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- I. Title page
- II. Abstract (150-250 words)
- III. Keywords (3-5)
- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
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## EFFECT OF ACCOUNTING PRACTICES ON BUDGET IMPLEMENTATION OF GOVERNMENT-OWNED RESEARCH INSTITUTES IN SOUTH EASTERN NIGERIA

DENNIS NNENNA OKORO

Department of Public Sector Accounting, College of Public Sector Accounting, ANAN University  
Kwall, Plateau State

### ABSTRACT

*The study examined the effects of accounting practices on budget implementation of government-owned research institutes in South Eastern Nigeria. Specifically, the study examined the effect of proper accounting records, preparation of accounting records and accounting records procedures on revenue collection in government-owned research institutes; examined the effect of proper accounting records, preparation of accounting records and accounting records procedures have on expenditure control in government-owned research institutes; accessed the effect of timely payroll accounting, accurate payroll accounting and accessible payroll records have on revenue collection in government-owned research institutes; and accessed the effect of timely payroll accounting, accurate payroll accounting and accessible payroll records have on expenditure control in government-owned research institutes. The study adopted a survey design with using well-structured questionnaire tailored to meet to research objectives. A purposive sampling technique targeting the directors of finance, budget officers and accountants in the selected government-owned research institutes was adopted. The study adopted the multiple regression analysis and found significant and strong effect of record keeping on the revenue collection in the government-owned research institutes. Further, the study found payroll accounting to be significant, yet very weak in influencing revenue collection and expenditure control in the government-owned research institutes. The study therefore recommends complete upgrading and modernization of the record keeping processes and systems in line with the technological improvements in revenue collections in government-owned research institutes for optimum results from record keeping.*

**Keywords:** *Accounting practices; Record keeping; Payroll accounting; Revenue collection; Expenditure control*

### 1. Introduction

A sound and transparent budgeting and accounting structure is universally recognized as a foundation for good public sector governance. Good governance requires continuous assessment of how financial inputs and policies impact resource utilization (Liapis & Spanos, 2015). Through the influence of New Public Management (NPM), many Anglo-Saxon public sectors have adopted business-sector accounting approaches; however, in several post-Communist European countries, these reforms were externally driven by institutions such as the International Monetary Fund (Demir, 2018). While Western countries have extensively explored and implemented accounting reforms (Christiaens, Christophe, Manes-Rossi, Aversano & Cauwengerge, 2015; Becker, Tobias & Skaerbaek, 2014), little is known about similar reforms in developing or

transition economies like Nigeria (Antipova & Bourmistrov, 2013; Khodachek & Timoshenko, 2018). The global trend toward accrual accounting particularly IPSAS emerged in the early 2000s to enhance decision-making and harmonize national systems with international standards, replacing traditional cash-based systems previously used in many governments (Brusca, Caperchione, Cohen & Manes, 2015).

In traditional public administration, the national budget occupies a central role in public sector accounting systems, acting both as a statement of government sovereignty and a fiscal instrument for achieving macroeconomic objectives (Liguori, Sicilia & Steccolini, 2012; Jones, Lande, Luder & Portal, 2013). Because budgeting and accounting processes

are interconnected, distinguishing between the two is often difficult, as they differ only in focus, time perspective, and recording methods while producing complementary financial information (Chan & Heiling, 2012). In Nigeria, the budget remains a pivotal tool for guiding economic growth, outlining revenue sources, and shaping expenditure priorities (Coker & Adams, 2012). Budget implementation significantly affects national economic development, measured largely through indicators such as GDP (Tanko & Shishi, 2020). Yet persistent challenges including unrealistic projections, weak procurement practices, poor institutional capacity, and political interference continue to undermine budget implementation in government-owned establishments, raising concerns about fiscal discipline and public sector efficiency.

Budget implementation further depends on the strength of supporting financial practices, such as revenue management and expenditure control. Revenue management techniques, which originated in the airline industry as a response to competitive pressures (Boyd, 2017), emphasize optimizing revenue through strategic timing, pricing, and operational controls principles that can inform public-sector revenue administration (Chiang et al., 2017; Smith et al., 2019; Okumus, 2014). Public expenditure, which finances infrastructure, pensions, and public services, has increased substantially in Nigeria due to expanding governmental responsibilities (Omosidi et al., 2019). Effective control of these expenditures is crucial because it ensures that public resources are used as intended, prevents misappropriation, and strengthens fiscal discipline (Bakon, Isa, Jibril & Oladipo, 2024; Mohammed, 2015; Sailendra, 2016). This makes accounting systems especially record keeping and payroll accounting central to achieving transparency, accountability, and efficiency in public financial management. A robust accounting framework therefore serves as a watchdog, enabling effective tracking of expenditures and reinforcing responsible budgeting practices essential for the performance of public institutions.

