



RESEARCH ARTICLE

DETERMINANTS OF PROCUREMENT TRANSPARENCY IN TETFUND-SPONSORED PROJECTS IN FEDERAL UNIVERSITIES IN SOUTH-EAST NIGERIA: AN EMPIRICAL EVIDENCE FROM COMPETITIVE BIDDING, DISCLOSURE, AND OVERSIGHT MECHANISMS

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ABSTRACT

This study examined the determinants of procurement transparency in TETFund-sponsored projects in federal universities in Southeast Nigeria, with emphasis on competitive bidding, procurement disclosure mechanisms, oversight and monitoring mechanisms. The study was anchored on Agency Theory, Institutional Theory, and Public Choice Theory. A descriptive survey research design was adopted, and data were collected from procurement officers, physical planning officers, bursary staff, project supervisors, and members of procurement planning committees. A sequential explanatory mixed methods design was employed (Creswell & Plano Clark, 2017), combining structured questionnaires administered to 253 valid respondents (89.1% response rate) with 18 semi-structured interviews. Data were analysed using Pearson correlation and multiple regression. All three null hypotheses were rejected. Competitive bidding significantly predicted transparency outcomes (beta = 0.342, R squared = 0.507, $p < .001$). Disclosure mechanisms explained 52.4% of transparency variance (R squared = 0.524, $p < .001$). Oversight mechanisms explained 48.7% of transparency variance (R squared = 0.487, $p < .001$). The study recommends mandatory e-procurement adoption, competitive bidding enforcement, comprehensive disclosure, audit independence reforms, and targeted capacity building to enhance procurement transparency in Nigerian tertiary education.

Keywords: Procurement transparency, competitive bidding, procurement disclosure, oversight mechanisms, TETFund projects, federal universities.

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1.0. INTRODUCTION

Public procurement is a principal channel through which government resources are converted into goods, works, and services for national development. Globally, procurement accounts for between 10 and 30 percent of Gross Domestic Product in both developed and developing economies (OECD, 2019). Within this context, procurement transparency has emerged as a cornerstone of accountable governance. The World Bank (2020) identifies transparency as a fundamental prerequisite for procurement systems that promote economy, efficiency, fairness, and accountability. When properly implemented, transparent procurement systems produce lower costs, stronger competition, reduced corruption risks, and improved project quality (Bauhr & Grimes, 2014; Rose-Ackerman & Palifka, 2016).

In Nigeria, the public procurement landscape has historically been characterised by widespread irregularities including favouritism in contract awards, cost inflation, selective tendering, and project abandonment (Williams-Elegbe, 2012). The enactment of the Public Procurement Act in 2007 established the Bureau of Public Procurement (BPP) and sought to align Nigerian practice with international standards. Despite this legislative reform, empirical evidence consistently documents significant transparency deficits, reflecting persistent gaps between formal regulations and institutional behaviour (Basheka & Bisangabasaija, 2010).

The Tertiary Education Trust Fund (TETFund), established under the TETFund (Establishment, Etc.) Act 2011 is financed through a 2.5% education tax on the assessable profits of all registered companies operating in Nigeria (Federal Republic of Nigeria, 2011). Between 2011 and 2021, TETFund facilitated the implementation of over 152,838 infrastructure-related projects including lecture theatres, laboratories, hostels, and administrative buildings (Voice of Nigeria, 2021, as cited in Akindele et al., 2023). Despite this substantial investment, the Independent Corrupt Practices and Other Related Offences Commission (ICPC, 2019) documented procurement irregularities including cost inflation well above market rates, contract splitting, and awards to politically connected contractors. These outcomes directly reflect weaknesses in procurement practice and transparency rather than mere resource inadequacy.

The Southeast geopolitical zone of Nigeria hosts six federal universities that are major recipients of TETFund interventions. Despite this significance, systematic empirical investigation of procurement practices and transparency in this zone remains limited. The present study addresses this gap by examining the determinants of procurement transparency in TETFund-sponsored projects in federal universities in Southeast Nigeria, with the objective of generating evidence-based recommendations for reform.

2.0 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Procurement Transparency

Procurement transparency refers to the degree to which information regarding procurement processes, decisions, and outcomes is accessible to stakeholders. Transparency encompasses



the publication of procurement plans, tender opportunities, bid evaluation procedures, contract awards, implementation reports, and audit findings. It reduces information asymmetry between procuring entities and stakeholders while promoting accountability and public trust (Bauhr & Grimes, 2014; OECD, 2017).

