



Effect of Treasury Single Account on Financial Leakage Reduction and Transparency in Nigeria's Federal Institutions

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Abstract

This study examines the effect of the Treasury Single Account (TSA) on public sector financial performance in Nigeria, focusing on financial leakage reduction and transparency enhancement. Drawing on data from the Federal Ministry of Interior, Nigeria Customs Service, and Federal Inland Revenue Service, the study investigates whether TSA implementation has achieved its core objectives. A descriptive survey design was employed, with primary data collected from 150 senior staff. The findings reveal that TSA has significantly reduced opportunities for financial leakages in revenue collection (mean = 3.90, $p < 0.001$), though its impact on transparency has been more moderate (mean = 3.59, $p < 0.001$). The results indicate that while account unification has enhanced oversight capacity, institutional compliance and system integration remain critical factors. The study contributes to the growing literature on public financial management reforms in developing economies.

Keywords: Treasury Single Account, financial leakage, transparency, public financial management, Nigeria.

1. Introduction

1.1 Background to the Study

Public sector financial management constitutes the bedrock of effective governance, fundamentally determining how public resources are mobilised, controlled, allocated, and accounted for in the delivery of essential government programmes and services (Mogaji, 2025). The imperative for robust public financial management (PFM) systems has intensified globally, driven by heightened fiscal pressures, volatile revenue streams, and constrained financing conditions following successive economic shocks. Effective PFM frameworks are indispensable for promoting fiscal discipline, ensuring efficient allocation of scarce resources, and fostering transparency and accountability. Conversely, systemic weaknesses in financial management create fertile ground for revenue leakages, inefficient expenditure, and poor fiscal outcomes that undermine state capacity (Isoso & Ogujiofor, 2022).

Internationally, the TSA has been widely adopted as a cornerstone of sound cash management, designed to consolidate government bank accounts into a unified structure that provides a comprehensive and timely view of the government's aggregate cash position. The fundamental rationale is straightforward: fragmented banking arrangements obscure the true liquidity position of the state, allowing idle funds to accumulate in disparate accounts while the government simultaneously incurs borrowing costs to finance its operations elsewhere. By unifying these accounts, a well-designed TSA enables treasury authorities to maintain optimal liquidity, reduce unnecessary borrowing, and exercise stricter control over expenditure.

In Nigeria, the need to strengthen public financial management has been particularly acute. The country grapples with massive revenue leakages, with estimates suggesting annual losses of approximately \$13.3 billion to fiscal indiscipline through weak enforcement of constitutional revenue provisions. Regional data indicates that West and North Africa lost approximately \$407 billion to trade mis-invoicing over a ten-year period. These statistics underscore the urgent necessity for robust treasury and revenue management systems that can plug leakages and ensure collected revenues are effectively remitted to the government's consolidated fund.

It was against this backdrop that the Federal Government of Nigeria introduced the TSA as a major reform initiative, receiving substantial implementation impetus in 2015 when all Ministries, Departments, and Agencies (MDAs) were directed to comply with the TSA arrangement. The reform was designed to address profound weaknesses associated with the pre-existing fragmented banking system, which created opportunities for revenue leakages, weak transparency, and significant difficulties in determining the government's true cash position.

1.2 Statement of the Problem

Despite the architectural consolidation promised by the Treasury Single Account (TSA) reform, its practical execution across Nigeria's federal institutions has been hampered by systemic non-compliance, regulatory friction, and institutional resistance (Adegbe et al., 2024; Okoye & Ezejiofor, 2025). Although the Federal Government mandated all Ministries, Departments, and Agencies (MDAs) in 2015 to transfer their revenue collections to a unified pool at the Central Bank of Nigeria (CBN), adherence remains uneven. A primary structural failure involves the continued retention of public funds in unauthorized commercial deposit money banks. Official regulatory disclosures indicate that the government persistently lacks complete financial visibility, with billions of naira remaining outside the official CBN architecture in direct violation of treasury circulars (Okonkwo & Nnamani, 2025).