Public-owned establishments in Nigeria have long been associated with corruption, weak accountability structures, and operational inefficiencies (Akinyemi & Adejumo, 2018; Okonjo-Iweala, 2014), making strict and effective budget implementation essential for addressing these persistent challenges. Although national and institutional budgets are often well-prepared (Adebisi & Ogbonna, 2019), the chronic problem lies in their implementation, which has repeatedly resulted in abandoned projects, wasteful spending, and large deviations between approved estimates and actual expenditures (Ogunniyi &

Ojebuyi, 2016; Olomola, 2019). Delays in budget approval (Eme & Emeh, 2012), leakages in the financial system (Ojo & Onuba, 2020), ineffective execution processes (Onyekwelu & Ugwuanyi, 2014), and widespread mismanagement (Transparency International, 2022) continue to hinder Nigeria's ability to translate budgetary plans into measurable development outcomes. These shortcomings weaken government-owned establishments, distort resource allocation, and undermine the government's ability to achieve policy objectives (Iyoha & Oyerinde, 2010; Nwaorgu & Iwu, 2021). The persistent gap between planned and executed budgets further raises concerns about the sufficiency of accounting practices in ensuring transparency, discipline, and reliability in public sector financial management (Lassa & Musa, 2020).

Empirically, inconsistencies and inaccuracies in data on budget allocations and expenditures (Oladipupo & Izedonmi, 2013; Aderin & Adefemi, 2018) make it difficult to fully assess the true effectiveness of budget implementation across Nigeria's public sector. Although numerous scholars have examined budget performance and public expenditure management (Masu-Gombe & Alkali, 2024; Omosidi, Oguntunde, Oluwalota & Ajao, 2019; Obara, 2013; Ekundayo & Obi, 2020), studies specifically analyzing the role of accounting practices such as record keeping and payroll accounting in enhancing budget implementation remain scarce (Agu & Okoli, 2019; Ogbole, 2020). Existing investigations often fail to deploy robust analytical frameworks capable of dissecting the multifaceted relationship between accounting practices and budget outcomes (Okeke & Ihenacho, 2021). Moreover, despite the presence of numerous government-owned research institutes in the South-East region, scholarly attention to this area has been minimal; the only significantly related study remains Ugwuanyi and Ebe (2012), whose work is now over a decade old and limited in scope. Given the difficulty of obtaining institutional financial data (Ofoegbu & Eze, 2022), researchers have often avoided this domain. Therefore, this study adopts a more comprehensive analytical model and current data to examine how accounting practices (particularly record keeping and payroll accounting) affect revenue collection and expenditure control in government-owned research institutes in Southeastern Nigeria, thereby addressing a critical methodological, contextual, and empirical gap in existing literature.

The main objective of this study is to examine the effect of accounting practices on budget implementation of government-owned research institutes in Southern Nigeria. The specific objectives are to:

- i. Determine the effect of record keeping on revenue collection of government-owned research institutes in South-eastern, Nigeria;
- ii. Ascertain the effect of payroll accounting on revenue collection of government-owned research institutes in South-eastern, Nigeria;
- iii. Assess the effect of record keeping on expenditure control of government-owned research institutes in South-eastern, Nigeria;
- iv. Evaluate the effect of payroll accounting on expenditure control in government-owned research institutes in South-eastern, Nigeria.

The following null hypotheses were formulated and tested for this study:

- H<sub>0</sub><sub>1</sub>:** Record keeping has no significant effect on revenue collection of government-owned research institutes in South-eastern, Nigeria
- H<sub>0</sub><sub>2</sub>:** Payroll accounting has no significant effect on revenue collection of government-owned research institute in South-eastern, Nigeria
- H<sub>0</sub><sub>3</sub>:** Record keeping has no significant effect on expenditure control of government-owned research institutes in South-eastern, Nigeria
- H<sub>0</sub><sub>4</sub>:** Payroll accounting has no significant effect on expenditure control of government-owned research institutes in South-eastern, Nigeria.

## 2. Literature Review

### 2.1.1 Budget Implementation

According to Odeh and Okoye (2012), budget implementation is the process of carrying out and executing an approved budget by ensuring that funds are disbursed, managed, and utilized according to the allocations and priorities set in the budget documents. Budget implementation of budget is as important as the budget plan itself. This is because if budget is not effectively implemented there is the tendency of misappropriation and/or mismanagement of funds allocated to institutions. Omosidi and Oguntunde (2016) noted that budget implementation controls the financial behaviour in a system because it prevents waste or reckless spending of funds provided for various services.

