of Hypotheses

A pre-test was conducted to check if the data set is normally distributed. This will give assurance of the right analytical tool for our analysis.

Ho: Adopt a parametric method if the data set is normally distributed

H1: Adopt the non-parametric approach if the data set is not normally distributed

If the data set is normally distributed, we use a parametric approach that includes Pearson correlation and linear regression. However, we rely on the non-parametric technique to conduct the ordinal regression and Spearman Rank Correlation if the data set is not normally distributed. The results of the pre-test are displayed in the next section.

4.1 Pre-test

Table 4.1: Descriptive Statistics

		Statistic	Std. Error	
FPC	Mean	2.5341	.03504	
	95% Confidence Interval for Mean	Lower Bound	2.4651	
		Upper Bound	2.6031	
	5% Trimmed Mean	2.5300		
	Median	2.5000		
	Variance	.330		
	Std. Deviation	.57463		
	Minimum	1.50		
	Maximum	3.50		
	Range	2.00		

	Interquartile Range		.83	
	Skewness		.201	.149
	Kurtosis		-1.059	.296
TSA	Mean		2.2406	.02280
	95% Confidence Interval for Mean	Lower Bound	2.1957	
		Upper Bound	2.2855	
	5% Trimmed Mean		2.2356	
	Median		2.1429	
	Variance		.140	
	Std. Deviation		.37393	
	Minimum		1.71	
	Maximum		2.86	
	Range		1.14	
	Interquartile Range		.57	
	Skewness		.350	.149
	Kurtosis		-1.239	.296
IPPIS	Mean		1.9108	.03155
	95% Confidence Interval for Mean	Lower Bound	1.8487	
		Upper Bound	1.9729	
	5% Trimmed Mean		1.8872	
	Median		1.8333	
	Variance		.268	
	Std. Deviation		.51741	
	Minimum		1.17	
	Maximum		3.17	
	Range		2.00	
	Interquartile Range		.83	
	Skewness		.691	.149
	Kurtosis		-.433	.296

The outcome of the descriptive statistics is displayed in Table 4.1. Of relevance are the skewness and kurtosis. The statistics are divided by the standard error to achieve this. Our data set is normally distributed if the outcome is between -1.96 and +1.96 and vice versa. The outcome of the computation demonstrates that the distribution of our data collection is not normally distributed. To be double sure of this result, we perform the normality test. The result is shown in Table 4.2

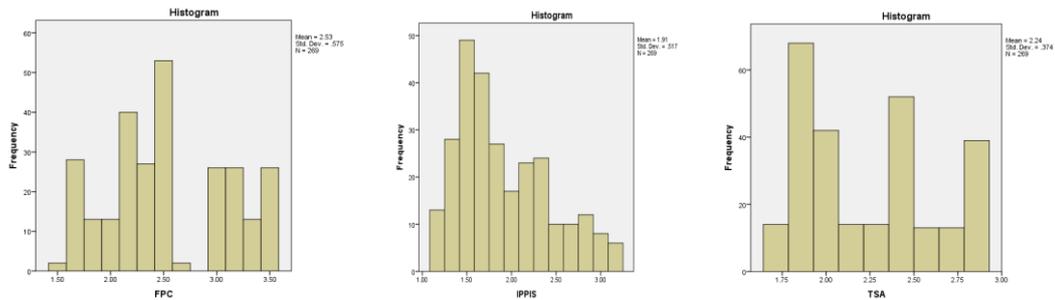
Table 4.2: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FPC	.178	269	.000	.931	269	.000
TSA	.201	269	.000	.886	269	.000
IPPIS	.172	269	.000	.925	269	.000

The normality test is displayed in Table 4.2 Shapiro-Wilk, and Kolmogorov-Smirnov are the two test statistics in the displayed outcome. When the data set has more than 100 observations, the Kolmogorov-Smirnov is applied. When the data set is less than 100, however, the Shapiro-Wilk

method is employed. In this study, we use Kolmogorov-Smirnov because our data set is above 100.