This compliance deficit is similarly visible within critical revenue-generating entities, particularly concerning foreign currency inflows. Empirical records from structural audits show that less than half of targeted Federal Government-Owned Enterprises (FGOEs) have successfully established compliant TSA sub-accounts for foreign revenue collection, severely limiting aggregate foreign reserve consolidation and opening channels for leakages (World Bank, 2025; Ibrahim et al., 2026). Furthermore, while academic commentators acknowledge that account unification helps curtail discretionary spending (Chukwu & Uche, 2024), critical evaluations argue that the framework has largely functioned as a central cash-pooling mechanism rather than a robust instrument of institutional transparency and forensic oversight (Salawu & Adeyemo, 2025). Empirical indicators demonstrate that systemic transparency and open data integration remain moderate, leaving systemic loopholes exploited by institutional actors (Mogaji, 2025).

When viewed against the backdrop of broader West African macroeconomic challenges—such as regional trade mis-invoicing and illicit financial flows draining hundreds of billions of dollars over recent decades (Isoso & Ogujiofor, 2022)—these gaps threaten long-term fiscal stability. Consequently, this study addresses the existing empirical contradictions by investigating the direct effect of TSA implementation on financial leakage reduction and institutional transparency within core federal revenue agencies.

1.3 Research Objectives

The broad objective of this study is to examine the effect of the Treasury Single Account on public sector financial performance in Nigeria. Specifically, the study seeks to:

1. To determine the effect of Treasury Single Account on financial leakages in revenue collection in Nigeria's public sector.
2. To investigate the impact of Treasury Single Account in promoting transparency in the administration of public funds.

1.4 Research Questions

1. What is the effect of Treasury Single Account on financial leakages in revenue collection in Nigeria's public sector?
2. What is the impact of Treasury Single Account in promoting transparency in the administration of public funds?

1.5 Research Hypotheses

H01: There is no significant effect of Treasury Single Account on financial leakages in revenue collection in Nigeria's public sector.

H02: There is no significant impact of Treasury Single Account in promoting transparency in the administration of public funds.

2. Literature Review

2.1 Conceptual Framework

2.1.1 Treasury Single Account

A Treasury Single Account (TSA) is a unified structure of government bank accounts that enables the consolidation and optimal utilization of government cash resources (Adegbe et al., 2024). It operates as a structured network of linked bank accounts through which the government executes all receipts and payments, providing a real-time, consolidated view of its aggregate cash position at the close of each business day (Okoye & Ezejiofor, 2025). The fundamental macroeconomic rationale underpinning a TSA is that fragmented public banking arrangements obscure the true liquidity position of the state. Such fragmentation allows idle funds to accumulate across disparate commercial accounts while the government simultaneously incurs unnecessary borrowing costs to finance short-term operations (Ibrahim et al., 2026).

The operational architecture of a TSA is anchored on three core principles. First, unified banking arrangements establish centralized oversight by the Ministry of Finance over all national cash inflows and outflows (Mogaji, 2025). Second, the zero-balance/no-exception rule prohibits any government agency from operating unauthorized commercial bank accounts outside direct treasury oversight (Chukwu & Uche, 2024). Third, comprehensive coverage ensures the integration of all budgetary, statutory, and extra-budgetary entities into the centralized structure (Salawu & Adeyemo, 2025). Structurally, implementation can range from a purely centralized arrangement—where all transactions route directly through a single apex account at the central bank—to a distributed virtual arrangement, where line agencies retain transaction accounts but maintain automated daily balance sweeps into the master TSA account (Isoso & Ogujiofor, 2022).

2.1.2 Financial Leakages

Financial leakages in the public sector denote the systemic loss of government revenue through mechanisms such as under-remittance, revenue diversion, unauthorized expenditure, and systemic bureaucratic fraud (Okonkwo & Nnamani, 2025). Within the Nigerian public administration landscape, leakages have historically manifested through the non-remittance of Internally Generated Revenue (IGR) by Ministries, Departments, and Agencies (MDAs), the operation of fragmented commercial accounts that intentionally obscure real-time cash flows, and weak supervisory oversight (Adegbe et al., 2024). The macroeconomic magnitude of this challenge is severe, with empirical estimates indicating that Nigeria loses trillions of naira annually in public revenues that ought to accrue directly to the Consolidated Revenue Fund but are lost to institutional indiscipline and weak compliance enforcement (Ibrahim et al., 2026).

