



OPTIMIZING THE EFFECTIVENESS OF TETFUND INTERVENTIONS IN HIGHER EDUCATION INSTITUTIONS: AN ANALYSIS OF BUREAUCRATIC EFFICIENCY, FUND UTILIZATION CAPACITY, MONITORING TRANSPARENCY AND INSTITUTIONAL GOVERNANCE AMONG FEDERAL AND STATE-OWNED INSTITUTIONS IN NORTHWESTERN NIGERIA

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ABSTRACT :

This study examines factors influencing Tertiary Education Trust Fund (TETFund) intervention effectiveness in federal and state-owned higher education institutions in Northwestern Nigeria. Utilizing a quantitative cross-sectional survey design, data were gathered from 400 academic staff across four universities. Descriptive statistics show a high level of perceived intervention effectiveness ($M = 4.0950$, $SD = 0.32882$). However, multiple regression analysis reveals that the joint linear model comprising Bureaucratic Efficiency, Financial Capacity and Disbursement, Monitoring and Transparency, Digital Tracking Tools and Institutional Governance was not statistically significant, $F(5, 394) = 1.400$, $p = .223$, $R^2 = .017$. Furthermore, hierarchical moderation analysis indicates that Institutional Governance does not significantly moderate the relationship between the implementation variables and intervention effectiveness ($\Delta R^2 = .007$, $p = .571$). These findings demonstrate a clear divergence between high subjective perceptions of intervention success and the statistical influence of internal institutional implementation processes, emphasizing the need for objective operational metrics in public sector evaluation.

Keywords: TETFund; higher education funding; bureaucratic efficiency; fund utilization capacity; monitoring transparency; digital tracking systems; institutional governance; Northwestern Nigeria.

1. INTRODUCTION

Public investment in higher education is often justified by its potential to drive national development, yet the practical value of such investment depends on the extent to which financial inputs are translated into tangible institutional outcomes. In Nigeria, the Tertiary Education Trust Fund (TETFund) represents a major public funding mechanism directed toward addressing infrastructural deficits, strengthening research capacity and improving the quality of higher education. The proposal underpinning this study identifies the growth of education tax revenues and the resulting financial disbursements to federal and state-owned institutions as an important development in the sector, while also drawing attention to uneven outcomes across institutions (TETFund, 2023).

A central implication of the higher-education funding literature is that the volume of resources available to an institution does not, by itself, determine the outcomes achieved. Institutional processes governing the acquisition, allocation, implementation, monitoring and accountability of resources are also consequential. Bureaucratic efficiency concerns the speed and coordination with which decisions are processed and projects implemented, while fund utilization capacity concerns whether resources can be accessed, allocated and deployed for their intended purposes. Monitoring transparency provides the accountability dimension by making project progress, reporting and verification more visible, while digital tracking systems provide technological mechanisms through which information about projects and funds can be recorded and followed. Institutional governance provides a broader organizational context within which all of these processes operate (OECD, 2022; World Bank, 2021; UNESCO, 2022; Teferra & Altbach, 2021).

These issues are particularly relevant to Northwestern Nigeria, where higher education institutions differ in their administrative arrangements, resource-management capacities and governance structures. The study therefore moves beyond the simple question of how much funding is provided and considers how institutional systems may condition the effectiveness of interventions. Its central concern is whether the administrative, financial, monitoring and governance arrangements surrounding TETFund interventions are associated with the extent to which academic staff perceive those

interventions as meeting institutional needs.

The study was designed around three research questions. The first asks the extent to which academic staff are satisfied with the effectiveness of TETFund interventions. The second examines the relationship between bureaucratic efficiency, fund utilization capacity, monitoring transparency, digital tracking systems and intervention effectiveness. The third considers whether institutional governance moderates the relationships between these implementation factors and intervention effectiveness. The corresponding objectives are to assess staff satisfaction, examine the direct relationships among the principal variables, and determine the moderating role of institutional governance.

The study is important because similar levels of public investment can coexist with different institutional outcomes. Understanding the organizational mechanisms associated with these differences can contribute to more evidence-based approaches to project implementation, financial management, monitoring and institutional accountability. The analysis is also relevant to the wider debate on whether improvements in public expenditure effectiveness require reforms in organizational capability in addition to increases in financial resources.