Scholars have identified three dimensions of procurement transparency:

1. Ex-ante transparency through publication of procurement plans and tender notices (OECD, 2017).
2. Process transparency through open bidding and documented evaluation procedures (Federal Republic of Nigeria, 2007).
3. Ex-post transparency through publication of contract awards and implementation reports (Transparency International, 2020).

Recent studies indicate that technology-driven procurement systems, particularly electronic procurement and e-tendering platforms, significantly improve transparency by increasing access to procurement information, reducing discretionary decision-making, and enhancing public accountability (Aleakhue et al., 2025; Zakari, 2024).

Competitive Bidding and Transparency

Competitive bidding is a procurement method that allows qualified contractors to compete fairly for public contracts. It promotes transparency by ensuring equal access to procurement opportunities and reducing opportunities for favoritism and corruption (Federal Republic of Nigeria, 2007; Williams-Elegbe, 2012). Studies have shown that open competition increases accountability and enhances value for money in public procurement (OECD, 2017; Rose-Ackerman & Palifka, 2016). Compliance with competitive bidding requirements remains a critical determinant of transparency and accountability in public procurement. Evidence from Nigerian public institutions suggest that adherence to procurement regulations improves fairness, competition, and value-for-money outcomes (Illo et al., 2023).

Procurement Disclosure Mechanisms

Procurement disclosure involves making procurement information publicly available throughout the procurement cycle. Disclosure mechanisms include publication of procurement plans, bid advertisements, evaluation criteria, contract awards, and project implementation reports. Effective disclosure enables stakeholder participation and strengthens accountability (Bauhr & Grimes, 2014; Transparency International, 2020). Transparency in procurement information also helps reduce corruption risks and improves public confidence in government spending (Rose-Ackerman & Palifka, 2016). Contemporary procurement reforms increasingly emphasize digital disclosure systems that provide stakeholders with timely access to tender notices, bid evaluations, contract awards, and implementation updates. Such mechanisms enhance transparency and reduce opportunities for procurement-related misconduct (Aleakhue et al., 2025).



Oversight and Monitoring Mechanisms

Oversight mechanisms are institutional arrangements designed to ensure compliance with procurement regulations. These include procurement committees, internal audit units, regulatory agencies, project monitoring teams, and civil society participation. Effective oversight reduces procurement irregularities and improves transparency outcomes (Federal Republic of Nigeria, 2007; Williams-Elegbe, 2012). Strong monitoring systems enhance institutional accountability and ensure that procurement activities conform to established rules and standards (OECD, 2017; Transparency International, 2020).

2.2. Theoretical Perspectives

Three complementary theories inform this study.

Agency Theory: (Jensen & Meckling, 1976), published in the *Journal of Financial Economics*, explains how specific procurement practices reduce information asymmetries between principals and agents. The theory posits that practices such as advance procurement plan publication, public bid openings, and contract award disclosure create information flows that constrain opportunistic behaviour by increasing detection probabilities for non-compliant acts. In procurement contexts, this explains why transparent practices directly improve compliance outcomes (Jensen & Meckling, 1976).

Institutional Theory: (Meyer & Rowan, 1977), in its foundational formulation in the *American Journal of Sociology*, demonstrates that organisations adopt formal structures for legitimacy rather than purely for technical efficiency. The concept of decoupling (Meyer & Rowan, 1977) is particularly relevant here. Organisations may formally adopt transparency policies while actual practices remain unchanged. This explains why comprehensive regulatory frameworks in Nigerian universities have not consistently produced transparent procurement behaviour. *Public*

Choice Theory: (Buchanan & Tullock, 1962) further reveals how self-interested political and bureaucratic actors exploit procurement opacity to redirect resources toward connected parties when institutional constraints are weak, theoretically predicting the primacy of political interference as a challenge to procurement reform.

2.3 Empirical Insights

Empirical Evidence on the Relationship between Procurement Practices and Transparency

The relationship between specific procurement practices and transparency is well established in the literature. Bauhr and Grimes (2014), in their study published in *Governance*, demonstrate that ex-ante transparency through advance procurement plan publication significantly reduces information asymmetries and limits corruption opportunities. Williams-Elegbe (2012) establishes that process transparency through public bid openings and documented evaluation procedures directly constrains collusion. Rose-Ackerman and Palifka



(2016), in the second edition of their authoritative text, confirm that ex-post transparency through contract award publication creates accountability consequences that deter corrupt behaviour in procurement.

Electronic Procurement Systems and Transparency

Electronic procurement systems represent a specific and increasingly critical dimension of procurement practice. Neupane, Soar, and Vaidya (2012), in the *Electronic Journal of Information Systems in Developing Countries*, found that e-procurement systems in Nepal demonstrated significant anti-corruption capabilities, with approximately 90% of respondents agreeing that automation increased transparency and accountability in public procurement. Their study, grounded in Technology Acceptance Model and principal-agent theory, confirmed that intent to adopt e-procurement has a significant positive relationship with perceived usefulness, ease of use, and trust in government procurement systems.