Our interest is in each of the variables not being statistically significant. Our variables are statistically significant since, according to the table, their values are less than 0.05. The data set is not normally distributed, as evidenced by this. Figures 1, 2, and 3 below further strengthen this conclusion. So, we rely on the non-parametric technique and perform the ordinal regression and Spearman Rank Correlation.



Figures 1-3: Histogram supporting our data set is not normally distributed

Table 4.3: Spearman Correlations

		FPC	TSA
Spearman's rho	FPC	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	269
	TSA	Correlation Coefficient	.470**
		Sig. (2-tailed)	.000
		N	269
**. Correlation is significant at the 0.01 level (2-tailed).			

The results of the Spearman Rank Correlation are presented in Table 4.3. As the level of FPC increases across the ordinal categories, TSA also increases. The result shows a strong correlation of .470 between the variables and statistical significance at 1%.

4.2 Test of Hypothesis One

Ho: treasury single account does not positively and significantly affect fraud prevention and control in the South-South public sector of Nigeria.

Table 4.4: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	752.607			
Final	452.769	299.838	8	.000
Link function: Logit.				

Table 4.4 is the outcome of the Model Fitting information. The table tells us how well our model fits the data. The information in Table 4.4 is statistically significant because its p.value is less than 0.05, implying our model fits the data very well.

Table 4.5: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	928.996	80	.760
Deviance	404.965	80	.620
Link function: Logit.			

The Pearson and Deviance Chi-Square tests are included in Table 4.5 and help evaluate how well a model fits the data. The non-significant outcome is a sign that the model successfully fits the data. The results show that the Pearson and Deviance are insignificant (0.760 and 0.620). These numbers are clearly over 0.05, demonstrating that the model fits the data set well.

Table 4.6: Pseudo R-Square

Cox and Snell	.672
Nagelkerke	.679
McFadden	.247
Link function: Logit.	

Table 4.6 contains the outcome of the Pseudo-R-Square. Our interest here is the Nagelkerke. This is more of the R-square for linear regression. The value of 0.679 indicates a 68% change in the FPC in the selected states, the dependent.

Table 4.7: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FPC = 1.50]	-6.438	.791	66.162	1	.000	-7.989	-4.887
	[FPC = 1.67]	-3.425	.392	76.437	1	.000	-4.193	-2.657
	[FPC = 1.83]	-2.901	.374	60.127	1	.000	-3.634	-2.168
	[FPC = 2.00]	-2.457	.361	46.270	1	.000	-3.165	-1.749
	[FPC = 2.17]	-1.138	.320	12.637	1	.000	-1.766	-.511
	[FPC = 2.33]	-.162	.300	.291	1	.590	-.751	.427
	[FPC = 2.50]	2.033	.373	29.775	1	.000	1.303	2.763
	[FPC = 2.67]	2.120	.376	31.813	1	.000	1.383	2.857
	[FPC = 3.00]	3.142	.414	57.590	1	.000	2.330	3.953
	[FPC = 3.17]	4.123	.451	83.494	1	.000	3.238	5.007
	[FPC = 3.33]	4.844	.490	97.698	1	.000	3.883	5.804
Location	[TSA=1.71]	.812	.581	1.955	1	.000	.326	1.951
	[TSA=1.86]	-2.196	.395	30.883	1	.162	-2.970	-1.421
	[TSA=2.00]	-2.674	.441	36.680	1	.000	-3.539	-1.808
	[TSA=2.14]	3.503	.621	31.825	1	.000	2.286	4.721
	[TSA=2.29]	7.340	1.118	43.097	1	.000	5.149	9.531
	[TSA=2.43]	2.872	.454	40.060	1	.000	1.983	3.762
	[TSA=2.57]	.935	.599	2.438	1	.118	-.239	2.110
	[TSA=2.71]	3.632	.638	32.427	1	.000	2.382	4.882
		[TSA=2.86]	0 ^a	.	.	0	.	.

