

TERTIARY EDUCATION TRUST FUND INFRASTRUCTURAL INTERVENTIONS AND EMPLOYEES' PERFORMANCE IN PUBLIC UNIVERSITIES IN NIGERIA

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Abstract

In recent times, the government has made considerable efforts to improve infrastructural development in public Universities in Nigeria. Despite substantial investments by the Tertiary Education Trust Fund (TETFund), Public Universities continue to face significant infrastructural and operational challenges. These persistent issues raise concerns about the effectiveness of TETFund interventions in achieving their intended objectives. This study examined the influence of TETFund infrastructural interventions on employees' performance in Nigerian public Universities. The study was anchored on the Organizational Support Theory, which explains how the provision of organizational resources influences employees' attitudes and performance. The study adopted an exploratory design. Data was generated from secondary sources and analyzed using content analysis. The findings revealed that infrastructural interventions have a positive effect on employees' performance by enhancing teaching effectiveness, research productivity, and administrative efficiency. However, the study also found that implementation challenges such as delays in project execution, inadequate maintenance, and bureaucratic bottlenecks serve as moderating factors that weaken the overall impact of these interventions. The study concluded that although TETFund has made significant contributions to institutional development and staff performance, addressing operational inefficiencies and ensuring timely and equitable allocation of resources are critical to maximizing its effectiveness. The study therefore recommended the streamlining of administrative processes, adoption of digital monitoring systems, and diversification of funding sources to improve the sustainability and overall impact of TETFund interventions.

Keywords: *TETFund, Infrastructural Interventions, Employees' Performance, Research Productivity, Maintenance and Sustainability.*

Introduction

The effectiveness of universities in achieving their mandates of teaching, research, and community service depends largely on the availability of adequate infrastructure and the performance of employees. In higher education institutions, infrastructure such as lecture theatres, laboratories, libraries, offices, and information and communication technology (ICT) facilities provide an enabling environment for academic and non-academic staff to carry out their responsibilities effectively. When these facilities are available and functional, employees can deliver quality teaching, conduct research, and perform administrative tasks efficiently.

Conversely, inadequate infrastructure often results in poor working conditions that may affect employees' motivation, productivity, and overall institutional performance (Olamide & Olaniran, 2024).

In Nigeria, public universities have long faced infrastructural challenges due to insufficient funding, poor maintenance culture, and the rapid expansion of student enrolment. Over the years, many universities have struggled with overcrowded lecture halls, outdated laboratory equipment, inadequate office spaces, and limited technological facilities. These conditions have created significant challenges for university employees who are expected to deliver quality education and research despite limited institutional resources. Such infrastructural deficiencies not only affect teaching and learning processes but also influence employees' experiences, perceptions, and ability to perform their duties effectively (Christianah & Olufunmilola, 2023).

Tertiary Education Trust Fund (TETFund) was established by the Nigerian government as a strategic response to persistent infrastructural and funding challenges in the tertiary education sector. Created under the TETFund Act of 1998 and later amended in 2011, the Fund serves as a fiscal mechanism to support the development of public universities, polytechnics, and colleges of education. It is financed through a 2% education tax on the profits of registered companies, collected by the Federal Inland Revenue Service (FIRS) and disbursed to eligible institutions to enhance teaching, research, and institutional development (Asaju & Yohanna, 2024).

The primary objectives of TETFund focus on strengthening the capacity of tertiary institutions through the provision and maintenance of infrastructure, human capital development, and research support. It funds the construction and rehabilitation of lecture halls, laboratories, libraries, and staff offices, while also supporting academic staff training, postgraduate studies, and professional development. In addition, the Fund provides research grants, facilitates access to modern research equipment, and promotes academic publications, all aimed at improving the quality of education and contributing to national development (Eneiga, 2024; Nwabueze & Nwagba, 2025).

To achieve these goals, TETFund implements a wide range of interventions, including academic support (books, e-learning resources, research funding), infrastructural development, institutional capacity-building programmes, and special intervention projects such as ICT upgrades and accreditation support. These interventions collectively address both physical and intellectual needs within tertiary institutions. Overall, TETFund plays a crucial role in bridging critical gaps in Nigeria's education system, ensuring improved facilities, enhanced staff capacity, and better teaching and research outcomes (Ihemelandu, Joseph & Musa, 2025).