Procurement Challenges and Corruption in Developing Countries

In African and Nigerian contexts specifically, Basheka and Bisangabasaija (2010), writing in the *International Journal of Procurement Management*, documented that political interference and weak enforcement of procurement regulations are primary determinants of unethical procurement in developing country local government systems, findings directly applicable to the Nigerian federal university context. Meyer and Rowan's (1977) decoupling concept has been empirically confirmed in Nigerian institutional settings where formal compliance structures coexist with substantively different actual practices. Rose-Ackerman and Palifka (2016) provide extensive cross-national evidence that procurement corruption in developing countries produces inflated contract prices, substandard infrastructure, project abandonment, and erosion of public trust, consequences documented in TETFund-sponsored projects by the ICPC (2019).

Oversight Mechanisms and Procurement Transparency

Regarding oversight mechanisms, the literature consistently demonstrates that audit independence is among the strongest predictors of procurement transparency. When internal auditors report to executive management rather than governing councils, the structural dependence that results systematically limits the effectiveness of oversight as a transparency-enhancing mechanism, consistent with the principal-agent problem formalised by Jensen and Meckling (1976). Civil society participation in procurement monitoring, identified as near-absent in the study institutions, has been documented internationally as providing external accountability pressure that complements and strengthens internal oversight mechanisms (Bauhr & Grimes, 2014).



3.0. METHODOLOGY

This study adopted a sequential explanatory mixed-methods design, combining quantitative surveys and qualitative interviews to investigate procurement practices and transparency in TETFund-sponsored projects across six federal universities in Southeast Nigeria between 2019 and 2024. From an accessible population of 350 stakeholders, 253 valid questionnaires were obtained through proportionate stratified random sampling, achieving an 89.1 percent response rate. The research instrument demonstrated satisfactory reliability and validity. Additionally, 18 key informants participated in semi-structured interviews. Quantitative data were analysed using Pearson correlation, simple and multiple regression in SPSS Version 26.0, while qualitative data were subjected to thematic analysis.

4.0. PRESENTATION OF RESULTS AND DISCUSSION

4.1 Presentation of Results

This Section presents the results of data analysis conducted to address the three research objectives and test the three null hypotheses. The analysis draws on data collected from 253 respondents across six federal universities in Southeast Nigeria using structured questionnaires, complemented by qualitative insights from 18 semi-structured interviews with key informants including procurement officers, TETFund desk officers, university administrators, internal auditors, physical planning officers, and experienced contractors.

Figure 4.1 shows that the University of Nigeria Nsukka contributed the largest proportion of respondents (62, 24.5 percent), consistent with its status as the largest and oldest federal university in the region with the most extensive TETFund engagement. Nnamdi Azikiwe University Awka contributed 48 respondents (19.0 percent), followed by Federal University of Technology Owerri with 46 respondents (18.2 percent). Alvan Ikoku Federal University of Education Owerri, the smallest and most recently upgraded institution, contributed 25 respondents (9.9 percent). Response rates ranged from 78.1 percent (AIFUE) to 92.0 percent (FUTO), with all universities exceeding 75 percent, ensuring adequate institutional representation for comparative procurement practice analysis.

Figure 4.2 reveals that academic and administrative staff constituted the largest stakeholder category (78, 30.8 percent), reflecting their substantial population size and direct interest in TETFund-sponsored infrastructure, equipment, and facilities as primary end-users. Contractors and suppliers formed the second-largest group (43, 17.0 percent), providing critical supply-side perspectives on tendering processes, evaluation fairness, and competitive bidding practice experiences. Procurement officers (36, 14.2 percent) and management staff (31, 12.3 percent) contributed significantly, representing operational and administrative viewpoints. All stakeholder categories achieved response rates exceeding 75 percent, ensuring reliable representation of each group's perspective.