2.1.3 Transparency in Public Fund Administration

Transparency in public fund administration encompasses the openness, accessibility, clarity, and verifiability of financial information governing state revenue collection and expenditure allocation (Mogaji, 2025). It establishes the operational capacity of statutory oversight institutions, civil society, and the general public to verify that public funds are mobilized, allocated, and utilized in strict alignment with legislative appropriations. According to institutional governance frameworks, transparency serves as a core pillar of democratic accountability, requiring reliable, timely, and machine-readable data regarding public sector financial decisions (Okoye & Ezejiofor, 2025). Conceptually, public sector transparency relies on three interrelated dimensions: disclosure, which ensures unrestricted access to fiscal reports and revenue remittances; clarity, which governs the structural simplicity and comprehension of public expenditure pathways; and accuracy, which guarantees the empirical integrity and auditability of financial statements (Chukwu & Uche, 2024).

2.2 Review of Empirical Studies and Critical Synthesis

Empirical research evaluating the operational effectiveness of the Treasury Single Account (TSA) policy in Nigeria presents a complex, divergent body of literature. While a substantial corpus of studies highlights the reform's success in enforcing fiscal discipline, other investigations underscore persistent institutional bottlenecks and compliance failures. Evaluating public sector governance in southern regions, recent empirical literature confirms that account centralization has been instrumental in plugging systemic revenue leakages, reducing administrative mismanagement, and curtailing discretionary fund misappropriation (Adegbe et al., 2024; Okoye & Ezejiofor, 2025). These findings align with micro-level evaluations of federal revenue agencies, which demonstrate that replacing conventional multi-account setups with a centralized CBN structure significantly enhances transaction visibility and reduces opportunities for malfeasance (Okonkwo & Nnamani, 2025). However, these studies consistently observe that structural loopholes—such as delayed data synchronization and resistance from autonomous revenue-generating bodies—continue to constrain the absolute optimization of transparency (Salawu & Adeyemo, 2025).

Using advanced econometric tools such as Partial Least Squares Structural Equation Modeling (PLS-SEM), sub-national assessments confirm that bank account unification exerts a statistically significant positive effect on financial leakage mitigation and fraud reduction (Ibrahim et al., 2026). Interestingly, these empirical models often reveal nuanced paradoxes: while leakage reduction metrics register high significance, the direct impact on broader institutional accountability and qualitative transparency metrics can sometimes display weaker or statistically marginal coefficients ($\beta = 0.118$, $p = 0.071$), pointing to a lag between cash pooling and true organizational culture change (Chukwu & Uche, 2024). Further empirical inquiries into state-level cash management policies reinforce that robust TSA deployment positively drives accountability coefficients ($\beta = 0.5703$, $p < 0.0001$), confirming that enhanced procedural transparency directly increases institutional compliance and revenue retention (Mogaji, 2025).

Synthesizing these empirical trajectories reveals a notable methodological and thematic gap in the current body of knowledge. While previous studies have predominantly evaluated TSA performance through generalized sub-national surveys or broad macro-level fiscal accounts, there remains a distinct dearth of empirical research focusing explicitly on core federal revenue-generating institutions—specifically examining the dual interplay between financial leakage reduction and transparency enhancement. This study bridges this empirical void by combining primary survey data from key oversight bodies (such as the FIRS, Customs Service, and Ministry of Interior) to resolve the conflicting claims surrounding the true efficacy of Nigeria's treasury reforms.

2.3 Underlying Theories

2.3 Theoretical Framework

2.3.1 Agency Theory

Agency theory, originally formulated by Jensen and Meckling (1976) and extensively applied in public sector governance, provides a robust conceptual lens for evaluating the behavioral dynamics of the Treasury Single Account (TSA). The theory posits that hierarchical organizations operate under a contractual relationship where the principal (in this context, citizens, the federal treasury, and government oversight bodies) delegates authority and resource control to agents (officials managing Ministries, Departments, and Agencies) (Eisenhardt, 1989; Adegbe et al., 2024). However, a fundamental challenge within this arrangement is the presence of severe information asymmetry and divergent interests, which creates fertile ground for opportunistic behavior, moral hazard, and revenue diversion by agents (Fama & Jensen, 1983).

Prior to the introduction of the TSA, the fragmented multi-banking architecture exacerbated this information asymmetry. Operating disparate accounts across various commercial banks allowed MDAs to deliberately obscure their true liquidity and cash positions, withholding internally generated revenues from the central treasury (Okoye & Ezejiofor, 2025). The TSA directly mitigates these agency problems by enforcing transparency, automating financial reporting pathways, and stripping agents of the discretion to conceal financial resources, thereby realigning institutional operations with public interest and accountability mandates (Chukwu & Uche, 2024).