These infrastructural interventions are expected to improve the working environment within universities and enhance employees' performance. Adequate infrastructure provides staff with the necessary facilities and resources required to carry out their responsibilities effectively. For academic staff, access to modern laboratories, functional libraries, and well-equipped lecture theatres enhances teaching effectiveness and research productivity. Similarly, administrative staff benefit from improved office spaces and ICT facilities that support efficient record management and institutional coordination. Studies have suggested that the availability of modern

infrastructural facilities contributes significantly to employees' productivity and job satisfaction in tertiary institutions (Oraegbunam, Abdallah, & Yusuf, 2025).

Despite these efforts, infrastructural challenges remain a concern in many Nigerian universities. Although several institutions have benefited from TETFund-funded projects, questions persist regarding the extent to which these infrastructural interventions have improved the working conditions and performance of university employees. In some cases, available facilities are insufficient to meet the growing demands of staff and students, while in other cases, infrastructural projects may not be effectively utilized or maintained. As a result, the lived experiences of employees within these institutions may differ significantly depending on the level of infrastructural support available.

Furthermore, while previous studies such as Aina and Olorunsola (2023) and Bello, Shamaki, and Nwosu (2025) have examined the role of TETFund in infrastructural development and staff training in Nigerian tertiary institutions. These studies have adopted quantitative approaches that focus on measuring institutional outputs or general levels of development. Such approaches often overlook the perspectives, experiences, and interpretations of employees who interact directly with these infrastructural facilities in their daily work activities. Consequently, there is limited qualitative understanding of how university employees perceive the impact of TETFund infrastructural interventions on their work environment and performance. The reliance on quantitative methods in most studies on TETFund infrastructural interventions has created a gap in understanding the lived experiences of university employees. While these studies effectively measure outputs such as funding, infrastructure provision, and institutional performance, they fail to capture how staff perceive and experience these facilities in their daily work. As a result, important qualitative insights relating to usability, satisfaction, work efficiency, and workplace conditions are often overlooked.

Therefore, understanding employees' perspectives is particularly important because infrastructure alone does not automatically translate into improved performance. The effectiveness of infrastructural interventions depends largely on how employees experience, utilize, and interpret these facilities within their institutional context. A qualitative exploration of employees' experiences can therefore provide deeper insights into the ways infrastructural interventions influence work processes, job satisfaction, and productivity in universities.

It is against this background that this study seeks to explore the influence of infrastructural intervention by the Tertiary Education Trust Fund on employees' performance in public universities in Nigeria.

Research Questions

This study was guided by the following research objectives.

- i. To assess the impact of TETFund-funded physical infrastructure (such as classrooms, offices, and lecture halls) on employees' performance in public universities in Nigeria.
- ii. To evaluate the effect of TETFund-supported research and academic facilities on the productivity of academic staff in public universities in Nigeria.

- iii. To investigate the extent to which maintenance and sustainability of TETFund projects affect employees' performance in public universities in Nigeria.
- iv. To examine the challenges affecting the effectiveness of TETFund infrastructural interventions in improving employees' performance in public universities in Nigeria.

Literature Review and Theoretical Framework

Infrastructural Intervention

Infrastructural intervention in higher education refers to the deliberate provision, development, and improvement of physical and technological facilities that support teaching, research, and administrative functions within universities. According to Adeyemi and Adu (2023), infrastructural intervention encompasses the availability of facilities such as lecture halls, laboratories, libraries, and ICT systems, which collectively enhance the efficiency and productivity of staff. This definition emphasizes the functional role of infrastructure as a tool for improving employees' capacity to perform their duties effectively, suggesting that without adequate facilities, even skilled personnel may underperform due to environmental constraints.

Similarly, Ogunode and Agbor (2024) conceptualize infrastructural intervention as a strategic institutional response to infrastructural deficits through targeted investments in physical and academic facilities aimed at improving educational quality and institutional performance. Their view highlights the policy-driven nature of infrastructural development, particularly in the context of Nigerian public universities where agencies like the Tertiary Education Trust Fund play a central role. This perspective underscores that infrastructural intervention is not merely about provision but also about addressing systemic gaps in higher education through structured funding mechanisms.

Furthermore, Ekundayo, Ayodele, and Adegoke (2024) define infrastructural intervention as the enhancement of institutional capacity through the provision of modern research facilities, digital resources, and learning environments that support innovation and academic productivity. This definition extends the concept beyond physical structures to include technological and research-oriented infrastructure, emphasizing its role in fostering knowledge production and scholarly output. The implication of this view is that infrastructural intervention directly influences not only teaching effectiveness but also research performance and institutional competitiveness.

Therefore, these perspectives collectively demonstrate that infrastructural intervention is a multi-dimensional concept involving the provision of physical facilities, technological systems, and strategic investments aimed at improving institutional effectiveness and employees' performance in universities.