1.1 Statement of the Problem

Although TETFund has expanded financial support to Nigerian higher education institutions, the proposal identifies continuing concerns about delayed project execution, incomplete infrastructure, under-utilization of funds and weak alignment between interventions and institutional needs (TETFund, 2023; Okebukola, 2020). The underlying issue is not necessarily the absence of financial resources but the possibility that institutions differ in their ability to transform allocated resources into completed and useful interventions. Where procurement processes are slow, responsibilities are fragmented or approvals are delayed, project implementation can be affected even when funding has been made available.

Fund utilization capacity represents another dimension of the problem. Institutions must possess adequate financial planning, reporting and project-management capacity to deploy funds within the relevant timeframes. Weak financial discipline, limited planning capacity and difficulties associated with changing project costs can reduce the extent to which allocations are translated into completed projects (Adeniyi & Taiwo, 2021; Ogunode, 2022). Monitoring transparency is similarly important because limited access to project information, weak reporting and insufficient verification can reduce the ability of stakeholders to determine whether implementation is progressing as intended (UNESCO, 2022; Yusuf & Bello, 2023).

The proposal further identifies a gap in the treatment of institutional governance. Existing discussions frequently consider administrative efficiency, financial management and monitoring as separate issues. Less attention is given to the possibility that governance arrangements condition the strength of these relationships. Leadership, accountability mechanisms, institutional policies, oversight and conflict-resolution arrangements may determine whether administrative and financial systems are translated into effective outcomes. This study therefore integrates these variables in a single analytical framework focused on federal and state-owned institutions in Northwestern Nigeria.

1.2 Research Questions and Objectives

The study addresses three research questions. RQ1 asks: To what extent are academic staff satisfied with the effectiveness of TETFund interventions in federal and state-owned higher education institutions in Northwestern Nigeria? RQ2 asks: What is the relationship between bureaucratic efficiency, fund utilization capacity, monitoring transparency, digital tracking systems and the effectiveness of TETFund interventions? RQ3 asks: To what extent does institutional governance moderate the relationship between these implementation factors and intervention effectiveness?

The main objective is to examine the factors influencing the effectiveness of TETFund interventions in federal and state-owned higher education institutions in Northwestern Nigeria, with particular emphasis on institutional governance. Specifically, the study seeks to assess academic staff satisfaction with intervention effectiveness, examine the relationships between the four implementation factors and intervention effectiveness and determine the extent to which institutional governance moderates those relationships.

1.3 Research Hypotheses

The principal hypothesis structure stated in the proposal comprises five hypotheses. H1 states that bureaucratic efficiency has a significant positive relationship with TETFund intervention effectiveness. H2 states that fund utilization capacity has a significant positive relationship with intervention effectiveness. H3 states that monitoring transparency has a significant positive relationship with intervention effectiveness. H4 states that digital tracking systems have a significant positive relationship with intervention effectiveness. H5 states that institutional governance significantly moderates the relationship between the implementation factors and TETFund intervention effectiveness.

2. LITERATURE REVIEW

2.1 Conceptual Review

The effectiveness of public funding interventions in higher education can be understood as the extent to which financial inputs are translated into meaningful institutional outcomes, including improved infrastructure, enhanced research output and better teaching and learning conditions. Within the present study, TETFund intervention effectiveness therefore refers to the extent to which interventions meet institutional and academic needs. The proposal emphasizes that effectiveness depends on institutional capacity as well as funding volume. The World Bank (2021) emphasizes the effects of public-sector inefficiencies on education investment, while the OECD (2022) stresses the combination of financial resources and strong institutional processes. TETFund reports cited in the proposal similarly point to uneven outcomes across institutions, supporting an integrated rather than single-factor explanation.

Bureaucratic efficiency refers to the capacity of administrative systems to process decisions and implement projects in a timely and coordinated manner. Efficient bureaucracy should reduce unnecessary delays in approvals, procurement and project execution. Andrews, Pritchett and Woolcock (2017) describe the danger of institutional capability traps in which formal procedures exist without corresponding performance improvements, while Rasul and Rogger (2018) associate management practices with public-sector delivery. Meyer and Rowan (1977), however, provide a contrasting institutional perspective in which formal structures can sometimes serve legitimacy rather than operational efficiency. The implication is that the existence of procedures should not automatically be equated with effective implementation.

