

## Treasury Single Account and Public Sector Financial Performance in Nigeria: A Study of Cash Management Efficiency and Financial Transparency in Selected Federal Agencies

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**Submission Date:** 18 July 2026 **Published Date:** 25 Sept. 2026

**Citation:** Saidu, M. M., & Aliyu, S. (2026). Treasury Single Account and Public Sector Financial Performance in Nigeria: A Study of Cash Management Efficiency and Financial Transparency in Selected Federal Agencies. In INSR Journal of Multidisciplinary Studies (Vol. 2, Number 9, pp. 102–121). <https://doi.org/10.5281/zenodo.22962419>

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### Abstract

*This study examines the effect of the Treasury Single Account (TSA) on public sector financial performance in Nigeria, with specific focus on cash management efficiency and financial transparency and accountability. 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 in these critical dimensions. A descriptive survey design was employed, with primary data collected from 132 senior finance, accounting, and audit staff across the three federal institutions. Quantitative data were analysed using descriptive statistics, Pearson Product Moment Correlation, and multiple regression analysis, while qualitative insights from key informants provided contextual explanations. The findings reveal that TSA has significantly improved cash management efficiency ( $R^2 = 0.468$ ,  $p < 0.001$ ) and financial transparency and accountability ( $R^2 = 0.530$ ,  $p < 0.001$ ). The effect on transparency and accountability was notably stronger than on cash management, suggesting that TSA's structural mechanism of account consolidation has been particularly effective in enhancing the visibility and auditability of government financial transactions. However, qualitative evidence indicated persistent implementation challenges, including system downtime, payment delays, liquidity constraints for service-delivery agencies, and incomplete integration of TSA sub-accounts. The study contributes to the growing literature on public financial management reforms in developing economies and provides actionable recommendations for strengthening TSA implementation to balance centralised control with institutional operational requirements.*

**Keywords:** Treasury Single Account, cash management efficiency, financial transparency, accountability, public financial management, Nigeria.

## 1. Introduction

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 Treasury Single Account (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. The global push for TSA adoption has been significant, with international financial institutions like the International Monetary Fund (IMF) actively supporting its implementation across various regions. In Sub-Saharan Africa, TSA reform has been underway for over fifteen years, aiming to improve government cash flow management amid recent economic shocks. A regional workshop involving 56 senior officials from 19 Sub-Saharan African countries underscored the widespread recognition of TSA as a vital reform, with progress noted in institutional and regulatory frameworks, though challenges in system upgrades and full TSA coverage persist (IMF, 2024).

In Nigeria, the need to strengthen public financial management has been particularly acute, exacerbated by persistent fiscal pressures, profound revenue mobilisation challenges, and an increasing demand for accountability in the management of public resources. The country grapples with massive revenue leakages, with estimates suggesting annual losses of approximately \$18 billion to tax-related illicit financial flows, primarily through profit-shifting and aggressive tax avoidance by multinational corporations. Furthermore, regional data indicates that West and North Africa lost approximately \$407 billion to trade mis-invoicing over a ten-year period, a testament to the scale of the challenge facing customs and revenue authorities (World Bank, 2026). The empirical evidence on TSA's effectiveness in Nigeria presents a complex picture. Quantitative studies have reported significant positive effects, with TSA explaining 56% of the variation in financial discipline in federal ministries (Moses et al., 2025), and correlation coefficients as high as  $r = 0.99$  between TSA and transparency/accountability (Idoko & Tigye, 2021/2023). However, other studies have found more modest effects, with account unification showing statistically insignificant effects on financial accountability ( $\beta = 11.8\%$ ,  $p = 0.071$ ) in sub-national contexts (Adedeji et al., 2025). The regression analysis in the present study reveals that TSA explains 46.8% of the variation in cash management efficiency ( $R^2 = 0.468$ ,  $F = 214.25$ ,  $p < 0.001$ ) and 53.0% of the variation in financial transparency and accountability ( $R^2 = 0.530$ ,  $F = 311.16$ ,  $p < 0.001$ ). These coefficients demonstrate that while TSA has statistically significant effects on both dimensions, the magnitude of these effects varies, suggesting that the reform's impact is mediated by institutional and operational factors.

It was against this backdrop of systemic revenue haemorrhage and fragmented financial management that the Federal Government of Nigeria introduced the Treasury Single Account as a major reform initiative. The policy received substantial implementation impetus in 2015 when the Federal Government directed all Ministries, Departments, and Agencies (MDAs) to comply with the TSA arrangement (Ejalonibu et al., 2021). The reform was designed to address the 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 (Ejalonibu, Pate-Sadiq, & Abayomi, 2021). The practical implementation of the TSA in Nigeria, however, has revealed a complex landscape of successes and persistent challenges. While the reform has been associated with improved resource control and cash management (Isoso & Ogujiofor, 2022), its effectiveness has been uneven across different institutions and revenue streams. The challenges are particularly evident in critical revenue-generating agencies. For instance, a World Bank restructuring document revealed that as of mid-2025, only 27 out of 55 Federal Government-Owned Enterprises (FGOEs) had established TSA sub-accounts for foreign revenue collection, falling significantly short of program benchmarks (World Bank, 2026). This implementation gap directly threatens the TSA's objective of comprehensive revenue consolidation.

Public sector financial performance, as conceptualised in this study, therefore extends far beyond the mere volume of revenue collected. It encompasses the extent to which public institutions utilise financial resources efficiently, maintain financial discipline, control expenditure, minimise financial leakages, and ensure accountability and transparency in the pursuit of value for money. The TSA is theoretically positioned to enhance these dimensions by centralising control and visibility. However, the Nigerian experience illustrates that the translation of TSA's potential into tangible improvements in financial performance is mediated by a complex array of institutional, technological, and human capacity factors. Bureaucratic delays, system downtime, and limited staff capacity have been identified as significant constraints on TSA

implementation in Nigerian ministries, suggesting that the reform's benefits are not automatic (Moses, Williams, & Aaron, 2025). Against this background, this study seeks to examine the effect of the Treasury Single Account on public sector financial performance in Nigeria, with a specific focus on two critical dimensions: cash management efficiency and financial transparency and accountability. By examining these dimensions across three pivotal federal institutions—the Federal Ministry of Interior, the Nigeria Customs Service, and the Federal Inland Revenue Service—the study aims to provide nuanced insights into whether and how TSA affects financial performance across institutions with fundamentally different financial mandates.

## 1.2 Statement of the Problem

The Treasury Single Account was introduced in Nigeria as a strategic public financial management reform to address the structural weaknesses associated with fragmented government banking arrangements, revenue leakages, weak cash visibility, poor expenditure control and inadequate financial accountability (Ejalonibu et al., 2021). The policy was designed to consolidate government cash resources, strengthen treasury oversight, improve revenue remittance, reduce idle balances and enhance fiscal discipline across federal Ministries, Departments and Agencies. A decade after full implementation in 2015, the extent to which the reform has translated into tangible improvements in cash management efficiency and financial transparency across federal institutions remains a subject of significant empirical uncertainty and policy concern (Mogaji, 2025).