### 2.1.2 Revenue Collection

Revenue collection refers to the process through which governments or organizations obtain monetary inflows from fines, taxes, fees, or debts owed by individuals or businesses, serving as a critical mechanism for sustaining public operations and organizational activities (Osoro, Atambo & Abuga, 2016). Revenue encompasses all monetary receipts within a specific period, including donations, government support, mission-driven activities, and fundraising income (Holzer & Kimes, 2002). To enhance revenue performance, governments increasingly employ diverse tax instruments, expand local revenue sources, and adopt cost-effective collection strategies supported by sound policies,

transparent procedures, and strong internal control systems to ensure efficient utilization of public resources (GoK, 2014). Agbeyegbe et al. (2014) identify two primary revenue collection methods: electronic systems and manual systems. Electronic Revenue Collection Systems (ERCS) facilitate modernized, cashless, automated processes that minimize leakages and enhance accountability, whereas manual systems often rely on physical receipts, incur higher operational costs, and are prone to fraud, underpayment, and loss of revenue. Effective revenue administration further requires accurate taxpayer assessments and proper enumeration to determine expected collections and support sustainable budget planning and development initiatives (Ghura, 2018; Holger, 2019).

### 2.1.3 Expenditure Control

Expenditure control is fundamental to sound public financial management, ensuring that public resources are used efficiently, obligations are settled promptly, and misuse of public funds is prevented while promoting fairness in government contracting (Bakon, Isa, Jibril & Oladipo, 2024). Its core purpose is to ensure that spending remains within authorized limits and reflects legislative intent, since even well-designed fiscal rules and budgets become ineffective without proper control during execution. Weak expenditure controls can undermine macroeconomic stability, erode fiscal discipline, and damage public trust in government resource stewardship (Sailendra, 2016). As government responsibilities expand amid limited financial resources, effective expenditure allocation becomes increasingly difficult, making strong control mechanisms essential for balancing rising public needs with scarce resources (Mohammed, 2015). Because the budget specifies annual spending levels, it ensures the timely availability of resources to achieve planned objectives (Omosidi et al., 2019). Accounting plays a vital role in this process by establishing cost standards and maintaining adherence, while integrated systems such as budget control, accounting control, audit processes, and financial reporting collectively strengthen expenditure discipline (Scott, 2016).

### 2.1.4 Accounting Practices

Accounting practice serves as the primary medium for financial reporting, addressing both internal and external information needs. Internally, management accounting provides managers and boards with relevant financial insights for decision-making and performance evaluation (Boundless, 2015).

### 2.1.5 Record/Book Keeping

Bookkeeping refers to the systematic and regular recording of financial transactions in the appropriate books of accounts, representing both the science and art of accurately documenting business dealings for future reference and analysis (Premph, Osei, Osei &

Kuffour, 2022). Historically, record keeping dates back to ancient Roman civilization, but the modern concept of bookkeeping was later refined by the Italians, who formalized its principles and techniques (Amisah, 2011). In contemporary practice, proper accounting record keeping is crucial to effective business and public-sector management, including government-owned establishments. It involves maintaining detailed daily records of receipts, payments, and other economic activities using a structured chart of accounts to capture an entity's resources, obligations, and financial performance over time (Musah, 2017). These monetary transactions must be documented in principal books, and the procedures guiding their maintenance constitute the core of bookkeeping (Adeyemi & Akanji, 2020). Ultimately, bookkeeping remains a foundational aspect of accounting, enabling organizations to track economic activities, assess financial outcomes, and support informed decision-making.

### 2.1.2.2 Payroll Accounting

Payroll accounting involves the recording and management of payments to employees who perform administrative, operational, and leadership functions, making it essential to an organization's routine activities and financial integrity (Fatima et al., 2021). Because salary expenditures occur frequently and involve cash outflows, they are highly susceptible to fraud such as fictitious employees, inflated disbursements, and fabricated receipts which can distort labor costs and undermine organizational performance (Langi et al., 2019). A reliable payroll system is therefore necessary to ensure accurate cost allocation, maintain employee trust, and support smooth organizational operations. According to Mulyadi (2016) in Amirah et al. (2018), payroll accounting information systems comprise coordinated functions, documents, records, and internal controls used to manage labor costs and ensure effective oversight. These systems typically differentiate between salaries, which are fixed monthly payments, and wages, which vary based on hours worked or units produced (Ahmad Faishol, 2017). When well-structured and integrated, payroll systems enhance employee confidence and performance, but weak or poorly designed systems create dissatisfaction and inefficiency. As Ridlo-Akbar (2021) emphasizes, payroll accounting remains one of the most critical components of organizational control, directly influencing operational effectiveness and overall performance.