Fund utilization capacity concerns an institution's ability to access, allocate, manage and deploy financial resources for their intended purposes. Effective utilization requires more than the availability of funds; it requires financial planning, reporting, cost management and the ability to adapt budgets when project conditions change. Flyvbjerg (2021) identifies poor financial planning and weak cost management as recurring problems in public projects, while Johnstone (2020) links institutional financial management capacity to higher-education outcomes. The proposal also draws on Okebukola (2020) to emphasize the risks of weak financial discipline and planning in developing-country higher education.

Monitoring transparency concerns clear reporting, accessible information, project verification and accountability arrangements that enable stakeholders to follow the implementation of funded activities. Hood (2010) and Grimmelikhuijsen et al. (2013) connect transparency with accountability and public-sector performance. Digital tracking systems extend this concept by providing electronic mechanisms for recording project status, documentation and monitoring information. UNESCO (2022) identifies potential benefits in real-time tracking, data accuracy and evidence-based decision-making, while Heeks (2002) cautions that technological systems are dependent on institutional readiness and implementation capacity.

Institutional governance provides the organizational framework within which administrative, financial and monitoring processes operate. It includes leadership practices, policies, oversight, accountability mechanisms, resource-allocation arrangements and conflict-resolution processes. Teferra and Altbach (2021) emphasize the importance of governance to higher-education performance, while Gornitzka and Maassen (2020) highlight its role in coordination, accountability and strategic direction. In the present study, governance is treated primarily as a moderating condition: the assumption is not simply that governance independently produces effectiveness, but that the quality of governance may strengthen or weaken the extent to which administrative, financial and monitoring mechanisms translate into outcomes.

Taken together, the conceptual literature suggests that TETFund effectiveness is a multidimensional institutional phenomenon. Bureaucratic efficiency concerns implementation speed and coordination; fund utilization capacity concerns the deployment of financial resources; monitoring transparency concerns accountability and oversight; digital tracking concerns technological visibility of implementation; and institutional governance concerns the broader rules and leadership arrangements within which these processes occur.

2.2 Theoretical Framework

The study is anchored in Institutional Theory and Agency Theory. Institutional Theory emphasizes that organizational outcomes are shaped by formal structures, rules, norms and cultural expectations (Scott, 2014). This perspective helps explain why institutions operating under the same national policy and funding environment can produce different implementation outcomes. In the TETFund context, bureaucratic processes, financial procedures, monitoring practices and governance arrangements are institutional mechanisms that can either facilitate or constrain intervention effectiveness. DiMaggio and Powell (1983) further demonstrate how institutional environments can encourage organizations to adopt formal structures that may not always produce identical substantive outcomes. Agency Theory complements the institutional perspective by focusing on relationships between principals and agents, information asymmetry, monitoring and accountability (Jensen & Meckling, 1976). In this study, government and TETFund can be conceptualized as principals that provide resources and establish expectations, while higher education institutions act as implementing agents. Monitoring transparency and digital tracking systems are relevant because they can reduce information gaps and make the use of resources more visible. Governance mechanisms similarly provide oversight and incentives that may align institutional implementation with funding objectives. The combined framework conceptualizes bureaucratic efficiency, fund utilization capacity, monitoring transparency and digital tracking systems as

institutional mechanisms that may influence TETFund intervention effectiveness, while institutional governance is positioned as a moderating condition. This integrated perspective addresses the research gap identified in the proposal by considering not only whether individual implementation mechanisms matter, but also whether their effects depend on the institutional environment.

2.3 Conceptual Model

The conceptual model derived from the proposal positions bureaucratic efficiency, fund utilization capacity, monitoring transparency and digital tracking systems as the explanatory variables and TETFund intervention effectiveness as the outcome variable. Institutional governance is positioned as the moderator. In analytical terms, the proposed model assumes that intervention effectiveness may be represented as a function of these implementation mechanisms and their interactions with governance: $EI = f(BE, FC, MT, DT, IG, BE \times IG, FC \times IG, MT \times IG, DT \times IG)$. The presented results provide evidence for both the reported multiple-regression model and for the interaction terms.