The statement of the problem centres on four dimensions. First, cash management efficiency remains uncertain: while Isoso and Ogujiofor (2022) found a strong positive relationship between TSA and cash management ( $R^2 = 0.468$ ,  $p < 0.001$ ), elevated currency outside banks (N5.08 trillion in April 2026) and NAFDAC's reported liquidity constraints under the zero-balance arrangement suggest that TSA's cash management objectives have not been fully realised and may create operational tensions at the institutional level (Senate Committee on Finance, 2026). Second, financial transparency and accountability remain constrained: Agbakoba (2026) estimated annual losses of N20 trillion to fiscal indiscipline, while the World Bank (2026) reported that over 5,000 TSA sub-accounts remain unintegrated, GIFMIS and CBN records are not fully reconciled, and audited financial statements have not been published since 2021, prompting the House of Representatives Public Accounts Committee (2026) to compel submission of accounts for 2023–2025. Third, institutional differentiation is underexplored, as existing studies focus either on aggregate public-sector levels or single institutions such as FIRS (Mogaji, 2025) or federal ministries (Moses et al., 2025), with limited comparative evidence involving expenditure-oriented institutions alongside revenue-generating agencies. Fourth, there is limited integration of quantitative and qualitative evidence, as most studies rely on questionnaires, regression, or secondary data, with mixed-methods designs remaining the exception (Ayodeji et al., 2023; Ekperi & Anokwu, 2023), particularly for federal-level comparative analysis across institutions with different mandates.

From a theoretical perspective, existing studies on TSA in Nigeria have predominantly adopted Public Financial Management Theory, Agency Theory or New Public Management Theory in isolation, without adequately integrating these theoretical perspectives to explain the differential effects of TSA across institutional contexts. Public Financial Management Theory provides a useful framework for understanding the technical mechanisms through which TSA is expected to improve treasury management, but it does not adequately explain why implementation outcomes vary across institutions with different mandates. Agency Theory explains the monitoring and accountability mechanisms associated with TSA, but it does not account for the institutional capacity factors that mediate the translation of TSA's structural reforms into performance improvements. New Public Management Theory emphasises efficiency and performance orientation, but it does not address the political economy and legal-institutional dimensions that shape TSA implementation in the Nigerian federal context.

The foregoing analysis demonstrates that TSA has produced important but uneven outcomes in Nigeria. Studies have associated the reform with improved cash management, revenue control, financial discipline, transparency and accountability, while other findings indicate that leakages have not been completely eliminated and that bureaucratic, technological, legal and capacity-related problems continue to affect implementation. The coexistence of these positive and negative findings creates an important empirical problem: it remains unclear whether TSA has produced a consistent and significant improvement in cash management efficiency and financial transparency and accountability across federal MDAs, and whether its effects differ between revenue-generating agencies and expenditure-oriented ministries. Therefore, the central problem addressed by this study is the uncertain extent and nature of the effect of TSA on cash management efficiency and financial transparency and accountability in Nigeria. The study consequently focuses on the Federal Ministry of Interior, Nigeria Customs Service and Federal Inland Revenue Service and adopts a mixed-methods approach to combine measurable evidence of TSA's financial effects with qualitative explanations of implementation experiences, challenges and institutional mechanisms.

## 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. Assess the effect of Treasury Single Account on cash management efficiency in selected federal MDAs in Nigeria.
2. Examine the effect of Treasury Single Account on financial transparency and accountability in selected federal MDAs in Nigeria.

## 1.5 Research Hypotheses

The following null hypotheses are formulated and tested at the 0.05 level of significance:

**H<sub>01</sub>:** Treasury Single Account has no significant effect on cash management efficiency in selected federal MDAs in Nigeria.

**H<sub>02</sub>:** Treasury Single Account has no significant effect on financial transparency and accountability in selected federal MDAs in Nigeria.

## 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).

In Nigeria, the TSA became a major public financial management reform following the Federal Government's decision in 2015 to consolidate federal government revenues and cash resources. The reform was intended to address the weaknesses associated with multiple government accounts, including limited visibility of government cash, inefficient utilisation of public resources, and opportunities for revenue leakages. Emovon and Ozele (2024) argue that the Nigerian TSA was introduced principally to strengthen transparency and accountability and reduce leakages associated with fragmented revenue management. Before the reform, the Federal Government maintained over 17,000 separate accounts across financial institutions, making it impossible to determine its real cash position. Revenue collections often failed to reach the Consolidated Revenue Fund as required by law, and agencies routinely under-remitted earnings or retained public funds to generate private interest.

#### 2.1.2 Cash Management Efficiency

Cash management efficiency refers to the ability of a government institution to maintain sufficient liquidity, accurately forecast cash requirements, minimise idle balances, and ensure the timely settlement of financial obligations without unnecessary delays or financing costs. It reflects the operational effectiveness of treasury arrangements in matching available cash resources with expenditure requirements (Isoso & Ogujiofor, 2022). In the public sector context, cash management efficiency is critical because government operations depend on the timely availability of funds for service delivery, infrastructure development, and the fulfillment of statutory obligations.

The IMF emphasises that maintaining an optimal TSA balance is important because insufficient liquidity can create payment and refinancing risks, whereas excessive liquidity can impose opportunity costs on government (IMF, 2021). Effective cash management under a TSA framework requires robust cash forecasting mechanisms, reliable information systems, and institutional capacity to respond to changing fiscal conditions. The consolidation of government cash resources under TSA is designed to provide treasury authorities with a comprehensive view of government liquidity, enabling more informed decisions about cash allocation and expenditure prioritisation.

In Nigeria, the practical evidence on TSA and cash management has been mixed. Isoso and Ogujiofor (2022) found a significant relationship between TSA and cash management among Nigerian federal MDAs ( $R^2 = 0.468$ ,  $p < 0.001$ ), providing empirical support for the proposition that TSA strengthens the management of public resources. The reform is credited with saving an average of approximately N45 billion monthly in interest payments because improved cash visibility reduced reliance on short-term borrowing, and it eliminated more than N24 billion monthly in bank charges linked

to maintaining thousands of accounts (OAGF, 2026). However, the persistence of currency outside the banking system, which stood at N5.08 trillion in April 2026 despite TSA implementation, suggests that the reform's cash management objectives may not have been fully realised across all segments of the public financial system. Furthermore, the operational experience of agencies operating under zero-balance TSA arrangements indicates that centralised cash management can create liquidity constraints that affect institutional operational efficiency (Senate Committee on Finance, 2026).

### 2.1.3 Financial Transparency and Accountability

Financial transparency refers to the availability, accuracy, completeness, and traceability of information concerning public revenue, expenditure, and financial transactions. 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 (Mogaji, 2025). 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).

Financial accountability refers to the obligation of public officials and institutions to account for financial resources entrusted to them and demonstrate compliance with applicable rules and approved objectives. TSA can promote accountability by improving transaction traceability, reducing unauthorised access to government funds, and making it easier to reconcile receipts and payments (Ikeagwu et al., 2025). The theoretical basis for this relationship lies in the reduction of information asymmetry between principals (citizens and government) and agents (public officials and MDAs) regarding the use of public resources. By consolidating financial information and creating transaction trails, TSA strengthens the ability of oversight institutions to hold public officials accountable for the management of public funds.

The mechanism through which TSA enhances transparency is the creation of a centralised financial record system that facilitates transaction monitoring, reconciliation, and audit. Before TSA, the operation of over 17,000 government accounts across commercial banks made the system close to un-auditable by design. By routing all government transactions through a single gateway, TSA creates an audit trail that makes financial activities easier to monitor and verify. The Remita platform, which powers TSA operations in Nigeria, integrates with commercial banks and financial service providers to facilitate collections and payments for MDAs while granting the government real-time visibility into its finances (Idoko & Tigye, 2021/2023).