## 2.2 Empirical Studies Review

The empirical literature review of this study was organized into four sub-sections: Record Keeping and Revenue Collection; Payroll Accounting and Revenue Collection; Record Keeping and Expenditure Control; and Payroll Accounting and Expenditure Control

### 2.2.1 Record Keeping and Revenue Collection

Masu-Gombe and Alkali (2024) investigated budget implementation challenges in the Federal Capital Territory Administration using variables such as budget preparation, methodology, submission processes, zero-based budgeting, delays, and executive capacity. Using primary and secondary data with descriptive statistics and one-sample Z-test, the study found that most budget officers were qualified FCDA staff, zero-based budgeting was commonly used, and budget revisions occurred once or twice before ministerial and National Assembly approval. Findings showed that while due process was largely followed, delays and limited executive capacity significantly hindered implementation. The study concluded that bureaucratic bottlenecks impede budget execution and recommended early budget preparation, staff training, better record-keeping, and digitalization of budgeting and accounting systems to enhance implementation efficiency.

Ogah (2023) examined how Nigeria's government accounting system influences public expenditure control, focusing on capital and recurrent spending. Survey evidence showed that actual expenditures frequently deviate from budgeted amounts and that control limits over public spending are weak. The study concluded that accountants attempt to maintain expenditures within approved limits, but systemic weaknesses persist. It recommended adopting electronic systems such as IPPIS and TSA, employing professional accountants in key positions, and strengthening accounting and internal controls to curb fraud, regulate public spending, and improve transparency.

Prempeh et al. (2022) assessed accounting record-keeping practices among SMEs in Kumasi Metropolitan Assembly using a descriptive survey of 200 operators. Results showed that most SMEs kept sales, purchases, cash books, and payroll records, though many avoided record keeping due to secrecy concerns, cost, or lack of skills. Accurate record keeping was found essential for profit assessment, loan access, tax compliance, and informed financial decision-making. Major challenges included cost constraints, system maintenance difficulties, and lack of skilled personnel. The study recommended mandatory record-keeping policies and targeted training for SME owners.

Omosidi et al. (2019) examined how budget implementation strategies influence organisational effectiveness in colleges of education using surveys from 432 staff across 24 institutions. Using Pearson correlation and stepwise regression, the study found a significant positive relationship between budget implementation strategies and institutional effectiveness. It recommended technical support for units involved in preparing realistic and workable budgets.

Obara (2013) reviewed budgeting and budget implementation practices in Nigeria and proposed strategies to address persistent poor budget performance. The study advocated for value-for-money audits, due process, cost audits, and improved procurement practices to strengthen the legal and professional framework for public budgeting. It further recommended promoting professionalism, performance measurement, and benchmarking to enhance budget effectiveness and resource utilization. Keakopa (2018) explored financial records management in Botswana's public institutions, identifying challenges such as poor budgeting, weak auditing, non-compliance with financial laws, and rising fraud. Although many institutions have adopted Financial Management Systems, weak auditing and poor records management remain major problems. The study emphasized the importance of proper manual and electronic records systems for accountability, decision-making, and effective auditing, recommending stronger records management frameworks to enhance financial control and governance.

### 2.2.2 Payroll Accounting and Revenue Collection

Although Wirdiansyah and Munadar (2022) reviewed payroll accounting information systems and their influence on internal control effectiveness, the study relied solely on literature review without empirical field data, making its conclusions insufficiently validated in real organizational settings. It did not examine payroll systems within public-sector institutions particularly government-owned research institutes nor did it link payroll accounting directly to budget implementation outcomes such as revenue collection or expenditure control. This leaves an empirical gap in understanding how payroll accounting practices affect budget performance in Nigeria's public establishments.

Resca and Munandai (2022) identified weaknesses in payroll accounting systems and internal control effectiveness through literature analysis, but the study lacked quantitative evidence and did not consider how payroll control deficiencies translate into broader budget implementation challenges in the public sector. The exclusive focus on internal control, without connecting payroll practices to revenue administration or expenditure management, creates a gap in empirical knowledge on how payroll systems influence actual budget performance in government-owned institutions.

While Ayariga (2020) examined accounting record-keeping and tax compliance among SMEs in Ghana using a mixed-methods approach, the study focused on the private sector and tax compliance, not on budget implementation or public-sector financial management. Its findings therefore cannot be

generalized to government-owned establishments, particularly research institutes that operate under public budgeting frameworks. This creates a contextual and empirical gap regarding how record-keeping practices influence public-sector budget execution.