3. RESEARCH METHODOLOGY

3.1 Research Design

The study adopts a quantitative research approach using a survey method within a cross-sectional research design. The quantitative approach is appropriate for measuring relationships among bureaucratic efficiency, fund utilization capacity, monitoring transparency, digital tracking systems, institutional governance and TETFund intervention effectiveness. The cross-sectional design permits data to be collected at one point in time and is suited to examining relationships among standardized measures across several institutions. The proposal identifies the survey approach as suitable for obtaining comparable responses from a relatively large group of academic staff.

3.2 Population, Study Institutions and Sampling Procedure

The population comprises academic staff of selected federal and state-owned universities in Northwestern Nigeria. The institutions deployed in the study are Sokoto State University, Abdullahi Fodio University of Science and Technology, Usmanu Danfodiyo University and Federal University Birnin Kebbi. The institutions were selected because of their involvement with TETFund interventions and their relevance to the study context. Purposive selection was used at the institutional level, followed by stratified random sampling to obtain representation across faculties, departments and academic ranks. 400 Questionnaires were distributed online and in person.

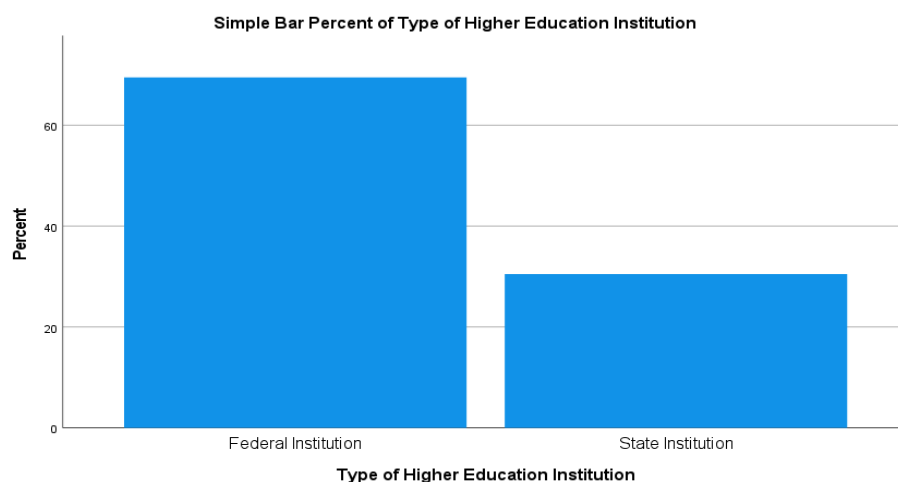


Figure 1: Institution Type

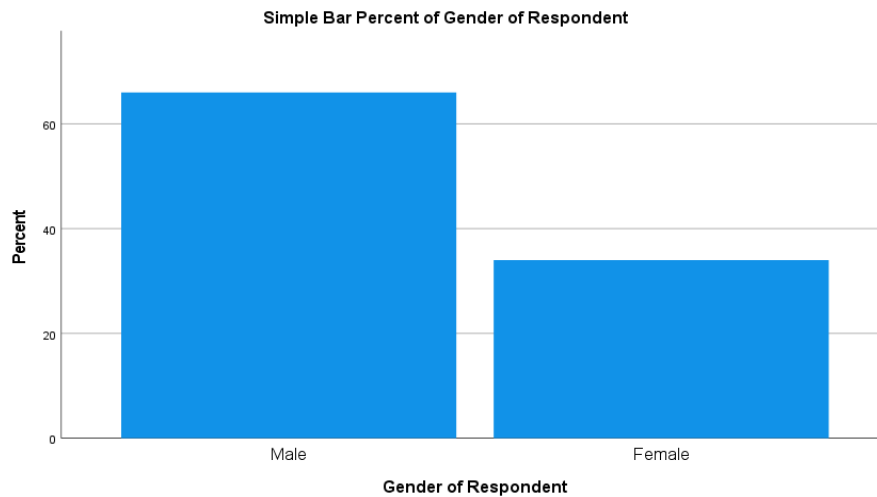


Figure 2 : Respondents Gender

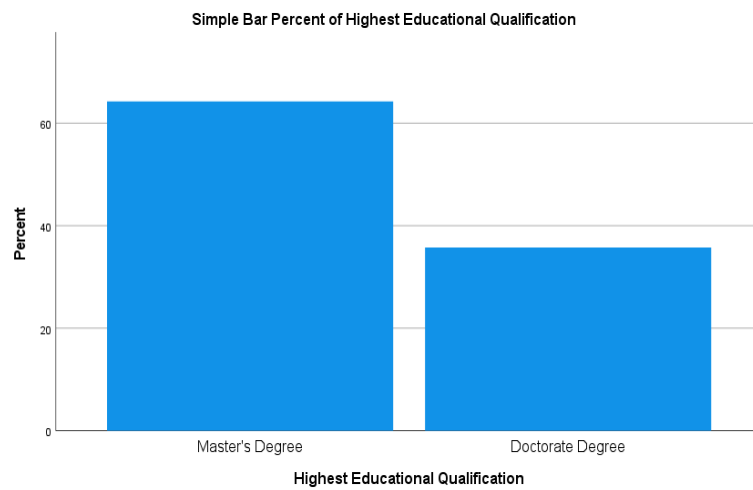


Figure 3 : Respondents Highest Educational Qualification

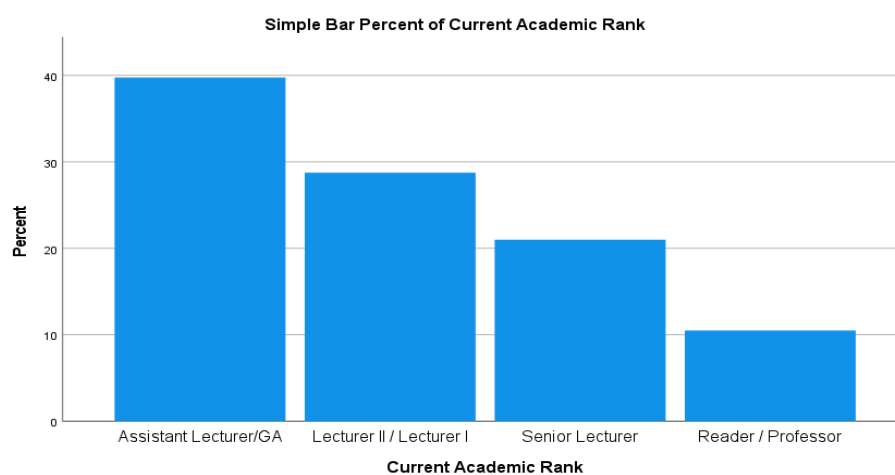


Figure 4 : Respondents Academic Ranking

3.3 Instrument and Measurement

Data were collected using a structured questionnaire based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The