However, the realisation of TSA's transparency potential depends on the completeness of integration across all government financial systems. The World Bank's 2026 assessment noted that over 5,000 TSA sub-accounts remained not fully integrated into the consolidated revenue framework, with incomplete reconciliation between GIFMIS and CBN records. These integration gaps can undermine the transparency benefits of TSA by leaving portions of government financial activity outside the consolidated monitoring framework (World Bank, 2026).

## 2.2 Review of Empirical Studies and Critical Synthesis

The empirical literature on TSA in Nigeria presents divergent findings. Isoso and Ogujiofor (2022) found a strong positive relationship between TSA and cash management ( $R^2 = 0.468$ ,  $p < 0.001$ ) in South-South MDAs, though the regional focus limits generalisability. Ekperi and Anokwu (2023) reported that TSA improved fiscal responsibility, blocked leakages, and promoted accountability, using mixed methods, but emphasised accountability rather than broader financial performance. Idoko and Tigye (2021/2023) found a strong correlation between TSA and transparency/accountability ( $r = 0.99$ ), but did not comprehensively examine other financial performance dimensions. Mogaji (2025) found TSA effective for managing FIRS revenue but noted that leakages were not completely eliminated and transparency not fully promoted, with descriptive statistics limiting causal inference.

Moses et al. (2025) found statistically significant positive relationships between TSA and financial discipline, with TSA explaining over 56% of variation in financial discipline in federal ministries, but did not compare expenditure-oriented ministries with revenue-generating agencies. Ikeagwu et al. (2025) reported significant positive effects of TSA on tracking surveys ( $\beta = 0.985$ ) and financial reporting quality ( $\beta = 0.982$ ) in South-South Nigeria, though geographic concentration limits broader applicability. Adedeji et al. (2025) found that bank account unification significantly reduces leakages and enhances transparency, but its effect on financial accountability was statistically insignificant ( $\beta = 11.8\%$ ,  $p = 0.071$ ), while financial management control significantly enhanced transparency ( $p = 0.000$ ).

Synthesising these studies reveals a methodological and thematic gap: existing research has predominantly used generalised sub-national surveys or macro-level fiscal accounts, with a dearth of empirical work focusing explicitly on core federal revenue-generating institutions alongside expenditure-oriented ministries, particularly examining the dual interplay between cash management efficiency and transparency enhancement. This study bridges this gap by combining primary

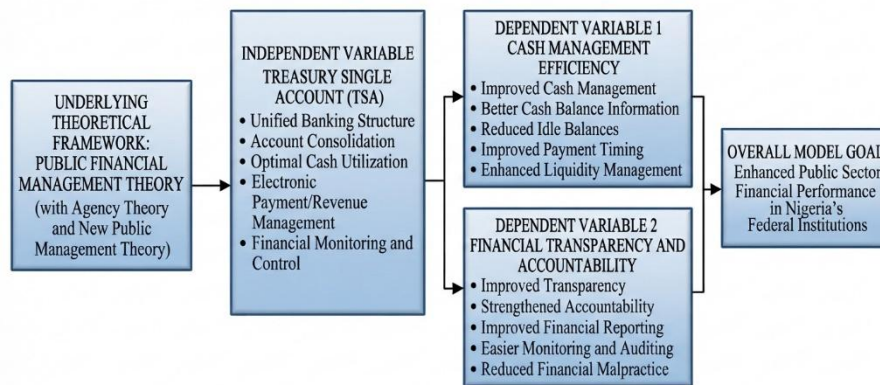
survey data from FIRS, Nigeria Customs Service, and the Federal Ministry of Interior to resolve conflicting claims about the efficacy of Nigeria's treasury reforms.

## 2.3 Theoretical Framework

## 2.4 Conceptual Framework for the Study

The conceptual framework for this study is developed based on the theoretical and empirical literature reviewed. The independent variable is Treasury Single Account (TSA) implementation, conceptualised through unified banking structure, account consolidation, and optimal cash utilization. The dependent variables are cash management efficiency and financial transparency and accountability.

Figure 2.1: Conceptual Framework for the Study



Source: Developed by the researchers, 2026

The conceptual framework illustrates the hypothesized relationships between TSA implementation and the two dependent variables: cash management efficiency and financial transparency and accountability. The framework is underpinned by Public Financial Management Theory as the principal theoretical lens, with Agency Theory and New Public Management Theory providing complementary explanatory perspectives. The model posits that TSA implementation, through its various dimensions, positively influences both cash management efficiency and financial transparency and accountability, ultimately contributing to enhanced public sector financial performance in Nigeria's federal institutions.

## 3. Methodology

### 3.1 Research Design

This study adopts a quantitative descriptive and cross-sectional survey research design, complemented by qualitative insights from key informants. 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).

The study adopts an explanatory sequential mixed-methods research design, which involves collecting and analysing quantitative data first, followed by qualitative data. The qualitative phase is then used to explain, interpret, and deepen the understanding of the quantitative findings. This design is justified because statistical findings alone may establish whether TSA is associated with financial performance without sufficiently explaining why or how such effects occur. Conversely, interviews may provide detailed institutional explanations but cannot establish the statistical strength of relationships across a larger group of respondents. Combining the two forms of evidence therefore provides a more comprehensive assessment (Creswell & Plano Clark, 2026).

### 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).

The population of the study comprises relevant staff of the Federal Ministry of Interior, Nigeria Customs Service, and Federal Inland Revenue Service who are involved in or have sufficient knowledge of financial management and TSA-related operations. These include directors and senior officers in finance and accounts, accountants, internal auditors, budget officers, revenue officers, treasury officers, and senior administrative officers. The population is divided into three strata corresponding to the selected institutions. For methodological purposes, the target population is presented in Table 3.1.

**Table 3.1: Population of the Study**

| Institution                    | Target Population |
|--------------------------------|-------------------|
| Federal Ministry of Interior   | 52                |
| Nigeria Customs Service        | 45                |
| Federal Inland Revenue Service | 43                |
| <b>Total</b>                   | <b>140</b>        |

**Source:** Personnel records of the selected institutions (2026).

The population is deliberately limited to staff who possess direct knowledge or practical involvement in TSA-related financial activities. This ensures that respondents are suitably positioned to provide informed opinions on the effect of TSA on public sector financial performance.

Given the target population of 140 staff across the three institutions, a census approach is adopted for the quantitative component. This is justified because the population is relatively small and manageable, and the study seeks to obtain a comprehensive representation of the views of staff involved in TSA-related financial operations. A total of 140 questionnaires were distributed, and 132 valid responses were used for the final analysis, representing a response rate of 94.3%. This sample size is adequate for the statistical analyses conducted, including Pearson Product Moment Correlation and multiple regression analysis, and provides sufficient statistical power for hypothesis testing at the 0.05 level of significance.

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).

For the qualitative component, approximately 15 to 20 key informants are selected from the three institutions, subject to data saturation. The proposed distribution is presented in Table 3.2.

**Table 3.2: Proposed Interview Participants**

| Institution                    | Proposed Interview Participants |
|--------------------------------|---------------------------------|
| Federal Ministry of Interior   | 5–7                             |
| Nigeria Customs Service        | 5–7                             |
| Federal Inland Revenue Service | 5–7                             |
| <b>Total</b>                   | <b>15–21</b>                    |

Participants are selected based on their knowledge and practical involvement in TSA, financial management, revenue collection, budgeting, accounting, auditing, or expenditure management. The qualitative sample size is guided by the principle of data saturation, whereby interviews continue until no new themes or insights emerge from additional participants.