The result of the parameter estimation is shown in Table 4.7. The treasury single account, the independent variable, is positive from the outcome. It significantly affects fraud prevention and

control in the South-South public sector Nigerian (.812, .000). The estimate's regression coefficient is positive. Inferentially, the implementation of the treasury single account enabled the management of the South-South public sector to manage, prevent, and control fraud in their organizations. The outcome showed that managing, preventing, and controlling fraud in organizations was significantly positively predicted by the method adopted by the sector.

Treasury single account positively and significantly affect fraud prevention and control in South-South Nigeria with a p-value of (0.000). The results showed that the treasury single account strongly influences fraud prevention and control in the zone. A change in TSA, the method adopted by the management to prevent and control fraud, will lead to a predicted increase in the management, prevention, and control of fraudulent activities in the public sector in the South-South. The finding is substantiated by the findings of Effiong et al. (2017). Their findings revealed a positive and significant correlation.

4.3 Test of Hypothesis Two

Ho: integrated payroll and personnel information system implementation have no positive and significant effect on fraud prevention and control status in the South-South public sector of Nigeria.

Table 4.8: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	752.607			
Final	452.769	299.838	8	.000
Link function: Logit.				

Table 4.8 is the outcome of the Model Fitting information. The information is statistically significant, implying our model fits the data well.

Table 4.9: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	367.049	120	.620
Deviance	305.910	120	.340
Link function: Logit.			

Based on the results, the Pearson and Deviance Chi-Square tests in Table 4.9 are insignificant (0.760 and 0.620). These numbers demonstrate that the model fits the data set well.

Table 4.10: Pseudo R-Square

Cox and Snell	.176
Nagelkerke	.178
McFadden	.043
Link function: Logit.	

Table 4.10 contains the outcome of the Pseudo-R-Square. The value of 0. 679 indicates a 68% change in the FPC in the selected caused by IPPIS.

Table 4.11: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FPC = 1.50]	-.017	1.028	46.586	1	.000	-9.031	-5.002
	[FPC = 1.67]	-4.025	.761	28.005	1	.000	-5.516	-2.534
	[FPC = 1.83]	-3.541	.753	22.136	1	.000	-5.016	-2.066
	[FPC = 2.00]	-3.182	.748	18.082	1	.000	-4.648	-1.715
	[FPC = 2.17]	-2.380	.741	10.316	1	.001	-3.832	-.928
	[FPC = 2.33]	-1.929	.738	6.840	1	.009	-3.375	-.484
	[FPC = 2.50]	-1.057	.732	2.087	1	.149	-2.492	.377
	[FPC = 2.67]	-1.022	.732	1.952	1	.162	-2.456	.412
	[FPC = 3.00]	-.481	.729	.436	1	.509	-1.910	.948
	[FPC = 3.17]	.237	.728	.106	1	.745	-1.190	1.664
	[FPC = 3.33]	.729	.732	.990	1	.320	-.706	2.164
Location	[IPPIS=1.17]	.695	.897	16.968	1	.000	5.454	1.937
	[IPPIS=1.33]	2.827	.810	12.180	1	.000	4.414	1.239
	[IPPIS=1.50]	1.771	.773	5.254	1	.022	3.286	.257
	[IPPIS=1.67]	1.065	.775	1.885	1	.170	2.584	.455
	[IPPIS=1.83]	1.793	.805	4.960	1	.026	3.371	.215
	[IPPIS=2.00]	2.123	.847	6.278	1	.012	-3.784	.462
	[IPPIS=2.17]	-1.953	.818	5.698	1	.017	-3.556	-.349
	[IPPIS=2.33]	-2.400	.818	8.613	1	.003	-4.003	-.797
	[IPPIS=2.50]	-.367	.913	.162	1	.688	-2.156	1.422
	[IPPIS=2.67]	-1.855	.917	4.092	1	.043	-3.653	-.058
	[IPPIS=2.83]	-.142	.885	.026	1	.873	-1.877	1.593
	[IPPIS=3.00]	-.721	.954	.571	1	.450	-2.590	1.148
	[IPPIS=3.17]	0 ^a	.	.	0	.	.	.
Link function: Logit.								
a. This parameter is set to zero because it is redundant.								