instrument measured four explanatory constructs, bureaucratic efficiency, fund utilization capacity, monitoring transparency and digital tracking systems, one moderating construct, institutional governance and the dependent construct, TETFund intervention effectiveness. The questionnaire contained 30 items: five items for each of the four explanatory variables, six items for institutional governance and four items for intervention effectiveness. The measurement items were adapted from prior validated instruments identified in the proposal. Bureaucratic efficiency and governance measures were informed by Rasul and Rogger (2018) and Gornitzka and Maassen (2020); fund utilization and monitoring transparency measures were informed by Grimmelikhuisen et al. (2013) and Bertot et al. (2010); and digital tracking measures were informed by UNESCO (2022). Content validity was assessed through expert review by two academics, followed by minor revisions for clarity and relevance. A pilot study involving 30 academic staff outside the main sample was reported to have produced Cronbach's alpha values above 0.70 for all constructs, indicating acceptable internal consistency.

3.4 Operationalization of Variables

Table 1: Operationalization of study variables

Construct	Items	Measurement focus
Bureaucratic Efficiency (BE)	BE1–BE5	Clearance speed; internal approvals; grant-tranche timelines; procurement clearing; administrative overhead.
Fund Utilization Capacity (FC)	FC1–FC5	Absorptive capacity; utilization within timeframes; financial reporting; inflation-related budget adjustment; tranche requirements.
Monitoring Transparency (MT)	MT1–MT5	Transparent monitoring visits; audit-report accessibility; milestone criteria; third-party monitoring; implementation of monitoring feedback.
Digital Tracking Systems (DT)	DT1–DT5	Digital submission tracking; e-tracking; digital documentation; online monitoring; digital verification of milestones.
Institutional Governance (IG)	IG1–IG6	Leadership facilitation; governing-council oversight; continuity across transitions; equitable allocation; policy alignment; conflict resolution.
Intervention Effectiveness (EI)	EI1–EI4	Infrastructure meeting departmental needs; research/conference support; laboratory and teaching equipment; overall institutional capacity.