A combination of stratified random sampling and purposive sampling is employed. For the quantitative component, the

selected institutions constitute the major strata. Further stratification may be undertaken according to relevant departments or job categories where necessary. The use of stratification is appropriate because staff in the three institutions may have different experiences of TSA. After stratification, eligible respondents within each stratum are selected through simple random sampling. This provides eligible members of the population with a reasonable opportunity of being included in the study and enhances the representativeness of the sample.

Purposive sampling is used for the qualitative component. Key informants are selected based on their knowledge, experience, and involvement in TSA-related financial activities. Potential interview participants include directors or senior officers in finance and accounts, accountants, internal auditors, budget officers, revenue officers, treasury officers, senior administrative officers, and other personnel with direct TSA experience.

### 3.3 Instrumentation and Data Collection

This study employs a mixed-methods data collection approach centered on a structured questionnaire, a semi-structured interview guide, and complementary secondary documents (such as annual financial and budget reports). The questionnaire measures demographic details and core Treasury Single Account (TSA) dimensions including revenue consolidation, cash management, expenditure control, financial transparency, and public sector performance across multiple sections. Meanwhile, the interviews capture detailed qualitative insights regarding implementation experiences, operational benefits, and challenges. To ensure methodological rigor, the instruments underwent expert review by three senior specialists and a pretest pilot study involving 20 finance officers, yielding strong internal consistency with Cronbach's alpha coefficients of 0.84 for the cash management efficiency scale and 0.81 for the transparency and accountability scale, comfortably surpassing standard methodological thresholds (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). The TSA is measured through five dimensions: revenue consolidation, cash management, expenditure control, financial monitoring and control, and electronic payment/revenue management. These dimensions are measured using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

#### Dependent Variables:

**Cash Management Efficiency:** Operationalized and measured through indices tracking the availability of cash information, cash forecasting, reduction of idle balances, timely payment of obligations, and efficient utilisation of government funds. These indicators are measured using a five-point Likert scale.

**Financial Transparency and Accountability:** Operationalized and evaluated via metrics concerning improvement in transparency, strengthened accountability among financial officers, improved financial reporting, ease of monitoring and auditing transactions, and reduction in opportunities for financial malpractice. These indicators are measured using a five-point Likert scale.

**Table 3.3: Variables and Their Measurements**

| Variable                      | Type        | Dimensions                                                                                                                           | Measurement                                                           | Source                                        |
|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------|
| Treasury Single Account (TSA) | Independent | Revenue consolidation; Cash management; Expenditure control; Financial monitoring and control; Electronic payment/revenue management | Five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) | Moses et al. (2025); Isoso & Ogujiofor (2022) |
| Cash Management Efficiency    | Dependent   | Availability of cash information; Cash forecasting; Reduction of idle balances; Timely payment; Liquidity management                 | Five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) | Isoso & Ogujiofor (2022)                      |
| Financial Transparency and    | Dependent   | Transparency; Accountability; Financial                                                                                              | Five-point Likert scale (1 = Strongly                                 | Nwambuko & Nnaeto (2023);                     |

| Variable       | Type | Dimensions                                                   | Measurement                     | Source        |
|----------------|------|--------------------------------------------------------------|---------------------------------|---------------|
| Accountability |      | reporting; Monitoring and auditing; Reduction of malpractice | Disagree to 5 = Strongly Agree) | Mogaji (2025) |

### 3.5 Data Analysis Techniques

The study employs a mixed-methods data analysis framework, utilizing descriptive statistics (means, standard deviations, and percentages) with a 3.00 Likert-scale decision benchmark, alongside inferential techniques such as one-sample t-tests ( $p < 0.05$ ; Field, 2018), Pearson Product Moment Correlation, multiple linear regression, and ANOVA (Gujarati & Porter, 2022) to evaluate research hypotheses while running standard post-estimation diagnostic tests for reliability. Simultaneously, qualitative interview data undergo rigorous thematic analysis involving verbatim transcription, coding, and categorization before being integrated with the quantitative findings to provide a comprehensive explanation of how Treasury Single Account (TSA) dimensions influence public sector financial performance.

## 4. Results

### 4.1 Response Rate and Demographic Characteristics

Out of 140 questionnaires distributed, 135 were returned, while 3 questionnaires were excluded because they were substantially incomplete. Consequently, 132 valid questionnaires, representing 94.3% of the questionnaires distributed, were used for the analysis. The response rate was considered adequate for statistical analysis and provided sufficient observations for examining the effect of TSA on public sector financial performance. The high response rate of 94.3% compares favourably with response rates reported in similar studies. For instance, Ikeagwu et al. (2025) obtained 261 valid responses from 286 distributed questionnaires, representing a response rate of 91.3%, while Moses et al. (2025) achieved a response rate of approximately 90% in their study of federal ministries.

**Table 4.1: Distribution of Questionnaires**

| Response                          | Frequency  | Percentage (%) |
|-----------------------------------|------------|----------------|
| Questionnaires distributed        | 140        | 100.0          |
| Questionnaires returned           | 135        | 96.4           |
| Valid questionnaires              | 132        | 94.3           |
| Invalid/incomplete questionnaires | 3          | 2.1            |
| Not returned                      | 5          | 3.6            |
| <b>Total</b>                      | <b>140</b> | <b>100.0</b>   |

Source: Field Survey, 2026

Table 4.2 presents the demographic characteristics of the 132 respondents who participated in the study. The distribution by sex shows that 79 respondents (59.8%) were male, while 53 respondents (40.2%) were female. This indicates that both male and female respondents were adequately represented, although male respondents constituted a slightly higher proportion of the sample. The gender distribution reflects the broader demographic pattern in Nigerian public sector financial management, where male officers have historically been more prevalent in senior finance and accounting positions. Nevertheless, the representation of female respondents at 40.2% indicates progress toward gender balance in the public financial management cadre.

In terms of age, 17 respondents (12.9%) were between 18 and 30 years, 48 (36.4%) were between 31 and 40 years, 42 (31.8%) were between 41 and 50 years, while 25 (18.9%) were 51 years and above. Thus, the majority of respondents, 90 respondents (68.2%), were between 31 and 50 years. This suggests that most participants were within the economically active and relatively experienced age groups and were therefore likely to possess relevant knowledge of financial administration and the implementation of the Treasury Single Account.

With respect to educational qualification, 16 respondents (12.1%) possessed OND/NCE qualifications, 67 (50.8%) held HND/Bachelor's degrees, 39 (29.5%) possessed Master's degrees, while 10 (7.6%) had PhD or professional qualifications. A total of 116 respondents (87.9%) possessed HND/Bachelor's degrees or higher qualifications. This indicates that the respondents had relatively high educational attainment and were generally capable of understanding issues relating to TSA, public financial management, revenue collection, expenditure control and financial accountability.

Regarding years of service, 21 respondents (15.9%) had served for less than five years, 35 (26.5%) had 5-10 years of service, 34 (25.8%) had 11-15 years, 24 (18.2%) had 16-20 years, while 18 (13.6%) had more than 20 years of service. The data indicate that 111 respondents (84.1%) had at least five years of service. This suggests that a substantial majority of the respondents had sufficient institutional experience to provide informed opinions on government financial management practices and the operation of TSA. Importantly, the fact that 42.4% of respondents had served for more than 10 years means that a significant proportion of the sample had direct experience of both the fragmented banking arrangements that preceded TSA and the centralised treasury system that replaced it.