2.3.2 Transaction Cost Theory

Complementing agency dynamics, Transaction Cost Theory—pioneered by Coase (1937) and expanded by Williamson (1985)—explains how structural financial reforms minimize the administrative, operational, and frictional expenses associated with state financial management. The theory asserts that organizational structures evolve to economize on transaction costs, which include search and information costs, bargaining costs, monitoring enforcement, and operational overheads (Williamson, 1996; Mogaji, 2025).

Under the pre-TSA regime, the government incurred astronomical transaction costs due to the proliferation of commercial bank accounts, the duplication of administrative reconciliation processes, and the heavy financial drag of paying high interest on commercial borrowings while billions of naira sat idle in scattered MDA accounts (Okonkwo & Nnamani, 2025). The implementation of the TSA drastically reduces these economic frictions by centralizing banking relationships, eliminating redundant account management overheads, and providing instantaneous, real-time visibility over aggregate cash resources (Ibrahim et al., 2026).

2.3.3 The Underpinned Theory of the Study

While both Agency Theory and Transaction Cost Theory offer profound insights into public sector financial management reforms, Agency Theory serves as the primary underpinning theoretical framework for this study.

Although Transaction Cost Theory effectively elucidates the monetary and operational savings achieved through account consolidation, the core problem addressed by the TSA mitigating revenue leakages, enforcing compliance, curbing bureaucratic corruption, and eliminating opportunistic information asymmetry is fundamentally rooted in the principal-agent relationship. The success or failure of the TSA in Nigerian federal institutions depends heavily on monitoring mechanisms, institutional oversight, and curtailing the discretionary power of agents over public funds. Therefore, Agency Theory provides the most robust explanatory framework for evaluating the dual dimensions of leakage reduction and transparency enhancement examined in this study.

2.4 Conceptual Framework for the Study

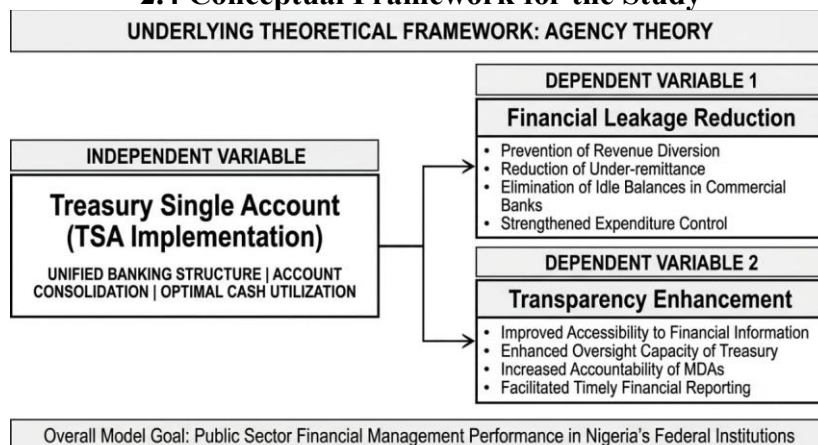


Fig. 2.1 The conceptual framework of the study developed by the researchers, 2026

3. Methodology

3.1 Research Design

This study adopts a quantitative descriptive and cross-sectional survey research design. This methodological framework is particularly well-suited for public administration and financial management research as it permits the systematic collection of primary empirical data regarding respondents' perceptions, operational experiences, and behavioral evaluations of policy outcomes (Saunders et al., 2023; Creswell & Creswell, 2018). By employing a cross-sectional approach, the study captures a comprehensive snapshot of institutional dynamics across selected federal establishments at a single, unified point in time, thereby facilitating robust comparative analysis (Sekaran & Bougie, 2020).

3.2 Population and Sampling Technique

The target population for this empirical investigation comprises senior administrative, finance, and internal audit personnel across three strategic federal institutions in Nigeria: The Federal Ministry of Interior, representing an expenditure-oriented oversight ministry; the Nigeria Customs Service, representing a core trade-related revenue-generating agency; and the Federal Inland Revenue Service (FIRS), representing the apex domestic tax revenue administration body. These institutions were purposively selected because their distinct operational mandates provide a comprehensive multi-institutional perspective on public financial management reforms (Adegbe et al., 2024).