3.5 Data Analysis

IBM SPSS Statistics was deployed as the analytical platform. Descriptive statistics, including means and standard deviations, were intended to address the first research question. Multiple regression was specified for the direct relationships in the second research question, while hierarchical regression with interaction terms was specified for the moderation question.

4. RESULTS AND DISCUSSION

4.1 Research Question One

Research Question One asked the extent to which academic staff are satisfied with the effectiveness of TETFund interventions in federal and state-owned higher education institutions in Northwestern Nigeria. The generated descriptive statistics provide evidence from four effectiveness indicators. The mean scores are 4.10 for physical infrastructure interventions meeting departmental needs, 4.10 for research grants and conference sponsorships enhancing academic output, 4.05 for laboratory and teaching equipment improving training quality and 4.14 for the overall elevation of institutional capacity. The composite effectiveness score has a mean of 4.0950 and a standard deviation of 0.32882, based on 400 valid responses. The observed composite range is 3.50 to 5.00.

Table 2: Descriptive statistics for TETFund intervention effectiveness

Item	Indicator	N	Min.	Max.	Mean	SD
EI1	Physical infrastructure interventions meet departmental needs	400	3	5	4.10	0.709
EI2	Research grants and conference sponsorships enhance academic output	400	3	5	4.10	0.634
EI3	Laboratory and teaching equipment interventions improve training quality	400	3	5	4.05	0.639

EI4	Overall TETFund interventions significantly elevate institutional capacity	400	3	5	4.14	0.601
EI Composite	Overall intervention effectiveness	400	3.50	5.00	4.0950	0.32882

The descriptive pattern indicates that respondents generally reported positive perceptions of TETFund intervention effectiveness. The four item means are closely grouped, with the highest mean recorded for the statement that overall TETFund interventions significantly elevate institutional capacity ($M = 4.14$) and the lowest for laboratory and teaching equipment interventions improving training quality ($M = 4.05$). The small difference between these means suggests a relatively consistent perception across the four effectiveness dimensions. The composite standard deviation of 0.32882 also indicates comparatively limited dispersion around the mean. Thus, based on the supplied descriptive evidence, Research Question One is answered by a relatively high reported level of perceived intervention effectiveness among the 400 respondents.

4.2 Research Question Two

Research Question Two asks about the relationship between bureaucratic efficiency, fund utilization capacity, monitoring transparency, digital tracking systems and TETFund intervention effectiveness. The multiple-regression output reports a model containing Bureaucratic Efficiency (BE), Financial Capacity and Disbursement (FC), Monitoring and Transparency (MT), Digital Tracking Tools (DT) and Institutional Governance (IG). The model is not statistically significant, $F(5, 394) = 1.400$, $p = .223$, with $R^2 = .017$ and adjusted $R^2 = .005$. Consequently, the five-variable linear model explains only 1.7% of the observed variance in intervention effectiveness, leaving 98.3% associated with factors outside the scope of that regression specification.

Table 3: Reported multiple-regression model for intervention effectiveness

Predictor set	Specification	df	F	p	R ²	Adj. R ²
Model	BE + FC + MT + DT + IG	5, 394	1.400	.223	.017	.005

The individual coefficient results for four of the predictors are also statistically non-significant at the 5% level. Digital Tracking Tools has $\beta = -0.079$, $t = -1.574$, $p = .116$; Monitoring and Transparency has $\beta = -0.078$, $t = -1.539$, $p = .125$; Financial Capacity has $\beta = -0.053$, $t = -1.038$, $p = .300$; Institutional Governance has $\beta = 0.057$, $t = 1.141$, $p = .255$ and Bureaucratic Efficiency has $\beta = 0.005$, $t = 0.100$, $p = 0.920$.