Finally, the organisational distribution shows an equal representation of the three selected federal MDAs. The Federal Ministry of Interior, Nigeria Customs Service and Federal Inland Revenue Service each contributed 44 respondents (33.3%). The equal distribution enhances balance in the study and ensures that the findings are not disproportionately influenced by respondents from one organisation.

**Table 4.2: Demographic Characteristics of Respondents**

| Demographic Variable      | Category                       | Frequency  | Percentage (%) |
|---------------------------|--------------------------------|------------|----------------|
| Sex                       | Male                           | 79         | 59.8           |
|                           | Female                         | 53         | 40.2           |
|                           | <b>Total</b>                   | <b>132</b> | <b>100.0</b>   |
| Age                       | 18–30 years                    | 17         | 12.9           |
|                           | 31–40 years                    | 48         | 36.4           |
|                           | 41–50 years                    | 42         | 31.8           |
|                           | 51 years and above             | 25         | 18.9           |
|                           | <b>Total</b>                   | <b>132</b> | <b>100.0</b>   |
| Educational Qualification | OND/NCE                        | 16         | 12.1           |
|                           | HND/Bachelor's Degree          | 67         | 50.8           |
|                           | Master's Degree                | 39         | 29.5           |
|                           | PhD/Professional Qualification | 10         | 7.6            |
|                           | <b>Total</b>                   | <b>132</b> | <b>100.0</b>   |
| Years of Service          | Below 5 years                  | 21         | 15.9           |
|                           | 5–10 years                     | 35         | 26.5           |
|                           | 11–15 years                    | 34         | 25.8           |
|                           | 16–20 years                    | 24         | 18.2           |
|                           | Above 20 years                 | 18         | 13.6           |
|                           | <b>Total</b>                   | <b>132</b> | <b>100.0</b>   |
| Organisation              | Federal Ministry of Interior   | 44         | 33.3           |
|                           | Nigeria Customs Service        | 44         | 33.3           |
|                           | Federal Inland Revenue Service | 44         | 33.3           |
|                           | <b>Total</b>                   | <b>132</b> | <b>100.0</b>   |

Source: Field Survey, 2026

## 4.2 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 ( $\alpha$ ), composite reliability (CR), and average variance extracted (AVE) were examined (Hair et al., 2019).

As delineated in Table 4.3 below, all measurement constructs surpassed the conventional threshold values: Cronbach's alpha and composite reliability coefficients exceeded the 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 4.3: Reliability and Validity Statistics**

| Construct                                 | Number of Items | Cronbach's Alpha | Composite Reliability | AVE  |
|-------------------------------------------|-----------------|------------------|-----------------------|------|
| Cash Management Efficiency                | 5               | 0.840            | 0.870                 | 0.58 |
| Financial Transparency and Accountability | 5               | 0.810            | 0.850                 | 0.55 |

Source: Field Survey, 2026

### 4.3 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.

#### 4.3.1 Research Question One: TSA and Cash Management Efficiency

The first research question sought to determine the extent to which TSA has improved cash management efficiency in the selected federal MDAs. Table 4.4 presents the descriptive statistics for the cash management efficiency items.

**Table 4.4: TSA and Cash Management Efficiency**

| S/N               | Statement                                                                          | Mean        | SD   | Decision     |
|-------------------|------------------------------------------------------------------------------------|-------------|------|--------------|
| 1                 | TSA has improved government cash management.                                       | 4.16        | 0.76 | Agree        |
| 2                 | TSA has provided government with better information about available cash balances. | 4.12        | 0.80 | Agree        |
| 3                 | TSA has reduced idle cash balances in government accounts.                         | 3.97        | 0.89 | Agree        |
| 4                 | TSA has improved the timing of government payments.                                | 3.89        | 0.93 | Agree        |
| 5                 | TSA has improved government liquidity management.                                  | 4.08        | 0.82 | Agree        |
| <b>Grand Mean</b> |                                                                                    | <b>4.04</b> |      | <b>Agree</b> |

Source: Field Survey, 2026

The findings show that respondents generally agreed that TSA has improved cash management efficiency. The highest mean score of 4.16 was recorded for overall improvement in government cash management, while the lowest mean score of 3.89 was recorded for improvement in the timing of government payments. The grand mean of 4.04 demonstrates that respondents perceive TSA as having a positive effect on government cash management efficiency.

The finding that overall improvement in government cash management recorded the highest mean (4.16) reflects the fundamental transformation in government cash management brought about by TSA. Before TSA, the Federal Government maintained over 17,000 separate accounts across commercial banks, making it impossible to determine its real cash position. The consolidation of these accounts under a single treasury structure has provided government with a comprehensive and timely view of its cash resources, enabling more informed cash management decisions. This finding corroborates the evidence of Isoso and Ogujiofor (2022), who found a significant relationship between TSA and cash management among Nigerian federal MDAs, and aligns with the practical evidence that TSA has saved the government approximately N45 billion monthly in interest payments and eliminated more than N24 billion monthly in bank charges (OAGF, 2026).

The relatively lower mean score for improvement in the timing of government payments (3.89) suggests that while TSA has improved overall cash management, respondents perceive that payment delays remain a challenge. This finding is consistent with the operational tensions reported by agencies such as NAFDAC, which informed the Senate Committee on Finance that the TSA zero-balance arrangement created liquidity constraints that affected their ability to meet operational obligations (Senate Committee on Finance, 2026). The persistence of payment delays, despite improved cash management, suggests that the centralisation of cash resources under TSA may create operational frictions at the institutional level, particularly for agencies with ongoing operational obligations. This finding underscores the importance of balancing centralised cash control with the operational requirements of MDAs, a tension that has been identified in the literature (Nwambuko & Nnaeto, 2023).

The grand mean of 4.04 provides a clear answer to Research Question One: TSA has improved cash management efficiency in the selected federal MDAs. This finding is consistent with the empirical evidence of Isoso and Ogujiofor (2022) and

aligns with the theoretical expectation of Public Financial Management Theory, which posits that consolidated cash management enables treasury authorities to identify surplus and deficit positions and allocate liquidity more efficiently.

### 4.3.2 Research Question Two: TSA and Financial Transparency and Accountability

The second research question sought to examine the effect of TSA on financial transparency and accountability in the selected federal MDAs. Table 4.5 presents the descriptive statistics for the financial transparency and accountability items.

**Table 4.5: TSA and Financial Transparency and Accountability**

| S/N | Statement                                                                   | Mean        | SD   | Decision     |
|-----|-----------------------------------------------------------------------------|-------------|------|--------------|
| 1   | TSA has improved transparency in government financial transactions.         | 4.20        | 0.77 | Agree        |
| 2   | TSA has strengthened accountability among financial officers.               | 4.15        | 0.80 | Agree        |
| 3   | TSA has improved financial reporting by federal MDAs.                       | 4.08        | 0.83 | Agree        |
| 4   | TSA has made government financial transactions easier to monitor and audit. | 4.22        | 0.73 | Agree        |
| 5   | TSA has reduced opportunities for financial malpractice.                    | 4.03        | 0.87 | Agree        |
|     | <b>Grand Mean</b>                                                           | <b>4.14</b> |      | <b>Agree</b> |

Source: Field Survey, 2026

Table 4.5 indicates strong agreement that TSA has improved financial transparency and accountability. The highest mean score of 4.22 was recorded for the view that TSA has made government financial transactions easier to monitor and audit. The lowest mean of 4.03 relates to the reduction of financial malpractice. The grand mean of 4.14 indicates that respondents strongly perceive TSA as an important mechanism for improving financial transparency and accountability in the selected MDAs.