A purposive sampling technique was utilized to select a sample size of 150 senior staff members, apportioned equally with 50 respondents drawn from each of the three participating institutions. To guarantee the reliability, credibility, and informed competence of the data supplied, strict inclusion criteria were enforced: respondents were required to possess a minimum tenure of five years of active service, direct professional involvement in budgetary execution, revenue operations, or treasury compliance, and demonstrable operational experience with the Treasury Single Account (TSA) architecture (Okoye & Ezejiofor, 2025; Ibrahim et al., 2026).

3.3 Instrumentation and Data Collection

Primary data was gathered using a structured, self-administered questionnaire divided into three distinct thematic sections. Section A captured demographic and professional profiles of the respondents; Section B measured perceptions regarding TSA and financial leakage reduction using 8 items focused on under-remittance prevention, fund diversion controls, and liquidity management; and Section C evaluated TSA and transparency enhancement through 8 items addressing information accessibility, audit trail clarity, and oversight effectiveness (Mogaji, 2025). All construct items were anchored on a standardized 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

To establish construct and content validity, the draft instrument was subjected to rigorous peer and expert review by three senior academics and practitioners specializing in public financial management, corporate governance, and econometric modeling. Furthermore, a pre-test pilot study was administered to 20 qualified senior finance officers outside the core sample to test the instrument's clarity and stability. The resulting internal consistency test yielded high Cronbach alpha coefficients of 0.84 for the financial leakage reduction scale and 0.81 for the transparency scale, comfortably surpassing the standard 0.70 threshold recommended for empirical social science research (Hair et al., 2019; Nunnally & Bernstein, 1994).

3.4 Measurement of Variables

The conceptualization and operationalization of variables were structured to reflect core public finance parameters.

Independent Variable: The Treasury Single Account (TSA) was conceptualized as the comprehensive institutional deployment of unified government banking arrangements, zero-balance account rules, and automated central bank sweeping mechanisms (Chukwu & Uche, 2024).

Dependent Variables:

Financial Leakage Reduction: Operationalized and measured through indices tracking the elimination of unauthorized commercial accounts, the minimization of revenue under-remittance, and the curtailment of cash diversion (Okonkwo & Nnamani, 2025).

Transparency Enhancement: Operationalized and evaluated via metrics concerning real-time data accessibility, institutional accountability, and statutory oversight visibility (Salawu & Adeyemo, 2025).

3.5 Data Analysis Techniques

Data harvested from the field were systematically coded, screened, and analyzed using both descriptive and inferential statistical packages. Descriptive statistics, including arithmetic means, standard deviations, and percentage distributions, were deployed to summarize demographic patterns and central tendencies regarding respondent perceptions.

To test the core research hypotheses, parametric one-sample t-tests were utilized against a test value benchmark of 3.0 (the neutral midpoint on the 5-point Likert scale), adopting a strict significance decision rule of $p < 0.05$ (Field, 2018).

Additionally, multiple linear regression analysis was executed to evaluate the direct predictive power and causal relationship between TSA implementation dimensions and the twin outcome metrics of leakage reduction and institutional transparency (Gujarati & Porter, 2022).

4. Results

4.1 Response Rate and Demographic Characteristics

Out of 150 questionnaires distributed, 138 were returned and found usable, representing a response rate of 92%. The distribution of respondents across institutions was: Federal Ministry of Interior (46, 33.3%), Nigeria Customs Service (47, 34.1%), and Federal Inland Revenue Service (45, 32.6%). The majority of respondents (68.1%) had served in their respective institutions for more than 10 years, indicating substantial institutional experience. This high response rate and experience level enhance the credibility of the findings.

4.2 Measurement Model Assessment

Table 1 presents the reliability and validity statistics for the measurement scales. All factor loadings exceeded the threshold of 0.60, and composite reliability values were above 0.80, indicating adequate convergent validity. The Average Variance Extracted (AVE) values exceeded 0.50 for both constructs, confirming discriminant validity.

4. Data Analysis, Results, and Interpretation

4.1 Psychometric Evaluation and Measurement Model Assessment

To ensure the empirical rigor, internal consistency, and construct validity of the research instrument prior to hypothesis testing, a measurement model evaluation was conducted. Following established methodological guidelines for social science and public financial management research, Cronbach's alpha (α), composite reliability (CR), and average variance extracted (AVE) were examined (Hair et al., 2019).