Table 4: Reported individual regression coefficients

Predictor	β	t	p	Interpretation at $\alpha=.05$
Digital Tracking Tools (DT)	-0.079	-1.574	.116	Not significant
Monitoring & Transparency (MT)	-0.078	-1.539	.125	Not significant
Financial Capacity (FC)	-0.053	-1.038	.300	Not significant
Institutional Governance (IG)	0.057	1.141	.255	Not significant
Bureaucratic Efficiency (BE)	0.005	0.100	0.920	Not significant

The divergence between the high descriptive mean for intervention effectiveness (composite $M = 4.0950$, $SD = 0.32882$) and the weak explanatory power of the regression model ($R^2 = 1.7$) is noteworthy. While respondents simultaneously report that TETFund interventions are generally effective the specific institutional-process variables included in the model fail to explain the variation in those effectiveness perceptions. This indicates that respondents' positive evaluation of intervention outcomes is driven by factors not captured within the present regression specification, such as the tangible scale and type of infrastructure received, funding allocation size, project completion timelines, institutional traditions or individual academic discipline experiences. These contextual determinants warrant further investigation in subsequent research.

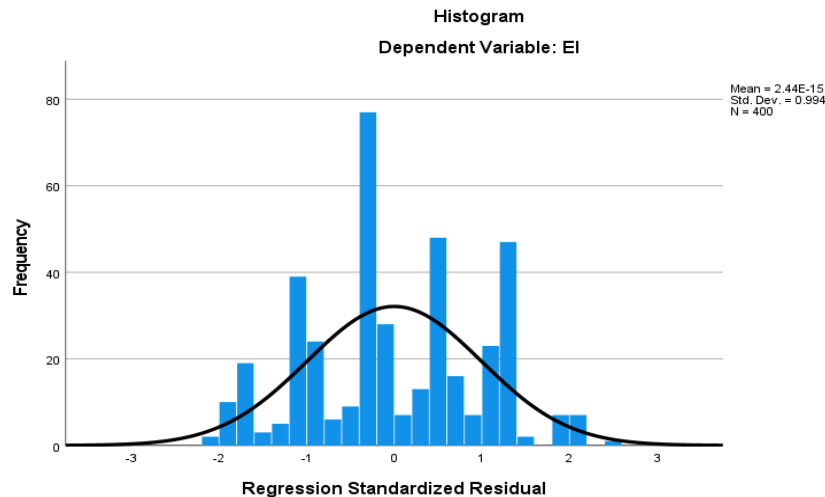


Figure 5: Regression Model satisfying basic parametric assumption

4.3 Research Question Three and Moderation

Research Question Three asks whether institutional governance moderates the relationships between the implementation variables and TETFund intervention effectiveness. To address this and test Hypothesis Five (H5), a hierarchical moderated regression analysis was performed. In Model 1, the standardized primary predictors (Bureaucratic Efficiency, Financial Capacity, Monitoring and Transparency, Digital Tracking Tools, and Institutional Governance) were entered, accounting for 1.7 of the variance in intervention effectiveness ($R^2 = .017$, $F(5, 394) = 1.400$, $p = .223$). In Model 2, the four interaction terms reflecting the moderating role of Institutional Governance were introduced. The addition of these interaction terms yielded an R^2 change of 0.007, indicating that governance moderation explained an additional 0.7% of the variance. However, this incremental model change was not statistically significant ($F\text{-Change}(4, 390) = 0.732$, $p = .571$). Consequently, Hypothesis 5 (H5) is not supported, demonstrating that Institutional Governance does not significantly moderate the impact of implementation variables on TETFund intervention effectiveness.

Table 5: Hierarchical Regression Analysis Testing the Moderating Role of Institutional Governance

Model Summary^c									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.132 ^a	.017	.005	.32800	.017	1.400	5	394	.223
2	.157 ^b	.025	.002	.32844	.007	.732	4	390	.571

a. Predictors: (Constant), Zscore(IG), Zscore(BE), Zscore(MT), Zscore(DT), Zscore(FC)

b. Predictors: (Constant), Zscore(IG), Zscore(BE), Zscore(MT), Zscore(DT), Zscore(FC), FC_x_IG, BE_x_IG, DT_x_IG, MT_x_IG

c. Dependent Variable: EI

Table 6: Regression Coefficients for Direct and Moderated Effects (Model 2)