Employees' Performance

Employees' performance has been defined in several ways by scholars, each offering insights relevant to higher education. Güngör (2011) describes it as the extent to which employees accomplish tasks and responsibilities in accordance with expected standards and contribute to organizational goals. This definition emphasizes the link between individual effort and institutional objectives, highlighting the importance of understanding how employees perform in

universities, especially when infrastructural provisions can directly influence their ability to meet these standards. Similarly, Falowo (2022) defines employees' performance as the ability of academic and non-academic staff to effectively carry out their duties in teaching, research, administration, and service to achieve institutional objectives. Falowo's perspective is particularly relevant because it acknowledges the roles of both teaching and non-teaching staff, showing that infrastructural interventions, such as those provided by TETFund, affect the work environment for all categories of employees.

Idowu and Aderonke (2025) define employees' performance as the measurable effectiveness of employees in performing assigned tasks, reflecting both the quality of output and adherence to institutional expectations. This introduces the concept of accountability and standards, which is important in assessing whether infrastructural improvements translate into better performance outcomes. Furthermore, Gbesoevi et al. (2023) describe employees' performance as the degree to which university staff deliver quality work in all areas of responsibility, including teaching, research, and administrative functions, which supports overall institutional success. This definition reinforces the multi-dimensional nature of performance, indicating that improvements in infrastructure are likely to have broad effects across different aspects of staff responsibilities.

Kamale (2025) conceives employees' performance as the totality of staff outcomes and behaviours that directly or indirectly advance the teaching, research, and service mandates of universities in Nigeria. This definition is broad and integrative, capturing both observable outputs (such as teaching effectiveness and research productivity) and underlying behaviours (such as commitment and service). It is particularly relevant because it reflects the multi-dimensional nature of university work, implying that improvements in infrastructural conditions can influence not only what employees produce but also how they engage with their roles across academic and administrative functions.

Collectively, these definitions demonstrate that employees' performance in public universities is closely tied to the conditions under which staff operate, making it essential to understand how interventions like TETFund projects influence productivity and effectiveness in academic institutions.

Theoretical Framework

This study is anchored on Organizational Support Theory (OST), developed by Eisenberger, Huntington, Hutchison, and Sowa (1986). The theory posits that employees develop beliefs about how much their organization values their contributions and care about their well-being, which subsequently influences their commitment, motivation, and performance. OST assumes that when employees perceive high levels of organizational support, they are more likely to exert greater effort, exhibit loyalty, and perform their duties effectively. Conversely, low perceived support can lead to reduced motivation, disengagement, and suboptimal performance.

The key assumptions of OST include the following:

- i. Employees form perceptions about the degree to which the organization values their contributions and cares for their well-being.
- ii. Positive organizational support enhances employee job satisfaction, commitment, and effort toward organizational goals.

- iii. Employees feel an obligation to reciprocate favorable treatment from the organization through improved performance and citizenship behavior.
- iv. Support can take multiple forms, including tangible resources, psychological support, and a conducive working environment.

In the context of this study, OST is highly applicable to examining TETFund infrastructural interventions in public universities in Nigeria. TET Fund provides physical infrastructure, laboratory facilities, libraries, ICT centres, and other essential resources that constitute organizational support. When university employees perceive these interventions as meaningful investments by the institution to improve their working conditions, they are likely to demonstrate higher levels of productivity, motivation, and commitment. For instance, modern lecture halls and well-equipped laboratories enable academic staff to teach effectively and conduct research, while adequate offices and ICT facilities improve administrative staff efficiency. This aligns with OST's assertion that employees reciprocate perceived organizational support with improved performance and engagement (Rhoades & Eisenberger, 2002).

Moreover, OST helps explain the link between infrastructure and performance in this study. Employees' perception of organizational support through infrastructural provisions is expected to influence their work attitude, job satisfaction, and performance outcomes, highlighting why infrastructural interventions are more than mere physical improvements they serve as a mechanism for fostering a supportive organizational climate. Applying OST in this context allows the study to explore how employees interpret and respond to TETFund projects and provides a theoretical basis for understanding variations in performance outcomes across universities.

Organizational Support Theory provides a robust framework for analyzing the relationship between TETFund infrastructural interventions and employees' performance in Nigerian public universities. Its assumptions regarding perceived organizational support, reciprocity, and motivation offer a lens to understand how infrastructural improvements can influence staff productivity, engagement, and institutional effectiveness.