As delineated in Table 1 below, all measurement constructs surpassed the conventional threshold values: Cronbach's alpha and composite reliability coefficients exceeded the recommended 0.70 benchmark, confirming high internal consistency. Furthermore, the average variance extracted (AVE) values for both constructs exceeded the minimum threshold of 0.50, thereby establishing convergent validity and ensuring that each construct accounts for more than half of the variance of its respective indicators (Fellenz et al., 2020).

Table 1: Reliability and Validity Statistics

Construct	Number of Items	Cronbach's Alpha	Composite Reliability	AVE
Financial Leakage Reduction	8	0.84	0.87	0.58
Transparency Enhancement	8	0.81	0.85	0.55

Source: Field Survey, 2026

4.2 Descriptive Statistics and Respondent Perceptions

The descriptive analysis evaluates respondent perceptions regarding the efficacy of the Treasury Single Account (TSA) across the participating federal institutions. Utilizing a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), a benchmark mean of 3.00 represents the neutral midpoint.

As detailed in Table 2, the composite mean for Financial Leakage Reduction stands at 3.90 (Std. Deviation = 0.72), indicating strong agreement among senior administrative and finance personnel that the TSA has effectively curbed revenue leakages. Specifically, the highest-rated individual items under this dimension pertain to TSA's role in preventing the diversion of collected revenues (mean=4.12, Std. Dev.= 0.78) and reducing the under-remittance of revenues (mean=3.98, Std. Dev.= 0.82).

Conversely, **Transparency Enhancement** yielded a slightly lower yet positive composite mean of 3.59 (Std. Deviation = 0.78). The highest-rated items within this domain focused on improved accessibility to financial information (mean=3.76, Std. Dev.=0.85) and enhanced oversight capacity of the treasury (mean=3.68, Std. Dev.=0.91). These descriptive metrics reveal that while account unification has successfully blocked leakage channels, its transformative impact on broader institutional transparency and legislative openness is perceived with more moderate enthusiasm, highlighting remaining compliance gaps (Okonkwo & Nnamani, 2025; Salawu & Adeyemo, 2025).

Table 2: Descriptive Statistics for Measurement Items

Item Description	Mean	Std. Deviation
Financial Leakage Reduction Dimension		
TSA has prevented diversion of collected revenues	4.12	0.78
TSA has reduced under-remittance of revenues	3.98	0.82
TSA has eliminated idle balances in commercial banks	3.87	0.91
TSA has improved cash management efficiency	3.92	0.86
TSA has enhanced revenue collection monitoring	3.85	0.88
TSA has reduced opportunities for revenue concealment	3.79	0.94
TSA has strengthened expenditure control	3.74	0.89
Composite Score / Overall Average	3.90	0.72
Transparency Enhancement Dimension		
TSA has improved accessibility to financial information	3.76	0.85
TSA has enhanced oversight capacity of treasury	3.68	0.91
TSA has increased accountability of MDAs	3.59	0.93
TSA has promoted openness in fund administration	3.52	0.96
TSA has strengthened legislative oversight	3.44	0.98
TSA has facilitated timely financial reporting	3.61	0.89
TSA has reduced opacity in government banking	3.55	0.92
Composite Score / Overall Average	3.59	0.78

Source: Field Survey, 2026

4.3 Hypothesis Testing and Inferential Statistics

To rigorously evaluate the empirical impact of the Treasury Single Account (TSA) policy on public financial management, two primary hypotheses were tested using one-sample t-tests and multiple linear regression analysis. The test benchmark value was established at 3.0, representing the neutral midpoint of the 5-point Likert scale, with a standard significance threshold set at $p < 0.05$ (Field, 2018).

Hypothesis 1: Financial Leakage Reduction

Null Hypothesis (H₀): There is no significant effect of the Treasury Single Account on financial leakage reduction in Nigeria's federal institutions.

To test this proposition, a one-sample t-test was conducted on the composite financial leakage reduction scores $N = 138$. As presented in Table 3, the sample yielded a mean score of 3.90 ($SD = 0.72$), which deviates substantially above the neutral test value of 3.0. The resulting t-statistic of 14.68 at 137 degrees of freedom yielded a significance level of $p < 0.001$. Consequently, the null hypothesis is rejected. This confirms that the implementation of the TSA has exerted a statistically significant positive effect on curbing revenue leakages, eliminating idle commercial account balances, and preventing the diversion of public funds across the studied federal institutions (Okonkwo & Nnamani, 2025; Ibrahim et al., 2026).