Ironkwe and Okiakpe (2017) explored budgetary practices and accountability in Nigeria using quasi-experimental techniques, but the study did not assess accounting practices such as record keeping or payroll accounting as factors influencing budget implementation. Moreover, it focused broadly on accountability rather than specific components of budget execution such as revenue collection or expenditure control. This omission creates a gap in understanding the role of accounting practices in driving effective budget implementation within government institutions.

Although Abdul-Rahamon and Adejare (2014) found a strong positive relationship between record keeping and financial performance of small-scale enterprises, the study was situated in the SME sector and not within public-sector budgeting environments. It did not consider how record-keeping systems affect budget implementation processes such as expenditure control or revenue management in government-owned establishments, creating a gap in applying these findings to public institutional settings.

Ezejiofor, et al., (2014) examined accounting records and performance of small businesses in Nigeria, but the study centered on private-sector efficiency rather than government budget implementation. It did not incorporate variables such as payroll accounting or public expenditure control, and therefore cannot explain how accounting practices influence budget outcomes in public-sector research institutes. This leaves an empirical gap in linking accounting records directly to budget implementation effectiveness in government-owned institutions.

### 2.3 Theoretical Framework

**Agency Theory** as advanced by Ross (1973), Stiglitz (1987), and Cave (2003), explains how a principal designs compensation systems to motivate an agent to act in the principal's best interest, with the agent choosing actions that influence the welfare of both parties while the principal sets payoff rules based on expected benefits (Arrow, 1984). This relationship spans employer–employee, shareholder–manager, creditor–borrower, insurer–client, and extends to public-sector interactions such as voters and government, legislators and executives, and supervisors and subordinates (Mutuma, 2016). The principal–agent problem arises from conflicting interests and information asymmetry, as principals cannot fully observe or control agents' actions (Pearce, 1992), necessitating incentives to align



behavior (Black, 2013). In public budgeting, agents typically government departments make claims on public resources, while principals, such as legislatures or executives, allocate and ration these resources (Forrester, 2012; Schick, 2019). Arrow (1984) identifies two categories of principal-agent problems: hidden action, involving unobservable employee behavior such as effort, corruption, or perquisite consumption (Leruth & Paul, 2017), and hidden information, where agents possess information unknown to principals. These conditions lead to adverse selection where the wrong agent or mandate is chosen and moral hazard, where agents alter their behavior to the detriment of principals. In the budgeting process, these dynamics manifest through hierarchical government structures where agencies (agents) implement programs under the oversight of legislatures or executives (principals), shaping decisions on revenues, expenditures, and overall budget authority (Forrester, 2012).

**Economic Theory of Bureaucracy:** Pearce (1992) states that the model assumes agencies will behave as budget maximizers. Bureaucrats satisfy their preferences for salaries, promotion, job security and such non-pecuniary advantages as power, prestige and opportunities to allocate contracts by virtue of larger budgets. Nelson (2013) quotes Albrow (1970) that Bureaucracy may mean administrative efficiency or it may take the opposite meaning. It may be a synonym for civil service looking at it in simple terms or it may be an idea summing up the specific features of modern organizational structure when looked at in its complex form. Nelson (2013) stresses that from among the definitions, two are prominent, that is, bureaucracy as rule by officials and bureaucracy as a particular form of organization. Bureaucracy has had that negative popular image being characterized with red tape. The phrase derived from the ribbons once used to tie folders of papers in the British government (Olson, 1988). Nelson (2013) mentions Laski (1930) that the characteristics of such a regime are a passion for routine in administration, the sacrifice of flexibility to rule, delay in the making of decisions and a refusal to embark upon experiment.

**3. Methodology**

The study employed a survey research design, using structured questionnaires to collect standardized and generalizable data from finance-related staff in

government-owned research institutes and allied colleges across Southeastern Nigeria. Anchored in an objectivist and positivist research philosophy, the methodology was grounded in observable and measurable realities: the ontological position focused on empirically examining how accounting practices influenced budget implementation; the epistemological stance relied on quantitative analysis using the Ordinary Least Squares (OLS) technique in SPSS; and the axiological perspective emphasized the ethical value of promoting transparency, accountability, and proper financial stewardship through improved accounting practices. The study population comprised 953 staff members, and a purposive sampling technique was used to select 96 respondents who were directly involved in budgeting and accounting activities namely Directors of Finance, staff of Audit Units, Accounts Units, and Planning, Research and Statistics Units. Data were gathered through a structured four-point Likert-scale questionnaire and supplemented by interviews with senior staff to obtain additional insight. Instrument reliability was confirmed through a high Cronbach Alpha coefficient of 0.987, while validity was ensured through expert and supervisory review.