The result of the parameter estimation is shown in Table 4.11. The integrated payroll and personnel information system implementation, the independent variable, is positive from the outcome. It significantly affects fraud prevention and control in the South-South public sector Nigerian (.695, .000). The estimate’s regression coefficient is positive. Implementing the integrated payroll and personnel information system enabled the management of the South-South public sector to manage, prevent, and control fraud in their organizations. The outcome showed that managing, preventing, and controlling fraud in the zone was significant and positively predicted by the method adopted by the sector.

Integrated payroll and personnel information systems positively and significantly affect fraud prevention and control in South-South Nigeria with a p-value of (0.000). The results showed that the integrated payroll and personnel information system strongly influences fraud prevention and control in the zone. A change in IPPIS, the method adopted by the management to prevent and control fraud, will lead to a predicted increase in the management, prevention, and control of fraudulent activities in the public sector in the South South. The finding of this study is substantiated by the findings of Effiong et al. (2017) and Okafor, Ifeanyichukwu, and Omeh (2018). Their findings revealed a positive and significant correlation between fraud and fraud management and Integrated payroll and personnel information systems.

5. **Discussions and conclusions**

All of the independent variables, the treasury single account, and the integrated payroll and personnel information systems have a significant and positive effect on fraud prevention and control in South-South Nigeria, according to the results of the Ordinal Least Square Regression testing the hypotheses at a 5% significance level. The findings demonstrate that an increase in any reform measures put to the test will correspond to an increase in fraud prevention and control.

It is clear from the data that there is a significant and positive relationship between the reform initiatives and fraud prevention and control. However, this does not mean that the reform initiatives can entirely eradicate fraud. Because fraud cases are still common in the public sector even amid these initiatives, the current events in the Nigerian public sector are not far from this. For instance, despite these reform attempts, over 80 billion naira fraud involving the federation's Accountant General occurred. The procurement, payroll, and general usage of public monies continue to see an increase in fraud instances. There are still instances of "ghost workers," employees who are no longer in service but are still getting compensation, persistent payment problems, and non-remittance of third-party deductions.

In light of the study's results, management must take additional steps to guarantee that these reform initiatives are successful and foster accountability and openness in government financial management. The government must ensure that these reform proposals are fully implemented on paper and in real life. To ensure these procedures are followed and relevant, they must ensure regular reviews and monitoring. These systems should be regularly reviewed and monitored to ensure that any vulnerabilities and flaws can be exploited, found, and fixed as soon as feasible. The government must examine and upgrade its internal audit process and ICT systems to reflect best practices for risk-based assessments.

6. **Practical Implication**

It is impossible to overstate the significance of reforms to public financial management. The changes assist in getting rid of the excesses that can cause the government to have more financial issues. The current deteriorating economic situation in the nation, the increasing prevalence of fraud and corrupt practices involving large sums of money totaling hundreds of billions of naira, and the desire to enhance public financial management in accordance with best practices make this study timely and equally important. The results of this study will help the government and the general population with effective planning and performance evaluation. The study will be of great use to the regulatory agencies because it will give information that will aid in assessing these improvements' effectiveness.