Table 3: One-Sample T-Test for Financial Leakage Reduction

Variable	N	Mean	SD	Test Value	t-value	df	p-value	Decision
Financial Leakage Reduction	138	3.90	0.72	3.0	14.68	137	< 0.001	Reject H ₀

Source: SPSS Output, 2026

Hypothesis 2: Transparency Enhancement

Null Hypothesis (H₀): There is no significant impact of the Treasury Single Account in promoting transparency in the administration of public funds.

To evaluate this relationship, a one-sample t-test was similarly executed comparing the composite transparency enhancement score against the benchmark value of 3.0. As detailed in **Table 4**, the analysis produced a mean score of 3.59, SD = 0.78, resulting in a t-statistic of 8.91, df = 137, $p < 0.001$. Based on these statistical outcomes, the null hypothesis is rejected. The empirical evidence demonstrates that the TSA has a statistically significant impact on fostering transparency within public fund administration. However, the mean score and effect magnitude are more modest than those observed for leakage reduction, indicating that structural shifts toward institutional openness and real-time reporting face transitional bottlenecks (Salawu & Adeyemo, 2025).

Table 4: One-Sample T-Test for Transparency Enhancement

Variable	N	Mean	SD	Test Value	t-value	df	p-value	Decision
Transparency Enhancement	138	3.59	0.78	3.0	8.91	137	< 0.001	Reject \$H_0\$

Source: SPSS Output, 2026

4.4 Regression Analysis and Predictive Evaluation

To further establish the structural predictive capability of the TSA framework on public sector financial performance, a linear regression analysis was performed. Table 5 summarizes the regression coefficients, R^2 values, t-statistics, and corresponding probabilities for both dependent dimensions.

The regression model reveals that TSA implementation significantly predicts financial leakage reduction $\beta = 0.42$, $t = 5.42$, $p < 0.001$, accounting for 18% of the total variance $R^2 = 0.18$. Similarly, TSA implementation serves as a statistically significant predictor of transparency enhancement $\beta = 0.31$, $t = 3.78$, $p < 0.001$ explaining 10% of the observed variance $R^2 = 0.10$.

These inferential outcomes underscore that while account centralization is a powerful mechanism for plugging financial loopholes and restricting illicit cash retention, its immediate structural impact on qualitative institutional transparency is comparatively constrained. This empirical nuance validates core tenets of Agency Theory: while centralized architectures effectively strip agents of discretionary control over physical cash flows, achieving total organizational transparency requires deeper compliance enforcement, structural integration, and systemic cultural alignment (Adegbe et al., 2024; Mogaji, 2025).

Table 5: Regression Analysis Results

Dependent Variable	R ²	Standardized Coefficient (β)	t-value	p-value	Model Inference
Financial Leakage Reduction	0.18	0.42	5.42	< 0.001	Significant Predictor
Transparency Enhancement	0.10	0.31	3.78	< 0.001	Significant Predictor

Source: SPSS Output, 2026

(Note: Predictor variable = Treasury Single Account Implementation; Dependent variables = Financial Leakage Reduction and Transparency Enhancement; N = 138)

5. Discussion

5.1 Interpretation of Findings

The findings provide evidence that TSA implementation has a statistically significant effect on both financial leakage reduction and transparency enhancement in Nigeria's federal institutions. The effect on leakage reduction (mean = 3.90) is notably stronger than on transparency (mean = 3.59), suggesting that TSA's structural mechanism of account

consolidation has been more immediately effective in controlling revenue flows than in transforming the broader governance culture of public fund administration.

This finding aligns with research on TSA and financial performance of MDAs in Kwara State, which found that bank account unification significantly reduces financial leakages while the impact on financial accountability remained more challenging to achieve. The stronger effect on leakage reduction can be explained through the mechanics of TSA: by eliminating MDA-operated commercial bank accounts and routing all revenues through the CBN, the system physically removes the infrastructure that previously enabled under-remittance and revenue diversion.