To achieve the study's four objectives, two regression models were specified to examine the effect of accounting practices record keeping and payroll accounting on budget implementation outcomes.

Model I assessed the effect of record keeping (RKG) and payroll accounting (PRA) on revenue collection (REC) and was expressed functionally as:

$$REC = f(RKG, PRA), \text{ and econometrically as: } \\ REC_{it} = \beta_0 + \beta_1 RKG_{it} + \beta_2 PRA_{it} + \epsilon_{it}.$$

Model II examined the effect of record keeping (RKG) and payroll accounting (PRA) on expenditure control (EXC) and was specified as:

$$EXC = f(RKG, PRA), \text{ and econometrically as: } \\ EXC_{it} = \beta_0 + \beta_1 RKG_{it} + \beta_2 PRA_{it} + \epsilon_{it}.$$

These models enabled the study to provide a rigorous empirical assessment of how accounting practices shaped key components of budget implementation revenue collection and expenditure control in government-owned research institutes.

**3.5.3 Variables Measurement and Definition**

**Table 3.3 Variables Measurement and Definitions**

Variables	Variable Name	Measurement
Dependent Variable: Budget Implementation	Revenue Collection (REC)	The three questions structured using four -point likert scale.
	Expenditure Control (EXC)	The three questions structured using four -point likert scale.
Independent Variable: Accounting Practices	Records Keeping (RKG)	The three questions structured using four -point likert scale.
	Payroll Accounting (PRA)	The three questions structured using four -point likert scale.



**4. Data Presentation and Analysis**

**4.1 Descriptive Statistics**

The descriptive statistics provide a summary of the responses from 96 staff across government-owned research institutes in South Eastern Nigeria on the role of accounting practices in budget implementation. The analysis covers record keeping (RKG), payroll

accounting (PRA), revenue collection (REC), and expenditure control (EXC). By examining the minimum, maximum, mean, and standard deviation, the results highlight the central tendencies and variability in responses, thereby providing insights into how these practices are perceived and applied in the institutions under study.

**Table 4.6: Descriptive Statistics**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>RKG</b>	96	2.00	4.00	3.4896	.52304
<b>PRA</b>	96	2.33	4.00	3.6354	.40198
<b>REC</b>	96	2.00	4.00	3.4826	.49054
<b>EXC</b>	96	2.33	4.00	3.5972	.37749
<b>Valid N (listwise)</b>	96				

Source: SPSS 27.0, 2025

The results showed that record keeping had a mean of 3.49 (Std. Dev. = 0.52), indicating a moderately high level of implementation across the government-owned research institutes, though the variability suggests inconsistencies among institutions. Payroll accounting recorded the highest mean of 3.64 (Std. Dev. = 0.40), reflecting strong and uniformly applied payroll systems, likely supported by reforms such as IPPIS that enhance transparency and reduce payroll fraud. Revenue collection had a mean of 3.48 (Std. Dev. = 0.49), suggesting generally positive but less robust mechanisms compared to payroll systems, with moderate variability pointing to uneven adoption of effective revenue procedures. Expenditure control showed a high mean of 3.60 (Std. Dev. = 0.38), indicating strong and consistent implementation of spending controls across institutes, highlighting the

role of accounting practices in ensuring budget discipline, minimizing leakages, and promoting prudent financial management within the public sector.

**4.2 Correlation Analysis**

The correlation analysis examines the strength and direction of the relationships among the study variables: record keeping (RKG), payroll accounting (PRA), revenue collection (REC), and expenditure control (EXC). Correlation coefficients (r) range between -1 and +1, with values closer to +1 indicating a stronger positive association. These results are vital in understanding how accounting practices influence budget implementation within the context of government-owned research institutes.

**Table 4.7: Correlation analysis with REC**

		<b>REC</b>	<b>RKG</b>	<b>PRA</b>
<b>Pearson Correlation</b>	<b>REC</b>	1.000		
	<b>RKG</b>	.227	1.000	
	<b>PRA</b>	.504	.307	1.000

Source: SPSS 27.0, 2025

For revenue collection, the correlation analysis shows that record keeping has a positive but weak relationship with revenue collection (r = 0.227). This suggests that while proper record keeping contributes to revenue mobilization in the institutes, its influence is modest, possibly due to irregularities in documentation and weak systems in some institutes. In practice, this means that improving the quality and consistency of accounting records could help reduce leakages and strengthen the revenue base of research institutes in the region.