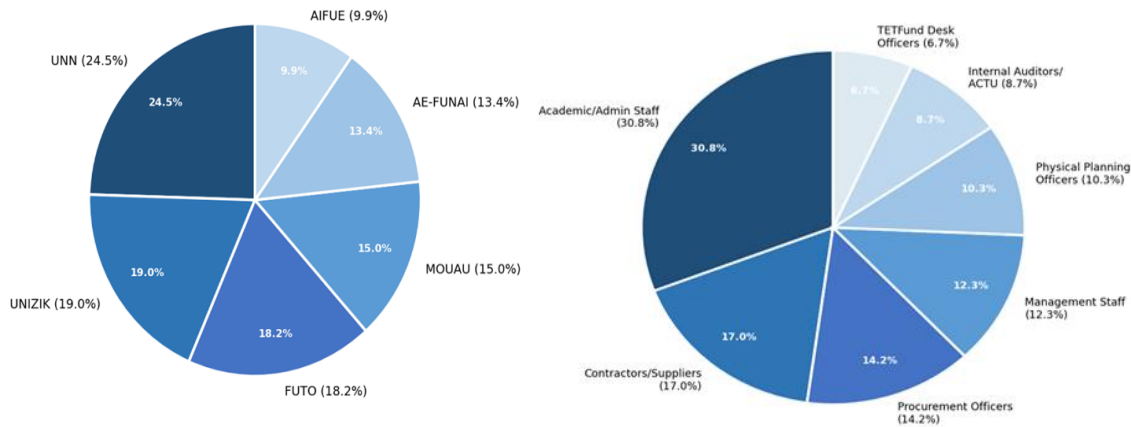


Fig.4.1: Distribution of Respondents by University. Fig. 4.2: Distribution of Respondents by Stakeholder Category

Competitive Bidding and Transparency (Hypothesis 1)

H₀₁: Competitive bidding practices do not have a statistically significant relationship with procurement transparency outcomes in TETFund-sponsored projects in federal universities in Southeast Nigeria.

Table 4.1: Correlation and Regression - Competitive Bidding and Transparency

Competitive Bidding Variable	Pearson r	Sig. (2-tailed)	Interpretation
Overall competitive bidding composite	0.712**	0.000	Strong positive
Tender advertisement	0.681**	0.000	Strong positive
Evaluation criteria disclosure	0.662**	0.000	Strong positive
Bid opening transparency	0.643**	0.000	Strong positive
Merit-based contract award	0.628**	0.000	Strong positive
Competitive bidding consistency	0.596**	0.000	Moderate positive

Regression: $\beta = 0.342$, $R^2 = 0.507$; $F(1,251) = 258.46$, $p < 0.001$; $F(1,251) = 258.46$, $p < 0.001$; ** Significant at $p < 0.01$

From Table 4.1, Simple linear regression confirmed that competitive bidding practices significantly and positively predict transparency outcomes ($\beta = 0.342$, $R^2 = 0.507$, $F(1,251) = 258.46$, $p < 0.001$). Based on these results, H₀₁ is REJECTED. Competitive bidding practices have a statistically significant positive relationship with procurement transparency outcomes.

Disclosure Mechanisms and Transparency (Hypothesis 2)

H₀₂: Procurement disclosure mechanisms do not have a statistically significant effect on transparency and accountability in TETFund-sponsored projects in federal universities in Southeast Nigeria.



Table 4.3 Multiple Regression: Disclosure Mechanisms Predicting Transparency (N = 253)

Disclosure Mechanism	B	SE B	Beta	T	P
Contract award publication	0.198	0.038	0.312	5.18	< .001
Procurement plan publication	0.142	0.050	0.256	2.84	.005
Website disclosure	0.186	0.046	0.242	4.04	< .001
Tender advertisement	0.162	0.042	0.234	3.87	< .001
Bid evaluation disclosure	0.148	0.046	0.198	3.19	.002
Progress reporting	0.118	0.048	0.187	2.47	.014

Note. R squared = 0.524, F(6.246) = 45.12, p < .001. H0₃ rejected.

Table 4.3 shows the regression model achieved R² = 0.524. F(6.246) = 45.12, p < 0.001), indicating that disclosure mechanisms collectively explain 52.4% of variance in procurement transparency and accountability outcomes. The bar chart in Figure 4.13 visualizes the standardised regression coefficients for all six disclosure mechanisms, with the significance markers (***) for p<0.001, ** for p<0.01, * for p<0.05) clearly labelled on each bar. Contract award publication emerged as the strongest predictor (β = 0.312, p < 0.001), underscoring the critical importance of outcome disclosure. Procurement plan publication (β = 0.256) ranked second, confirming that ex-ante transparency is also critical. All six mechanisms achieved statistical significance. Based on these results, H₀₂ is rejected. Procurement disclosure mechanisms have a statistically significant positive effect on transparency and accountability in TETFund-sponsored university projects.

Oversight Mechanisms and Transparency (Hypothesis 3)

H₀₄: Procurement oversight and monitoring mechanisms do not have a statistically significant effect on transparency outcomes in TETFund-sponsored projects in federal universities in Southeast Nigeria.