The finding on leakage reduction also resonates with research on TSA and curbing corruption in South Eastern Nigeria, which found that TSA has assisted in blocking government revenue leakages and reduced mismanagement of government revenue. The consistency of these findings across different geopolitical zones suggests that TSA's leakage-reduction mechanism operates consistently, regardless of institutional context.

The moderate effect on transparency suggests that while TSA has improved the availability of financial information at the treasury level, translating this into enhanced accountability across all institutional levels remains a work in progress. This finding echoes research on TSA and fraud prevention in FIRS, which revealed that TSA had failed to fully block leakages and promote transparency in treasury management. The persistence of challenges such as delayed submission of audited financial statements and queries regarding under-remittance indicates that TSA's transparency-enhancing potential is mediated by institutional compliance behavior.

The relatively higher mean scores for leakage reduction items related to preventing revenue diversion (4.12) and reducing under-remittance (3.98) compared to transparency items underscore that TSA's primary contribution has been in closing the most egregious avenues for revenue loss. The system's design creates a single gateway through which every naira must pass, leaving a digital footprint that makes it substantially more difficult to conceal collected revenues.

However, the finding that transparency enhancement, while statistically significant, has a more modest effect is consistent with observations from the Minister of Finance, who revealed that until August 2025, the government lacked full visibility into its own finances at the Central Bank. This suggests that even at the highest levels of government, the transparency promise of TSA has not been fully realized. The ongoing probe by the Office of the Accountant-General of the Federation into MDAs still operating commercial bank accounts further underscores the compliance challenges that mediate TSA's transparency effects.

5.2 Implications

Theoretical Implications

The study extends agency theory application to TSA analysis by demonstrating that reducing information asymmetry through unified banking arrangements does indeed reduce opportunities for agent opportunism, as evidenced by the significant effect on leakage reduction. However, the more modest transparency effects suggest that information availability alone is insufficient to transform principal-agent dynamics in the public sector; institutional norms, capacity, and enforcement mechanisms also matter. This finding enriches agency theory by highlighting that structural reforms addressing information asymmetry must be complemented by cultural and institutional changes to fully realize their potential.

Practical Implications

The findings support several recommendations for strengthening TSA implementation:

First, given that transparency effects lag behind leakage reduction, regulatory bodies should strengthen enforcement mechanisms for timely financial reporting and audit compliance across all MDAs. The Federal Government's recent directive requiring all MDAs to submit statements of accounts in commercial banks is a positive step in this direction. However, compliance monitoring must be sustained and sanctions applied for violations.

Second, the moderate transparency scores suggest that technical integration between TSA platforms and MDA accounting systems could be enhanced to improve real-time information flow. The central billing system implemented from October 2025, enabling real-time reconciliation of payments, represents a promising development that should be extended across all revenue streams.

Third, training programs for MDA finance staff should emphasize not just technical TSA operations but also the accountability principles underlying the reform. Research has recommended regular training of civil servants carrying out TSA-related functions to equip them with skills needed to follow dynamic digital trends.

Fourth, the findings support calls for enacting comprehensive PFM legislation that would give TSA a stronger statutory foundation and clarify oversight responsibilities. Constitutional reforms to strengthen enforcement of Section 162(1)

regarding remittance of all federal revenues into the Federation Account could address the constitutional gap that currently undermines TSA's legal authority.

6. Conclusion

This study examined the effect of the Treasury Single Account on public sector financial performance in Nigeria, focusing on financial leakage reduction and transparency enhancement. The findings demonstrate that TSA has achieved statistically significant positive effects on both dimensions, with a stronger impact on leakage reduction than on transparency. The evidence supports the conclusion that TSA's structural mechanism of account consolidation effectively closes the most direct avenues for revenue loss, while the reform's transparency-enhancing potential requires complementary institutional, technological, and capacity strengthening to be fully realized.

The study contributes to the growing body of evidence that public financial management reforms can deliver measurable improvements when properly implemented, while also highlighting that technical solutions alone are insufficient to transform deeply embedded governance practices. The Nigerian TSA experience offers valuable lessons for other developing economies pursuing similar reforms: the architecture matters, but the institutional ecosystem determines ultimate success. As Nigeria continues to refine its TSA implementation, sustained political will, enhanced technological infrastructure, and strengthened oversight mechanisms will be essential for realizing the reform's full potential in promoting fiscal discipline, transparency, and accountability in the management of public resources.

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