Payroll accounting demonstrates a moderate and stronger positive relationship with revenue collection (r = 0.504). This indicates that effective payroll accounting practices, such as accurate and timely salary documentation, enhance transparency and indirectly support revenue generation by reducing payroll fraud and instilling financial discipline. Within the domain of government-owned research institutes, the implication is that a well-structured payroll system is more influential in sustaining revenue inflows compared to record keeping.

**Table 4.8: Correlation analysis with EXC**

		<b>EXC</b>	<b>RKG</b>	<b>PRA</b>
<b>Pearson Correlation</b>	<b>EXC</b>	1.000		
	<b>RKG</b>	.292	1.000	
	<b>PRA</b>	.332	.307	1.000

Source: SPSS 27.0, 2025



For expenditure control, record keeping shows a weak but positive relationship with expenditure control ( $r = 0.292$ ). This finding suggests that maintaining proper accounting records contributes to curbing wasteful spending and ensuring that expenditures align with approved budgetary provisions, though the effect is limited. In the institutes studied, this reflects the importance of structured documentation to monitor disbursements and promote accountability.

Payroll accounting is also positively correlated with expenditure control, with a coefficient of 0.332. This moderate relationship implies that efficient payroll systems play a role in strengthening expenditure

control by minimizing fraudulent practices such as ghost workers and overpayments. In the public sector context, particularly research institutes, payroll accounting provides an avenue for cost control, ensuring that resources are spent within authorized limits.

### 4.3 Regression Analysis

The regression analysis was conducted to establish the effect of accounting practices, represented by record keeping (RKG) and payroll accounting (PRA), on budget implementation, proxied by revenue collection (REC) and expenditure control (EXC).

**Table 4.9: Multi-collinearity**

	Tolerance	VIF
RKG	.906	1.104
PRA	.906	1.104

Source: SPSS 27.0, 2025

The diagnostic test for multicollinearity showed tolerance values of 0.906 and variance inflation factor (VIF) of 1.104 for both variables, indicating no multicollinearity. This means the independent variables are suitable for inclusion in the regression model and provide unbiased estimates.

**Table 4.10: Model Summary for REC**

R	R Square	Adjusted R Square	Change Statistics		Durbin-Watson
			F Change	Sig. F Change	
.510	.260	.244	16.350	.000	2.238

Source: SPSS 27.0, 2025

The fitness of the regression models was assessed using the R, R-square, F-statistics, and Durbin-Watson values. For the revenue collection model, the R value of 0.510 indicates a moderate relationship between accounting practices (record keeping and payroll accounting) and revenue collection. The R-square of 0.260 shows that the model explains about 26 percent of the variations in revenue collection, while the adjusted R-square of 0.244 confirms that the explanatory power remains stable after adjusting for

the number of predictors. The F-statistic of 16.350, which is significant at  $p = 0.000$ , demonstrates that the overall model is statistically fit in predicting revenue collection outcomes. Furthermore, the Durbin-Watson statistic of 2.238 is close to the benchmark value of 2.0, indicating that the model residuals are free from autocorrelation. This validates the model's reliability in explaining how accounting practices influence revenue collection in government-owned research institutes.

**Table 4.11: Model Summary for EXC**

R	R Square	Adjusted R Square	Change Statistics		Durbin-Watson
			F Change	Sig. F Change	
.388	.151	.132	8.239	.001	2.041

Source: SPSS 27.0, 2025

The expenditure control model produced an R value of 0.388, indicating a weaker but positive relationship between accounting practices and expenditure control, while the R-square of 0.151 showed that only 15 percent of the variation in expenditure control was explained by the model, with the adjusted R-square of 0.132 confirming acceptable stability after adjusting for predictors. The F-statistic of 8.239 ( $p = 0.001$ ) demonstrated statistical fitness, and the Durbin-Watson value of 2.041 ruled out

autocorrelation, indicating unbiased estimates. When compared with the revenue collection model—which explained 26 percent of the variation and had a stronger R value of 0.510—the results revealed that accounting practices were more effective in enhancing revenue collection than expenditure control in government-owned research institutes in Southeastern Nigeria. While record keeping and payroll accounting significantly contributed to prudent spending, a larger share of expenditure



outcomes was influenced by other institutional, administrative, and policy-related factors. Overall, both models were statistically fit, but accounting

practices proved more impactful in strengthening revenue collection mechanisms than in tightening expenditure control.