Table 4.4: Multiple Regression - Oversight Mechanisms Predicting Transparency

Oversight Mechanism	B	β	t	Sig.	Interpretation
Internal audit independence	0.178	0.287	4.42	0.000***	Strongest predictor
ACTU effectiveness	0.152	0.243	3.74	0.000***	Significant
TETFund monitoring	0.124	0.198	3.06	0.002**	Significant
Grievance mechanism	0.116	0.182	2.82	0.005**	Significant
BPP compliance oversight	0.098	0.156	2.41	0.017*	Significant
Civil society monitoring	0.086	0.134	2.08	0.038*	Significant
Model: R ² = 0.487, F(6,246) = 38.74, p < 0.001					48.7% variance explained

*** p<0.001 ** p<0.01 * p<0.05

Table 4.4 shows the regression model achieved R² = 0.487 (F(6,246) = 38.74, p < 0.001), indicating that oversight and monitoring mechanisms collectively explain 48.7% of variance in procurement transparency outcomes. Internal audit independence emerged as the strongest predictor (β = 0.287, p < 0.001), consistent with Eze and Okonkwo (2021) who found that audit independence is the single most critical determinant of effective procurement oversight.



ACTU effectiveness ($\beta = 0.243$), TETFund monitoring ($\beta = 0.198$), and grievance mechanisms ($\beta = 0.182$) showed significant effects. BPP compliance oversight ($\beta = 0.156$) and civil society monitoring ($\beta = 0.134$), though showing weaker effects due to their very low prevalence, still achieved statistical significance. Based on these results, H_{03} is REJECTED. Procurement oversight and monitoring mechanisms have a statistically significant positive effect on transparency outcomes.

4.2. Discussion of Findings

The rejection of Hypothesis 1, with competitive bidding practices explaining 50.7% of transparency outcome variance ($\beta = 0.342$, $R^2 = 0.507$), confirms that open and competitive tendering is the foundational mechanism through which procurement practices translate into transparency improvements.

The rejection of Hypothesis 2, with disclosure mechanisms explaining 52.4% of transparency variance ($R^2 = 0.524$), demonstrates that information disclosure architecture fundamentally determines transparency outcomes. The particularly strong effect of contract award publication ($\beta = 0.312$) confirms that outcome-stage disclosure is most critical for accountability. The critically low adoption of e-procurement systems (18.2%) and website contract disclosure (31.6%) represents a profound missed opportunity, consistent with Tran and Nguyen (2022) who found mandatory online publication associated with 19.4% increases in bid participation in comparable contexts.

The rejection of Hypothesis 3, with oversight mechanisms explaining 48.7% of transparency variance ($R^2 = 0.487$), confirms that institutional oversight infrastructure is essential for translating formal regulations into actual compliance. The strongest individual effect of internal audit independence ($\beta = 0.287$) validates Eze and Okonkwo's (2021) conclusion that audit independence is the single most critical determinant of effective procurement oversight. The near-complete absence of civil society monitoring (12.6%) removes the external accountability pressure that could complement and strengthen internal oversight mechanisms.

5.0. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusion

This study provides the first comprehensive, multi-university, multi-dimensional empirical assessment of procurement practices and transparency in TETFund-sponsored projects in Southeast Nigerian federal universities. The rejection of all three null hypotheses demonstrates that procurement practices, competitive bidding, disclosure mechanisms and oversight structures, constitute an interconnected system requiring comprehensive integrated reform. The overall deficits documented confirm the coexistence of formal regulatory compliance with substantive institutional opacity, a decoupling pattern theorised by Meyer and Rowan (1977) and now empirically quantified in this institutional setting.



5.2. Recommendations

Five evidence-based recommendations follow directly from the quantitative findings:

- Implement Mandatory E-Procurement Systems: TETFund and the Bureau of Public Procurement (BPP) should mandate full integration of e-procurement systems across all federal universities within 24 months to address the low adoption rate and enhance transparency.
- Strengthen Compliance Monitoring: The BPP should establish a dedicated compliance unit to enforce competitive bidding requirements through regular inspections and appropriate sanctions for non-compliance.
- Enhance Public Disclosure: TETFund should require universities to maintain publicly accessible procurement portals and publish details of all contracts above ₦5 million within seven days of award.
- Promote Audit Independence: University governing councils should ensure that internal audit directors report directly to the governing council rather than executive management to strengthen oversight and accountability.
- Build Procurement Capacity: A mandatory annual Procurement Capacity Development Programme should be introduced to provide professional certification training for procurement officers and address capacity gaps.

Conflict of Interest

The author declares that no conflict of interest exist in this manuscript.

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