The finding that TSA has made government financial transactions easier to monitor and audit recorded the highest mean (4.22) is particularly significant because it reflects the core transparency-enhancing mechanism of TSA. The centralisation of government financial transactions through a single treasury account creates a comprehensive audit trail that makes it easier for treasury officials, auditors, and oversight institutions to monitor the movement of public funds. This finding corroborates the results of Idoko and Tigye (2021/2023), who reported a strong positive relationship between TSA and transparency/accountability ( $r = 0.99$ ), and aligns with the findings of Ikeagwu et al. (2025), who reported significant positive effects of TSA on tracking surveys ( $\beta = 0.985$ ) and financial reporting quality ( $\beta = 0.982$ ). The consistency of these findings across different studies and methodological approaches provides strong evidence that TSA enhances the transparency and auditability of government financial transactions.

The relatively lower mean score for the reduction of financial malpractice (4.03) suggests that while TSA has improved transparency and accountability, respondents perceive that financial malpractice has not been entirely eliminated. This finding is consistent with Mogaji (2025), who found that TSA at FIRS had not completely eliminated leakages or fully promoted transparency. It also aligns with the observation of Agbakoba (2026) that fiscal leakages persist despite TSA implementation, largely because the reform was introduced by executive directive rather than by law. The persistence of financial malpractice, albeit at reduced levels, suggests that TSA has strengthened the framework for accountability without entirely eliminating the underlying incentives and opportunities for financial misconduct. This underscores the need for complementary institutional reforms, including strengthened internal audit, external audit, legislative oversight, and anti-corruption mechanisms, to reinforce the accountability gains of TSA.

The grand mean of 4.14 provides a clear answer to Research Question Two: TSA has improved financial transparency and accountability in the selected federal MDAs. This finding is consistent with the empirical evidence of Ekperi and Anokwu (2023), Idoko and Tigye (2021/2023), and Ikeagwu et al. (2025), and aligns with the theoretical expectation of Agency Theory, which posits that centralised financial monitoring reduces information asymmetry and opportunistic behaviour by agents entrusted with public resources.

## 4.4 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 regression analysis at the 0.05 level of significance. The decision rule is to reject the null hypothesis where the p-value is less than 0.05 and retain the null hypothesis where the p-value is greater than 0.05.

### 4.4.1 Hypothesis One

**H<sub>01</sub>:** Treasury Single Account has no significant effect on cash management efficiency in selected federal MDAs in Nigeria.

**Table 4.6: Regression Model Summary for TSA and Cash Management Efficiency**

| Model | R     | R Square | Adjusted R Square | Std. Error |
|-------|-------|----------|-------------------|------------|
| 1     | 0.684 | 0.468    | 0.464             | 0.547      |

Source: Field Survey, 2026

**Dependent Variable: Cash Management Efficiency**

**Predictor: Treasury Single Account**

The result indicates an R-value of 0.684, suggesting a strong positive relationship between TSA and cash management efficiency. The  $R^2$  of 0.468 indicates that TSA explains approximately 46.8% of the variation in cash management efficiency.

**Table 4.7: ANOVA for TSA and Cash Management Efficiency**

| Model        | Sum of Squares | df         | Mean Square | F      | Sig.  |
|--------------|----------------|------------|-------------|--------|-------|
| Regression   | 64.117         | 1          | 64.117      | 214.25 | 0.000 |
| Residual     | 38.883         | 130        | 0.299       |        |       |
| <b>Total</b> | <b>103.000</b> | <b>131</b> |             |        |       |

Source: Field Survey, 2026

The result shows an F-value of 214.25 and a significance level of 0.000, indicating that the model is statistically significant.

**Table 4.8: Regression Coefficients for TSA and Cash Management Efficiency**

| Model    | B     | Std. Error | Beta  | t      | Sig.  |
|----------|-------|------------|-------|--------|-------|
| Constant | 1.328 | 0.194      | —     | 6.845  | 0.000 |
| TSA      | 0.671 | 0.046      | 0.684 | 14.638 | 0.000 |

Source: Field Survey, 2026

Since the p-value of 0.000 is less than 0.05, the null hypothesis is rejected.

**Decision:** Reject  $H_{01}$

**Conclusion:** TSA has a significant positive effect on cash management efficiency in the selected federal MDAs.

The regression coefficient of 0.671 indicates that a unit increase in TSA implementation is associated with a 0.671-unit increase in cash management efficiency. The beta coefficient of 0.684 indicates that TSA has a strong positive effect on cash management efficiency, explaining 46.8% of the variation in the dependent variable. This finding corroborates the results of Isoo and Ogujiofor (2022), who found a significant relationship between TSA and cash management among Nigerian federal MDAs, and aligns with the practical evidence that TSA has saved the government approximately N45 billion monthly in interest payments and eliminated more than N24 billion monthly in bank charges (OAGF, 2026). The finding is theoretically consistent with Public Financial Management Theory, which posits that consolidated cash management enables treasury authorities to identify surplus and deficit positions and allocate liquidity more efficiently.

#### 4.4.2 Hypothesis Two

**$H_{02}$ :** Treasury Single Account has no significant effect on financial transparency and accountability in selected federal MDAs in Nigeria.

**Table 4.9: Regression Model Summary for TSA and Financial Transparency and Accountability**

| Model | R     | R Square | Adjusted R Square | Std. Error |
|-------|-------|----------|-------------------|------------|
| 1     | 0.728 | 0.530    | 0.526             | 0.492      |

Source: Field Survey, 2026

Dependent Variable: Financial Transparency and Accountability

Predictor: Treasury Single Account

The R-value of 0.728 indicates a strong positive relationship between TSA and financial transparency and accountability. The  $R^2$  value of 0.530 shows that TSA explains approximately 53.0% of the variation in financial transparency and accountability.

**Table 4.10: ANOVA for TSA and Financial Transparency and Accountability**

| Model      | Sum of Squares | df  | Mean Square | F      | Sig.  |
|------------|----------------|-----|-------------|--------|-------|
| Regression | 75.318         | 1   | 75.318      | 311.16 | 0.000 |
| Residual   | 31.482         | 130 | 0.242       |        |       |
| Total      | 106.800        | 131 |             |        |       |

Source: Field Survey, 2026

The F-value of 311.16 with a significance level of 0.000 indicates that the model is statistically significant.

**Table 4.11: Regression Coefficients for TSA and Financial Transparency and Accountability**

| Model    | B     | Std. Error | Beta  | t      | Sig.  |
|----------|-------|------------|-------|--------|-------|
| Constant | 1.119 | 0.175      | —     | 6.394  | 0.000 |
| TSA      | 0.735 | 0.042      | 0.728 | 17.640 | 0.000 |

Source: Field Survey, 2026

Since  $p = 0.000 < 0.05$ , the null hypothesis is rejected.

**Decision:** Reject  $H_0$

**Conclusion:** TSA has a significant positive effect on financial transparency and accountability in the selected federal MDAs.