References

1. *Adejuwon, K. (2012). The dilemma of accountability and good governance for improved service delivery in Nigeria. Africa's public service delivery performance review.*
2. *Adeolu I. A. (2015). Understanding the treasury single account system – Things you should know: Business and economy, market development.*
3. *Blacks's Law Dictionary (1971). Definitions of American and English jurisprudence terms and phrases, ancient and modern. 4th edition. ST. PAUL, MINN. WEST PUBLISHING CO.*
4. *CBN (2015). "Revised guidelines for compliance with treasury single account by banks in Nigeria.*

5. *Chêne, M. (2015). Corruption and Anti-Corruption Practices in Human Resource Management in the Public Sector. U4 Anti-Corruption Helpdesk.*
6. *Effiong, S. A., Oro, B. L., Ogar, G. U., Imong N., R., Jacob G. E., & Orim, B. I. (2017). Treasury single account, integrated payroll and personnel information system (Integrated Payroll and personnel information system), and Integrated Financial Management Information System (IFMIS): Application and Implementation Effects on Fraud Management in the Public Sector in Nigeria. IOSR Journal of Business and Management, 19(8), 22-30.*
7. *Enofe, A. O., Afiangbe, S. E. & Agha, D. I (2017). Financial management reforms and corruption in Nigeria's public sector. International Journal of advanced academic research 3(7) 1-22.*
8. *Federal Republic of Nigeria (1999). The Constitution of the Federal Republic of Nigeria.*
9. *Giriūnas, L. & Mackevičius, J. (2014). Evaluation of frauds in the public sector. Entrepreneurship and sustainability issues 1(3), 143-150*
10. *Kinyanjui, C. M. & Jane, O. (2017). Effects of Public Financial Management Reforms on Financial Performance of State-Owned Corporations in Kenya. International Journal of Management and Commerce Innovations, 5(1), 158-168.*
11. *Long, C. (2019). 'PFM and Perceptions of Corruption' in Kristensen, J. K., Bowen, M., Long, C., Mustapha, S. and Zrinski, U. PEFA, Public Financial Management, and Good Governance. World Bank.*
12. *Maning, N. (2001). The legacy of the new public management in developing countries. International Review of Administrative Science. 67,297 – 312.*
13. *Obara, L. C., Nangih, E. & Agba, J. N. (2017). Accounting Systems and Payroll Fraud in the Public Sector: A Survey of Selected Ministries and Parastatals in Rivers State, Nigeria. Journal of Accounting and Financial Management, 2(3).*
14. *Ochenni, S. (2016) Treasury Single Account: A catalyst for public financial management in Nigeria. A paper presented at a workshop organized by the Association of National Accountants of Nigeria (ANAN), the International Federation of Accountants (IFAC), the Office of the Accountant-General of the Federation (OAGF), and The World Bank in Abuja.*
15. *Ofoegbu, G. N, Onodugo, V.A. & Onwumere, J.U.J. (2015). Public sector reforms and outsourcing services in Nigeria: An empirical evaluation. Journal of Business and Management, 17(12), 40-52.*
16. *Okafor, N. I., Ifeanyichukwu, M. A. & Omeh, P. H. (2018). Exposing ghost workers in Nigeria: An emerging ethical dimensions to get things right. American Based Research Journal,7(3) 33-43.*
17. *Okoye, Emmanuel Ikechukwu and Gbegi, D.O., An Evaluation of Forensic Accountants to Planning Management Fraud Risk Detection Procedures (January 15, 2013). Global Journal of Management and Business Research 13(1).*
18. *Omolehinwa, O. E., & Naiyeju, K. J. (2015). Government Accounting in Nigeria: An international public sector accounting standards approach. Lagos;NG, Pumark Nigeria Ltd.*
19. *Rotimi, O., Olusola, I.E., Olusegun, E.A., Oluwayemisi, A.M.B., Rildwan, O.B., Rahmon, T.A., & Gbenga, A.C. (2021). Public financial management tools and performance in nigerian public sector. Academy of Accounting and Financial Studies Journal, 25(S4), 1-15.*
20. *Zubairu, S. A. (2016). Public financial management reforms in Nigeria. A paper presented at the 23rd ESAAG annual international conference.*