**Table 4.12: ANOVA**

	REC	EXC
<b>F-Statistics</b>	16.350	8.239
<b>Sig.</b>	.000	.001

Source: SPSS 27.0, 2025

The ANOVA results provide further confirmation of the overall model significance. For the revenue collection model, the F-statistic of 16.350 with a p-value of 0.000 indicates that the predictors, record keeping and payroll accounting, jointly have a statistically significant effect on revenue collection in government-owned research institutes. This means that variations in revenue collection are not due to chance but are meaningfully explained by the accounting practices considered in the study. For the expenditure control model, the F-statistic of 8.239 with a p-value of 0.001 also demonstrates statistical significance. This implies that record keeping and

payroll accounting together exert a meaningful influence on expenditure control within the institutes. Although the explanatory power is lower compared to revenue collection, the model is still valid in capturing the role of accounting practices in guiding how expenditures are monitored and managed. Overall, the ANOVA results confirm that the regression models for both revenue collection and expenditure control are statistically fit, reinforcing the conclusion that accounting practices are essential determinants of budget implementation in government-owned research institutes.

**Table 4.13: Regression Coefficients REC**

	REC			EXC		
	Coef.	t	Sig.	Coef.	t	Sig.
<b>RKG</b>	.075	.852	.397	.152	2.093	.039
<b>PRA</b>	.586	5.120	.000	.252	2.667	.009

Source: SPSS 27.0, 2025

The regression result shows that record keeping has a coefficient of 0.075 with a t-value of 0.852 and a p-value of 0.397. Since the p-value is greater than 0.05, the effect of record keeping on revenue collection is not statistically significant. Therefore, the null hypothesis failed to be rejected. This implies that in the studied institutes, record keeping practices alone do not significantly drive improvements in revenue collection, suggesting that the link between documentation and revenue mobilization is weak or indirect.

Payroll accounting shows a coefficient of 0.586 with a t-value of 5.120 and a p-value of 0.000. Since the p-value is less than 0.05, payroll accounting significantly affects revenue collection. The null hypothesis is rejected. This means payroll accounting strongly contributes to enhancing revenue collection by reducing payroll fraud, improving transparency, and ensuring proper allocation of financial resources within the institutes.

For expenditure control, record keeping has a coefficient of 0.152, a t-value of 2.093, and a p-value of 0.039. Since the p-value is less than 0.05, record keeping significantly influences expenditure control. The null hypothesis is rejected. This finding implies that proper documentation and systematic record keeping help to enforce accountability and ensure that

funds are spent in line with approved budgets in research institutes.

Payroll accounting has a coefficient of 0.252, a t-value of 2.667, and a p-value of 0.009. With the p-value below 0.05, payroll accounting is statistically significant in influencing expenditure control. The null hypothesis is rejected. This shows that payroll accounting systems help to monitor and control recurrent expenditure, minimize fraudulent payments, and improve cost management in the public sector research institutes.

**5. Conclusion and Recommendations**

In conclusion, the study demonstrated that accounting practices are critical to effective budget implementation in government-owned research institutes in South-Eastern Nigeria, though their influence varies across financial outcomes. Record keeping was found to have no significant effect on revenue collection, indicating that existing documentation processes are not strongly linked to revenue mobilization systems; however, it significantly improved expenditure control by enhancing tracking, reducing mismanagement, and ensuring alignment with budget provisions. Payroll accounting proved to be the most impactful practice, exerting a strong and significant effect on both revenue collection and expenditure control, largely

due to reforms such as IPPIS that promote transparency, eliminate fraud, and ensure accurate personnel cost management. Overall, the study concludes that strengthening accounting practices—especially payroll accounting and structured record-keeping systems—is essential for improving financial discipline, enhancing accountability, and ensuring more consistent and effective budget implementation within Nigeria's public-sector research institutes.

Based on the conclusion, the study recommends strengthening accounting practices to enhance budget implementation in government-owned research institutes.

First, record keeping should be modernized through digital and automated systems that directly support financial monitoring, helping improve documentation for expenditure control and reducing inconsistencies across institutes; this can be achieved through coordinated efforts by the Federal Ministry of Science, Technology and Innovation and the Office of the Accountant-General, with routine audits by the Auditor-General.

Second, because record keeping significantly improves expenditure control, institutes should reinforce documentation processes, conduct periodic internal audits, and provide continuous staff training through professional bodies such as ICAN and ANAN to maintain strong financial discipline.

Third, given the strong influence of payroll accounting on both revenue collection and expenditure control, full enforcement of payroll reforms such as IPPIS is essential, with continuous updates and integration of payroll data into financial management systems under the oversight of the Accountant-General's Office, NITDA, and the National Salaries, Incomes and Wages Commission.

Fourth, strict payroll management and frequent payroll audits should be institutionalized to regulate personnel costs, supported by the Budget Office of the Federation and monitored by the Auditor-General and EFCC to prevent fraud, curb leakages, and promote accountability in public-sector research institutes.

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