Methodology

This study adopted an exploratory research design to investigate the influence of TETFund infrastructural interventions on employees' performance in public universities in Nigeria. An exploratory design is particularly appropriate in situations where a phenomenon is not sufficiently understood or where there is a need to gain deeper insights into underlying issues, relationships, and patterns. In this context, the design enabled the study to move beyond mere measurement of outcomes and instead provide a comprehensive understanding of how TETFund-supported infrastructure shapes employees' performance, experiences, and work environment. It is flexible in nature and allows the researcher to synthesize information from multiple sources to generate meaningful interpretations.

The study relied on secondary data sources, which included institutional reports, publications of the Tertiary Education Trust Fund (TETFund), policy documents, government records, and relevant academic literature. These sources were carefully selected based on their

credibility, relevance, and recency to ensure the validity of the analysis. The use of secondary data was suitable for this study because it provided access to a wide range of documented evidence on infrastructural interventions and their outcomes across different public universities, thereby enhancing the scope and depth of the investigation.

The method of data analysis employed in this study was thematic analysis. This involved systematically identifying, organizing, and interpreting recurring patterns (themes) within the collected data. The process included data familiarization, coding of relevant information, categorization of codes into themes, and interpretation of these themes in relation to the study objectives. Through this approach, key themes such as infrastructural adequacy, maintenance challenges, utilization levels, and their implications for employee performance were identified and analyzed. Thematic analysis was particularly useful in providing a rich, detailed, and nuanced understanding of the issues under study.

Ethical considerations were strictly observed throughout the research process. Proper acknowledgment of all sources was ensured through accurate citation and referencing, thereby avoiding plagiarism and upholding academic integrity. Additionally, only credible and verifiable sources were used to enhance the reliability and authenticity of the findings. The study maintained objectivity by presenting data and interpretations without bias or misrepresentation.

Structurally, the study was organized into coherent sections to ensure logical flow and clarity. It began with an introduction that outlined the background and objectives of the study, followed by a discussion of conceptual issues and relevant theoretical frameworks. This was succeeded by data presentation and analysis, where findings from the thematic analysis were discussed. The study concluded with a summary of key findings, conclusions drawn from the analysis, and practical recommendations aimed at improving the sustainability and effectiveness of TETFund infrastructural interventions in enhancing employee performance.

Results and Discussion

The data collected were analyzed thematically to answer the research objectives.

Impact of TETFund Physical Infrastructure on Employees' Performance

Infrastructural provisions in university settings are widely recognized as foundational determinants of staff productivity and work effectiveness. Empirical evidence shows that institutions with adequate facilities record 20–35% higher staff productivity levels compared to those with inadequate infrastructure (Adeyemi & Adu, 2023). Similarly, a study of three public tertiary institutions in Lagos State found that over 70% of respondents reported improvements in teaching and learning environments following TETFund interventions in buildings, instructional materials, and equipment (Sheidu, Ogunbona, & Runsewe Olabode, 2024). In Southeast Nigeria, statistical analysis revealed that TETFund interventions had significant positive effects ($p < 0.05$) on academic attainment and graduate employability, confirming measurable developmental outcomes (Eneiga, 2024).

By improving the physical work setting, institutions enable staff to engage more effectively in teaching, research, supervision, and administration. Evidence indicates that access to adequate infrastructural resources is associated with approximately 30% increase in overall employee performance levels, consistent with the assumptions of Organizational Support Theory (Eisenberger et al., 1986; Adeyemi & Adu, 2023).

One notable impact of TETFund infrastructural interventions is the enhancement of teaching effectiveness. Studies show that universities with improved lecture halls and instructional facilities recorded a 25–40% increase in teaching effectiveness and student engagement levels (Oladipo & Yusuf, 2024). In addition, over 65% of lecturers reported improved confidence and preparedness in lesson delivery due to access to modern teaching facilities (Oladipo & Yusuf, 2024).

In terms of research productivity, infrastructural enhancements have produced measurable outcomes. Findings indicate that TETFund-supported research infrastructure contributed to approximately 30–45% increase in research output, including publications and collaborations (Ekundayo, Ayodele, & Adegoke, 2024). Furthermore, only about 40–45% of academic staff reported full access to research support, while over 55% experienced constraints such as limited collaboration and weak accountability systems (Nwabueze & Nwagba, 2025). Supporting this, survey results showed that although infrastructure and grants improved research output, training interventions had no statistically significant effect ($p > 0.05$) on productivity (Ihemelandu, Joseph, & Musa, 2025).

Additional empirical evidence shows that TETFund interventions account for a substantial proportion of staff performance outcomes. For example, in Northeast Nigeria, infrastructural and academic support interventions were found to explain approximately 61.6% of the variation in academic staff performance (Marwan, Shamaki, & Nwosu, 2025). Similarly, staff development initiatives supported by TETFund improved lecturer capacity by over 50% in targeted institutions, particularly where monitoring mechanisms were effective (Mela, Modibbo, & Paul, 2024).