Coefficients^a								
Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	4.095	.016		249.698	.000		
	Zscore(BE)	.002	.017	.005	.100	.920	.986	1.014
	Zscore(FC)	-.017	.017	-.053	-1.038	.300	.954	1.048
	Zscore(MT)	-.026	.017	-.078	-1.539	.125	.965	1.037
	Zscore(DT)	-.026	.017	-.079	-1.574	.116	.990	1.010
	Zscore(IG)	.019	.016	.057	1.141	.255	.994	1.006
2	(Constant)	4.095	.017		248.178	.000		
	Zscore(BE)	.003	.017	.008	.156	.876	.965	1.036
	Zscore(FC)	-.017	.017	-.050	-.983	.326	.950	1.053
	Zscore(MT)	-.021	.017	-.063	-1.202	.230	.897	1.115
	Zscore(DT)	-.030	.017	-.090	-1.760	.079	.953	1.049
	Zscore(IG)	.021	.017	.065	1.257	.210	.928	1.078
	BE_x_IG	-.010	.015	-.034	-.668	.505	.979	1.022
	FC_x_IG	.006	.016	.019	.369	.712	.969	1.032
	MT_x_IG	-.025	.027	-.049	-.904	.366	.861	1.161
	DT_x_IG	.023	.019	.061	1.199	.231	.954	1.048

a. Dependent Variable: EI

4.4 Discussion of Findings

Academic staff report high satisfaction with TETFund physical outcomes ($M = 4.0950$). However, internal operational parameters (bureaucratic speed, digital tools, financial management) fail to explain variance in perceived effectiveness ($R^2 = 0.017$). This indicates a decoupling between user satisfaction with physical assets and the administrative mechanisms used to deliver them. Similarly, the non-significance of bureaucratic efficiency ($p = 0.920$), fund utilization capacity ($p = 0.300$), monitoring transparency ($p = 0.125$) and digital tracking ($p = 0.116$) highlights that academic staff evaluate TETFund primarily by completed infrastructure and funding availability rather than process-level administrative efficiency. Moderating Role of Governance (H5) failed to show a significant moderating effect ($\Delta R^2 = 0.007$, $p = 0.571$). This suggests that broader governance structures operate independently of routine operational and project-tracking workflows in influencing end-user perceptions.

4.5 Hypothesis Testing

H1 which predicts a significant positive relationship between bureaucratic efficiency and intervention effectiveness is not supported by the reported coefficient because BE has $\beta = 0.053$, $p = 0.920$. H2, which predicts a significant positive relationship between fund utilization capacity and intervention effectiveness, is not supported by the reported coefficient because FC has $\beta = -.053$, $t = -1.038$ and $p = .300$. H3 is not supported by the reported coefficient because monitoring and transparency has $\beta = -.078$, $t = -1.539$ and $p = .125$. H4 is not supported by the reported coefficient because digital tracking tools have $\beta = -.079$, $t = -1.574$ and $p = .116$.

Table 5: Summary of hypothesis testing based on obtained results

Hypothesis	Relationship	Decision	Basis
H1	Bureaucratic efficiency Vs intervention effectiveness	Not supported	$\beta = 0.053$, $p = 0.920$
H2	Fund utilization capacity Vs intervention effectiveness	Not supported	$\beta = -.053$, $p = .300$.
H3	Monitoring transparency Vs intervention effectiveness	Not supported	$\beta = -.078$, $p = .125$.
H4	Digital tracking systems Vs intervention effectiveness	Not supported	$\beta = -.079$, $p = .116$.
H5	Institutional governance moderates predictor Vs effectiveness relationships	No significant moderation effect	($\Delta R^2 = 0.007$, $p = 0.571$)

5. Conclusion

This study reveals a distinct divergence in Nigerian higher education funding evaluation: while academic staff report high satisfaction with TETFund deliverables, internal administrative and governance implementation factors (bureaucratic efficiency, financial utilization, monitoring transparency, digital tracking, and governance) do not statistically explain variations in effectiveness ratings. Evaluation systems must therefore separate end-user satisfaction from internal administrative performance assessments.

Recommendations

- **Implement Objective Administrative Metrics:** TETFund and university leadership should rely on objective operational data (e.g., procurement lead times, project completion rates) rather than subjective perception surveys alone.
- **Optimize Internal Administrative Workflows:** Internal clearance procedures should be streamlined to reduce administrative overhead and accelerate project delivery timelines.
- **Integrate End-to-End Digital Platforms:** Digital tracking systems should be harmonized directly between institutional administrative units and TETFund headquarters to eliminate structural tracking bottlenecks.

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