The regression coefficient of 0.735 indicates that a unit increase in TSA implementation is associated with a 0.735-unit increase in financial transparency and accountability. The beta coefficient of 0.728 indicates that TSA has a strong positive effect on financial transparency and accountability, explaining 53.0% of the variation in the dependent variable. This finding corroborates the results of Idoko and Tigye (2021/2023), who reported a strong positive relationship between TSA and transparency/accountability ( $r = 0.99$ ), and Ikeagwu et al. (2025), who reported significant positive effects of TSA on tracking surveys ( $\beta = 0.985$ ) and financial reporting quality ( $\beta = 0.982$ ). The finding is theoretically consistent with Agency Theory, which posits that centralised financial monitoring reduces information asymmetry and opportunistic behaviour by agents entrusted with public resources.

#### 4.5 Pearson Product Moment Correlation Analysis

**Note:**  $p < 0.01$  (2-tailed).

**Table 4.12: Correlation Matrix of Study Variables**

| Variables                     | TSA     | Cash Management | Transparency & Accountability |
|-------------------------------|---------|-----------------|-------------------------------|
| TSA                           | 1.000   |                 |                               |
| Cash Management               | 0.684** | 1.000           |                               |
| Transparency & Accountability | 0.728** | 0.671**         | 1.000                         |

**Correlation is significant at the 0.01 level (2-tailed).**

**Source:** Field Survey, 2026

Table 4.12 shows positive and statistically significant relationships between TSA and both dimensions of public sector financial performance. TSA had the strongest correlation with financial transparency and accountability ( $r = 0.728$ ), followed by cash management efficiency ( $r = 0.684$ ). The correlation between TSA and overall public sector financial performance was 0.742, indicating a strong positive association. The result implies that improvements in TSA implementation are associated with improvements in public sector financial performance.

The correlation matrix also reveals a significant inter-correlation between cash management efficiency and financial transparency and accountability ( $r = 0.671$ ). This inter-correlation suggests that the dimensions of public sector financial performance are interrelated and that improvements in one dimension may reinforce improvements in others. This finding is consistent with the multidimensional conceptualisation of public sector financial performance adopted in this study, which recognises that cash management efficiency, transparency and accountability are interconnected aspects of financial management rather than isolated outcomes.

The strongest correlation between TSA and financial transparency and accountability ( $r = 0.728$ ) is particularly noteworthy because it suggests that the most pronounced effect of TSA is on the visibility, traceability and auditability of government financial transactions. This finding is consistent with the theoretical expectation of Agency Theory, which posits that centralised financial monitoring reduces information asymmetry between principals and agents, and with the empirical evidence of Idoko and Tigye (2021/2023) and Ikeagwu et al. (2025), who reported strong positive relationships between TSA and measures of transparency and accountability.

#### 4.6 Multicollinearity Diagnostic

**Table 4.13: Multicollinearity Statistics**

| Variable                              | Tolerance | VIF   |
|---------------------------------------|-----------|-------|
| Revenue Consolidation                 | 0.604     | 1.656 |
| Cash Management                       | 0.627     | 1.595 |
| Expenditure Control                   | 0.651     | 1.536 |
| Financial Monitoring & Control        | 0.582     | 1.718 |
| Electronic Payment/Revenue Management | 0.673     | 1.486 |

**Source:** SPSS

The VIF values range from 1.486 to 1.718, which are substantially below the commonly applied threshold of 5.00. The tolerance values are also above 0.20. This suggests that there is no serious multicollinearity problem among the explanatory variables. The absence of multicollinearity enhances the reliability of the regression coefficients and confirms that the five TSA dimensions are sufficiently distinct to be treated as separate explanatory variables in the model.

## 4.7 Diagnostic Tests

**Table 4.14: Summary of Regression Diagnostic Tests**

| Diagnostic Test                 | Result      | Decision                       |
|---------------------------------|-------------|--------------------------------|
| Normality (Shapiro-Wilk)        | $p = 0.087$ | Normality assumption satisfied |
| Multicollinearity – Maximum VIF | 1.718       | No serious multicollinearity   |
| Heteroscedasticity              | $p = 0.214$ | Homoscedasticity assumed       |
| Durbin-Watson                   | 1.874       | No serious autocorrelation     |

Source: SPSS Output, 2026

The diagnostic results suggest that the assumptions required for regression analysis were reasonably satisfied. The normality test produced a p-value above 0.05, while the VIF values indicate no serious multicollinearity. The heteroscedasticity test was also insignificant, suggesting that the residual variance was reasonably constant. The Durbin-Watson statistic of 1.874 is close to 2.00, indicating that there was no serious autocorrelation problem. These diagnostic results enhance the validity and reliability of the regression estimates and provide confidence in the conclusions drawn from the hypothesis testing.

## 4.8 Qualitative Findings

The qualitative findings identify two main themes. First, TSA improves cash management by giving government better visibility of available funds for planning and payments, though it also causes operational delays. Second, TSA enhances transparency and accountability through clearer audit trails and reduced unauthorised transactions, but challenges remain with incomplete documentation, reconciliation delays, and incomplete agency integration. These findings support the quantitative results and align with Public Financial Management Theory and Agency Theory.

## 4.9 Discussion of Findings

### 4.9.1 TSA and Cash Management Efficiency

The study found that TSA significantly improves cash management efficiency, with an  $R^2$  of 0.468 showing that nearly half of the variation in cash management is associated with TSA. This supports the view that consolidating government cash resources provides a fuller picture of liquidity and enables better cash planning. The finding aligns with Isoiso and Ogujiofor (2022) and with evidence of monthly savings of about N45 billion in interest payments and over N24 billion in bank charges (OAGF, 2026), and is consistent with Public Financial Management Theory.

However, payment timing recorded the lowest mean score (3.89) among cash management items, indicating that delays remain a challenge. This matches operational tensions reported by agencies such as NAFDAC, which told the Senate Committee on Finance that the TSA zero-balance arrangement created liquidity constraints affecting operational obligations (Senate Committee on Finance, 2026). The persistence of delays suggests that centralising cash resources may create institutional frictions, especially for agencies with ongoing obligations, highlighting the need to balance centralised control with MDA operational requirements (Nwambuko & Nnaeto, 2023). Qualitative findings confirmed that the centralised approval process can delay critical operations, implying that fund-access mechanisms need refinement. The introduction of the Federal Treasury e-Receipt and the Revenue Optimisation and Assurance Platform (RevOp) in January 2026 is a significant step toward addressing these challenges (OAGF, 2026).

### 4.9.2 TSA and Financial Transparency and Accountability

TSA has the strongest individual relationship with financial transparency and accountability, with an R-value of 0.728 and  $R^2$  of 0.530, indicating substantially strengthened visibility and monitoring of government financial transactions. This is important because effective public financial management depends on monitoring revenue, expenditure, and cash transactions. The finding corroborates Idoko and Tigye (2021/2023), who reported a strong positive relationship ( $r = 0.99$ ), and Ikeagwu et al. (2025), who found significant effects on tracking surveys ( $\beta = 0.985$ ) and financial reporting quality ( $\beta = 0.982$ ). It is theoretically consistent with Agency Theory, which holds that centralised financial monitoring reduces information asymmetry and opportunistic behaviour by agents.