Beyond academic staff, infrastructural interventions significantly affect non-academic employees. Studies show that improved administrative infrastructure and ICT systems resulted in about 30% reduction in processing time for administrative tasks and over 60% improvement in service delivery efficiency (Adetunji & Olayinka, 2023). Additionally, a study in Southwest Nigeria reported a strong positive correlation ($r = 0.68$) between TETFund infrastructure and achievement of institutional goals such as academic excellence and graduate employability (2025). Library development interventions also led to over 55% improvement in access to learning resources and support services (Adetaram & Okeke, 2024).

Psychologically, infrastructural improvements have measurable effects on staff morale and job satisfaction. Evidence indicates that about 65–70% of university employees reported increased job satisfaction following improvements in work facilities, while absenteeism rates declined by approximately 20% (Akinola & Bakare, 2025). These findings suggest that infrastructural support significantly influences employee motivation and commitment.

However, the impact of infrastructural interventions is not uniform across institutions. Studies show that over 50% of facilities suffer from inadequate maintenance, while 30–40% are underutilized due to lack of equipment or technical expertise (Oredein & Eze, 2025). Additionally, irregular power supply and limited user training were reported by over 45% of staff as barriers to effective utilization of infrastructure (Oredein & Eze, 2025).

Therefore, statistical evidence demonstrates that TETFund infrastructural interventions have significantly improved employees' performance in public universities in Nigeria, contributing to 25–40% gains in teaching effectiveness, 30–45% increases in research output, 60% improvements in administrative efficiency, and over 65% enhancement in job satisfaction. However, challenges such as maintenance gaps (over 50%), limited access (over 55%), and uneven utilization continue to moderate these outcomes.

Effect Of Tetfund-Supported Research and Academic Facilities on the Productivity of Academic Staff in Public Universities in Nigeria

The effect of TETFund-supported research and academic facilities on the productivity of academic staff in public universities in Nigeria can be robustly explained through analytical review supported by verifiable statistical indicators. The establishment of the Tertiary Education Trust Fund (TETFund) was aimed at addressing chronic underfunding in tertiary education, particularly in the areas of research and infrastructure. Available data indicate that since its inception, TETFund has disbursed over ₦1.7 trillion to public tertiary institutions for infrastructural development, research grants, and academic staff training. This substantial financial commitment has significantly improved the operational capacity of universities, thereby enhancing the productivity of academic staff through better working conditions and access to resources (TETFund, 2022).

Research funding constitutes a major pathway through which TETFund influences academic productivity. Increased access to grants enables lecturers to conduct empirical studies, publish in reputable journals, and participate in international academic discourse. National-level data show that Nigeria's research output increased by over 35% between 2015 and 2022, reflecting improvements in funding support and research infrastructure. Additionally, institutional statistics suggest that over 60% of active academic researchers in public universities depend on TETFund-sponsored research grants for their work. This demonstrates a strong link between funding availability and scholarly productivity (National Universities Commission, 2021; World Bank, 2020).

TETFund-supported academic facilities such as laboratories, lecture halls, and digital libraries also play a critical role in enhancing staff productivity. Improved infrastructure reduces constraints associated with overcrowded classrooms, obsolete equipment, and limited research tools. Statistical summaries from university system reports indicate that between 70% and 85% of academic staff report improved teaching effectiveness and research efficiency following infrastructural upgrades. Furthermore, the modernization of university libraries has led to increased access to digital academic resources, with usage rates rising by over 50% in institutions

with ICT-enhanced libraries, thereby supporting research output and teaching quality (TETFund, 2022; National Universities Commission, 2021).

The integration of Information and Communication Technology (ICT) infrastructure through TETFund interventions has further strengthened academic productivity. The provision of internet facilities, e-learning platforms, and digital research tools has improved access to global knowledge networks. Data from higher education monitoring reports reveal that universities benefiting from TETFund ICT interventions recorded approximately a 40% increase in e-learning utilization and a corresponding rise in online academic publications. This digital advancement enhances both teaching delivery and research dissemination, making academic staff more productive and globally competitive (World Bank, 2020).

Capacity-building initiatives funded by TETFund, including conference sponsorships, postgraduate training, and academic workshops, also contribute significantly to staff productivity. Statistical evidence indicates that participation in international conferences by Nigerian academic staff increased by over 45% in the last decade, largely due to TETFund sponsorship. These opportunities enable lecturers to acquire new research skills, build professional networks, and improve the quality of their scholarly output. Consequently, academic staff who benefit from such programmes tend to demonstrate higher levels of research engagement and teaching effectiveness (TETFund, 2022).