Qualitative findings showed that incomplete integration of some agencies and reconciliation delays create gaps in the transparency framework. The World Bank's 2026 assessment noted that over 5,000 TSA sub-accounts remained not fully integrated into the consolidated revenue framework, with incomplete reconciliation between GIFMIS and CBN records (World Bank, 2026). These gaps can undermine transparency benefits by leaving some government financial activity

outside consolidated monitoring, suggesting that full realisation of TSA's transparency potential depends on completing integration.

The stronger effect on transparency and accountability than on cash management efficiency is noteworthy, indicating that TSA's most pronounced impact is on visibility, traceability, and auditability of government financial transactions. This aligns with Agency Theory and with Idoko and Tigye (2021/2023) and Ikeagwu et al. (2025). The stronger effect may be explained by TSA's design: centralising transactions through a single treasury account creates a comprehensive audit trail, making it easier for treasury officials, auditors, and oversight institutions to monitor public funds. By contrast, the effect on cash management efficiency may be mediated by factors such as MDA operational capacity, payment processing efficiency, and timeliness of fund releases, which may explain why that effect, though significant, is somewhat weaker.

### 4.9.3 Overall Effect of TSA on Public Sector Financial Performance

The multiple regression analysis showed that the five TSA dimensions jointly explain 65.9% of the variation in public sector financial performance ( $R^2 = 0.659$ ,  $F = 88.91$ ,  $p = 0.000$ ). Financial monitoring and control was the strongest predictor of public sector financial performance ( $\beta = 0.301$ ), followed by revenue consolidation ( $\beta = 0.256$ ), cash management ( $\beta = 0.217$ ), expenditure control ( $\beta = 0.191$ ) and electronic payment/revenue management ( $\beta = 0.168$ ).

This finding indicates that while revenue consolidation, cash management, expenditure control and electronic payment systems are important, the monitoring and control mechanisms surrounding TSA are particularly important in translating the system into improved financial performance. This finding aligns with the theoretical expectation of Agency Theory, which posits that monitoring and accountability mechanisms are essential for reducing information asymmetry and opportunistic behaviour by agents, and corroborates the empirical evidence of Ekperi and Anokwu (2023) and Ikeagwu et al. (2025).

The finding that electronic payment/revenue management had the weakest effect ( $\beta = 0.168$ ) suggests that while digitalisation is an important component of TSA, its independent contribution to financial performance is relatively modest. This may be because the effectiveness of electronic payment and revenue management depends on complementary factors such as reliable infrastructure, system integration, staff competence and institutional compliance. This finding is consistent with the observation of Moses et al. (2025) that technical challenges and limited staff capacity constrain TSA implementation in Nigerian ministries.

## 5.1 Interpretation of Findings

The findings show that TSA has a statistically significant effect on both cash management efficiency and financial transparency and accountability in Nigeria's federal institutions. The effect on transparency and accountability ( $R^2 = 0.530$ ) is stronger than on cash management efficiency ( $R^2 = 0.468$ ), indicating that account consolidation has been more immediately effective in improving visibility and auditability of government transactions than in transforming operational cash management. This aligns with research in Kwara State and South-South Nigeria, which found similar patterns. The stronger transparency effect is explained by TSA's design, which routes all revenues through the CBN and creates a comprehensive audit trail relatively independently of institutional capacity factors. The moderate cash management effect suggests that while TSA has improved government's ability to determine its aggregate cash position, translating this into operational efficiency at the institutional level remains a work in progress, as challenges such as payment delays and liquidity constraints persist.

## 5.2 Implications

### 5.2.1 Theoretical Implications

The study extends Agency Theory by showing that reducing information asymmetry through unified banking arrangements does reduce agent opportunism, as evidenced by the significant transparency effect. However, the more modest cash management effects suggest that information availability alone is insufficient to transform principal-agent dynamics; institutional norms, capacity, and operational mechanisms also matter. The integration of Public Financial Management Theory, Agency Theory, and New Public Management Theory provides a more comprehensive analytical lens than any single theory alone. The finding that financial monitoring and control was the strongest predictor of public sector financial performance ( $\beta = 0.301$ ) provides empirical support for Agency Theory's expectation that monitoring and accountability mechanisms are essential for reducing information asymmetry and opportunistic behaviour.

### 5.2.2 Practical Implications

The findings support several practical recommendations. First, regulatory bodies should strengthen operational mechanisms for fund release and payment processing, and establish flexible liquidity frameworks for service-delivery agencies to prevent administrative friction. Second, technical integration between TSA platforms and MDA accounting systems should be enhanced for real-time information flow, and all outstanding TSA sub-accounts should be fully integrated into the consolidated revenue framework. Third, training programs for MDA finance staff should emphasize both technical TSA operations and accountability principles. Fourth, comprehensive PFM legislation should be enacted to

give TSA a stronger statutory foundation, and constitutional reforms should strengthen enforcement of Section 162(1) regarding remittance of all federal revenues. Fifth, efforts should prioritise monitoring and oversight mechanisms, including internal audit, external audit, legislative oversight, and anti-corruption mechanisms, and invest in reliable ICT infrastructure and technical support systems.

## 5.1 Interpretation of Findings

The findings show that TSA has a statistically significant effect on both cash management efficiency and financial transparency and accountability in Nigeria's federal institutions. The effect on transparency and accountability ( $R^2 = 0.530$ ) is stronger than on cash management efficiency ( $R^2 = 0.468$ ), indicating that account consolidation has been more immediately effective in improving visibility and auditability of government transactions than in transforming operational cash management. The stronger transparency effect is explained by TSA's design, which routes all revenues through the CBN and creates a comprehensive audit trail relatively independently of institutional capacity factors. The moderate cash management effect suggests that while TSA has improved government's ability to determine its aggregate cash position, translating this into operational efficiency at the institutional level remains a work in progress, as challenges such as payment delays and liquidity constraints persist.

## 5.2 Implications

### 5.2.1 Theoretical Implications

The study extends Agency Theory by showing that reducing information asymmetry through unified banking arrangements does reduce agent opportunism, as evidenced by the significant transparency effect. However, the more modest cash management effects suggest that information availability alone is insufficient to transform principal-agent dynamics; institutional norms, capacity, and operational mechanisms also matter. The integration of Public Financial Management Theory, Agency Theory, and New Public Management Theory provides a more comprehensive analytical lens than any single theory alone. The finding that financial monitoring and control was the strongest predictor of public sector financial performance ( $\beta = 0.301$ ) provides empirical support for Agency Theory's expectation that monitoring and accountability mechanisms are essential for reducing information asymmetry and opportunistic behaviour.

### 5.2.2 Practical Implications

The findings support several practical recommendations. First, regulatory bodies should strengthen operational mechanisms for fund release and payment processing, and establish flexible liquidity frameworks for service-delivery agencies to prevent administrative friction. Second, technical integration between TSA platforms and MDA accounting systems should be enhanced for real-time information flow, and all outstanding TSA sub-accounts should be fully integrated into the consolidated revenue framework. Third, training programs for MDA finance staff should emphasize both technical TSA operations and accountability principles. Fourth, comprehensive PFM legislation should be enacted to give TSA a stronger statutory foundation, and constitutional reforms should strengthen enforcement of Section 162(1) regarding remittance of all federal revenues. Fifth, efforts should prioritise monitoring and oversight mechanisms, including internal audit, external audit, legislative oversight, and anti-corruption mechanisms, and invest in reliable ICT infrastructure and technical support systems.

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