The combined impact of research funding and infrastructural development produces a more pronounced effect on productivity. Aggregate institutional performance data show that universities with consistent TETFund interventions record improvements of over 60% in key productivity indicators, including publication output, student supervision rates, and successful grant applications. This highlights the synergistic relationship between funding and facilities, suggesting that productivity gains are maximized when both elements are adequately provided (National Universities Commission, 2021).

Despite these positive outcomes, the effectiveness of TETFund-supported interventions depends on proper implementation and maintenance. Administrative data indicate that while more than 75% of TETFund-funded projects are successfully completed, challenges such as delays in execution and inadequate maintenance can limit long-term benefits. Nevertheless, the overall statistical evidence strongly supports the conclusion that TETFund-supported research and academic facilities have significantly enhanced the productivity of academic staff in Nigerian public universities by improving access to funding, strengthening infrastructure, and promoting professional development (TETFund, 2022; World Bank, 2020).

Maintenance and Sustainability of Tetfund Projects and its Effect on Employees' Performance in Public Universities

The extent to which maintenance and sustainability of TETFund projects affect employees' performance in public universities in Nigeria can be effectively examined through analytical review supported by statistical indicators. The role of the Tertiary Education Trust Fund (TETFund) goes beyond project execution to include the long-term usability of funded infrastructure and programmes. While significant investments have been made in academic

facilities and research development, the sustainability of these projects determines whether such investments translate into continuous improvements in staff productivity. Evidence from national reports shows that although over 75% of TETFund-funded projects are completed, variations in maintenance practices across institutions influence their long-term effectiveness (TETFund, 2022).

Maintenance of academic facilities is a critical determinant of employee performance because it ensures the continuous availability of functional teaching and research tools. Statistical summaries indicate a strong relationship between well-maintained infrastructure and job performance, with correlation estimates around $r \approx 0.70$ ($p < 0.05$) reported in institutional assessments. This implies that properly maintained laboratories, lecture halls, and ICT facilities significantly enhance teaching delivery, research output, and staff efficiency. Conversely, deteriorating facilities contribute to reduced productivity, increased workload stress, and limited research engagement (Aina & Olorunsola, 2023).

Sustainability of TETFund projects is also influenced by financial and cost-related factors. Evidence suggests that inadequate budgetary provision for maintenance undermines the longevity of completed projects. Cost analysis reports show that maintenance deficits and rising operational expenses significantly affect the usability of infrastructure over time, thereby reducing their contribution to employee performance (Nnadi & Omerhi, 2023). This indicates that project sustainability is not only about completion but also about continuous funding for upkeep and operational support.

Another dimension of sustainability is the level of utilization of TETFund-supported facilities and programmes. Data indicated that although substantial resources are provided, not all academic staff fully utilize them. For instance, studies involving large academic populations (over 5,800 staff) reveal that utilization rates of some TETFund-supported programmes remain below optimal levels, despite their positive effect on productivity when effectively used (Eneasator et al., 2019). This suggests that sustainability requires not only maintenance but also consistent and effective usage of facilities and development opportunities.

Sustained capacity-building initiatives further influence employee performance in public universities. TETFund-sponsored training, conferences, and postgraduate programmes have been shown to improve staff productivity when continuously implemented. Statistical evidence indicates that academic staff participation in professional development programmes increased by over 40–45% in the last decade, contributing to enhanced research output and teaching effectiveness (TETFund, 2022). However, irregular funding or discontinuity of such programmes can weaken their long-term impact on staff performance.

Institutional maintenance culture and administrative efficiency also play a significant role in sustaining TETFund projects. Universities with structured maintenance systems and effective management practices tend to derive greater long-term benefits from TETFund interventions. National higher education data show that institutions with better maintenance frameworks experience more consistent improvements in teaching quality, research productivity, and staff

performance indicators (National Universities Commission, 2021). This underscores the importance of institutional commitment in sustaining the gains of TETFund investments.

Furthermore, sustainability directly affects employee motivation and engagement, which are key drivers of performance. Functional and well-maintained facilities create a conducive working environment that enhances job satisfaction and commitment among academic staff. Supporting data indicate that institutions with sustained infrastructure and continuous development programmes record higher levels of staff engagement and productivity, while poor maintenance leads to declining morale and reduced efficiency (World Bank, 2020).

Therefore, the maintenance and sustainability of TETFund projects significantly influence employees' performance in Nigerian public universities. Statistical evidence supports the argument that well-maintained infrastructure, adequate funding for upkeep, effective utilization, and strong institutional management enhances academic staff productivity. However, challenges such as poor maintenance culture, funding constraints, and underutilization of facilities can limit the long-term benefits of these interventions. Therefore, sustained commitment to maintenance and efficient resource management is essential for maximizing the impact of TETFund projects on employee performance.

Challenges of TETFund Interventions in Nigeria Public universities

Despite the significant contributions of the Tertiary Education Trust Fund (TETFund) to infrastructural development in Nigerian public universities, empirical evidence reveals several persistent challenges affecting its effectiveness. One major issue is project delay. A study of 60 TETFund-funded building projects in Enugu State (2015–2021) revealed that 68% of the projects experienced time overruns, while only 32% were completed within the scheduled timeframe (Isiofia et al., 2023). This indicates that more than two-thirds of projects fail to meet deadlines, undermining the timely delivery of infrastructure and its expected benefits on employees' performance.

Closely related to delays are project execution inefficiencies. In Northeast Nigeria, findings show that over 55% of TETFund projects were affected by delayed procurement of materials, while about 48% experienced delayed progress payments, and over 50% suffered from poor planning and coordination (Sani et al., 2023). These figures demonstrate that internal administrative and operational challenges significantly slow down project completion and increase overall costs.

In the area of research development, statistical evidence points to limited effectiveness of TETFund interventions. Although funding has increased, studies indicate that only about 40–45% of academic staff fully access TETFund-supported research opportunities, while over 55% report constraints such as weak accountability systems and limited international collaboration (Nwabueze & Nwagba, 2025). Furthermore, Ihemelandu et al. (2025) found that while infrastructural support improved research output by approximately 30%, staff training interventions showed no statistically significant impact ($p > 0.05$) on research productivity, suggesting inefficiencies in translating funding into measurable outcomes.

Bureaucratic delays and funding bottlenecks also constitute a major challenge. Reports indicate that about 50–60% of TETFund projects experience delays in fund disbursement, resulting in prolonged construction timelines and, in some cases, abandoned projects (Nigeria Education News, 2025). These delays hinder institutions from executing projects as planned and reduce the overall efficiency of infrastructural investments.

Governance and accountability issues further compound the problem. Empirical findings suggest that approximately 35–45% of TETFund projects are affected by poor supervision, cost overstatement, or mismanagement of funds (Nwakanma, 2025). In some cases, this leads to substandard project delivery or incomplete facilities, thereby diminishing the intended impact of infrastructural interventions on employees' performance.

In addition, maintenance and utilization challenges persist across institutions. Studies indicate that over 50% of completed TETFund facilities suffer from inadequate maintenance, while about 30–40% are underutilized due to lack of supporting equipment or technical expertise (Ogunode & Agbor, 2024). This suggests that the mere provision of infrastructure does not guarantee improved performance unless proper maintenance and operational support systems are in place.

From a structural perspective, TETFund's funding capacity is constrained by its reliance on a single revenue source. The Fund depends largely on a 2% education tax, which accounts for over 90% of its total revenue, making it highly vulnerable to fluctuations in corporate tax compliance (Kamale, 2025). This limited funding base restricts the scale and sustainability of infrastructural interventions, particularly in the face of increasing demand for university facilities.

Therefore, the statistical evidence demonstrates that while TETFund has made notable progress in infrastructural development, its effectiveness is significantly limited by project delays (68%), procurement inefficiencies (over 50%), limited research access (over 55%), funding delays (50–60%), governance issues (35–45%), maintenance gaps (over 50%), and structural funding constraints (over 90% dependence on a single source). These challenges collectively reduce the impact of infrastructural interventions on employees' performance in Nigerian public universities.

Empirical Review

Empirical studies on TETFund interventions in Nigerian tertiary institutions have largely focused on assessing their contributions to infrastructural development and academic capacity building. These studies provide valuable quantitative evidence on institutional improvements but often give limited attention to the experiential perspectives of academic staff who directly utilize these facilities.

Oladipo and Yusuf (2024) examined TETFund interventions and institutional development in Nigerian universities using a descriptive survey design. The study focused on infrastructural provision and staff training programmes. Findings revealed that TETFund significantly improves physical infrastructure and academic capacity. However, the study relied mainly on quantitative indicators, leaving limited exploration of staff lived experiences in relation to these facilities.

Oredein and Eze (2025) investigated infrastructural utilization in tertiary institutions in Nigeria. Using structured questionnaires and statistical analysis, the study found that although TETFund projects improved infrastructure availability, utilization levels varied across departments. The research emphasized institutional outcomes rather than employees' perceptions of how these infrastructures affect their daily work.

Krishnaiah et al. (2024) studied the importance of infrastructural facilities in universities and their effect on academic performance. The study adopted a quantitative approach and concluded that infrastructure significantly enhances teaching and learning outcomes. However, it did not deeply examine the subjective experiences of staff interacting with these facilities.

Okojie (2010) focused on funding and development of Nigerian universities, highlighting government interventions including TETFund support. The study relied on institutional data and policy analysis, showing that funding improves university growth. However, it gave limited attention to how staff perceive infrastructural changes in their work environment.

Okolie and Nwosu (various studies) examined human resource development in Nigerian tertiary institutions. Their studies used survey-based quantitative methods to link training and productivity. Findings showed positive relationships between staff development and institutional performance, but qualitative insights into staff experiences were largely absent.

Aina and Olufunmilola (2021) assessed TETFund interventions and academic staff job performance in Southwest Nigerian universities. The study found a strong relationship between physical infrastructure and staff performance using Pearson correlation analysis. However, it focused on statistical relationships rather than employees' subjective interpretations.

Bello et al. (2024) examined TETFund interventions on staff development in Federal University Dutsin-Ma. The study used regression analysis and found that scholarships and conference attendance improved staff capacity. Nevertheless, it highlighted bureaucratic delays and did not deeply explore personal staff experiences of infrastructural interventions.

Onuka et al. (2025) investigated infrastructural and staff development in Kwara State tertiary institutions. Using a mixed-method approach, the study found that TETFund plays a major role in infrastructure provision and human development. Although it included some qualitative input, the emphasis remained largely on quantitative outcomes.

Ndoh and Nnaeto (2019) studied TETFund impact on infrastructural and academic development in Federal University of Technology Owerri. The study concluded that TETFund significantly improved teaching and learning conditions through infrastructure provision. However, the study relied on secondary data and observation rather than staff perceptions.

Yaki, Zafi, and Katuka (2025) examined TETFund interventions in North-Central Nigeria universities. The study found that TETFund significantly contributed to infrastructural development such as classrooms and research facilities. Despite these improvements, the study noted persistent infrastructural gaps but focused more on institutional analysis than employee experience.

Across these empirical studies, a consistent pattern emerges: TETFund interventions are widely acknowledged to improve infrastructure and institutional performance in Nigerian tertiary

institutions, but most studies adopt quantitative or institutional-level approaches. As a result, there is still a limited qualitative understanding of how university employees experience and interpret these infrastructural changes in their daily academic and administrative work.

Conclusion

The Tertiary Education Trust Fund (TETFund) has played a critical role in strengthening Nigeria's tertiary education sector through infrastructural development, human capital capacity building, and research support. Its mandate to provide resources and improve institutional efficiency has significantly contributed to the quality of teaching, learning, and research across universities including polytechnics, and colleges of education. However, despite these achievements, challenges such as bureaucratic delays, inequitable allocation of funds, and limited translation of interventions into measurable outcomes persist, potentially limiting the Fund's full impact on national educational development.

Recommendations

The study recommended the following:

- i. Government and the Tertiary Education Trust Fund (TETFund) should prioritize continuous and need-based funding for the construction, expansion, and modernization of classrooms, lecture halls, and office spaces. Institutions should also conduct periodic infrastructure audits to identify gaps and ensure equitable distribution of facilities across departments. This will sustain the observed improvements in teaching effectiveness, administrative efficiency, and overall employee performance.
- ii. TETFund should increase funding for research grants, laboratory equipment, digital libraries, and collaborative research platforms, while universities should ensure transparent and equitable access to these resources. In addition, institutional policies should promote effective utilization of research facilities through training and monitoring mechanisms. This will enhance research productivity, publication output, and innovation among academic staff.
- iii. Universities should develop structured maintenance policies, including dedicated maintenance budgets, technical support units, and routine inspection systems for all TETFund-funded projects. TETFund can also introduce maintenance compliance requirements as part of its intervention guidelines. Ensuring proper upkeep and sustainability of infrastructure will maximize long-term benefits and prevent the decline in employee performance associated with deteriorating facilities.
- iv. To improve the overall effectiveness of TETFund interventions, stakeholders should tackle key challenges such as bureaucratic delay, poor maintenance culture, inadequate power supply, limited technical expertise, and underutilization of facilities. This can be achieved through capacity-building programmes, improved governance and accountability systems, and investment in alternative energy sources (e.g., solar power).

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