



International Journal Advanced Research Publications

IMPACT OF UNDERFUNDING AND RESOURCE MANAGEMENT ON THE QUALITY OF EDUCATION IN NIGERIAN TERTIARY INSTITUTIONS

Ibanga Sunday Ekpe^{*1}, Uduak Patrick Akpan² and Helen Ime Billy³

Department of Industrial Technology Education, Faculty of Vocational Education, Library and Information Science, University of Uyo, Nigeria.¹

Department of Sociological Foundations of Education, Faculty of Education, University of Uyo, Nigeria.²

Department of Curriculum Studies, Educational Management and Planning, University of Uyo, Nigeria.³

Article Received: 23 December 2025, Article Revised: 12 January 2026, Published on: 01 February 2026

*Corresponding Author: Ibanga Sunday Ekpe

Department of Industrial Technology Education, Faculty of Vocational Education, Library and Information Science, University of Uyo, Nigeria.

DOI: <https://doi-doi.org/101555/ijarp.6248>

ABSTRACT

The quality of education in Nigerian tertiary institutions has increasingly come under scrutiny due to persistent underfunding and weaknesses in resource management. Despite the critical role of higher education in human capital development, research advancement, and national transformation, many Nigerian universities, polytechnics, and colleges of education operate under severe financial and governance constraints. This article examines the extent to which inadequate funding and inefficient resource management affect the quality of education in Nigerian tertiary institutions. Drawing on a synthesis of recent empirical and policy-based evidence, the paper analyses how funding shortfalls and management deficiencies influence infrastructure development, teaching effectiveness, research productivity, staff motivation, student learning experiences, and graduate outcomes. The study reveals that chronic underinvestment, when combined with weak financial governance, poor planning, and limited accountability, creates systemic inefficiencies that undermine academic standards and institutional stability. These challenges manifest in deteriorating facilities, overcrowded learning environments, frequent academic disruptions, limited research output, and declining labour market relevance of graduates. The article argues that sustainable improvement in

educational quality requires an integrated approach that addresses both funding adequacy and the effectiveness of resource utilisation. It concludes that strengthening financial commitment to tertiary education, improving institutional governance, and aligning resource allocation with quality assurance mechanisms are essential for revitalising Nigerian tertiary institutions and enhancing their contribution to national development and global knowledge production.

KEYWORDS: Underfunding, Resource Management, Educational Quality, Tertiary Institutions, Nigeria.

1. INTRODUCTION

Tertiary education occupies a central position in national development by producing skilled manpower, fostering innovation, advancing research, and strengthening institutional capacity for economic and social transformation. Across the globe, higher education institutions serve as engines of knowledge creation and dissemination, supporting competitiveness in an increasingly knowledge-driven global economy. In developing countries such as Nigeria, tertiary institutions are particularly critical, as they are expected to address developmental challenges through human capital development, technological advancement, and policy-oriented research (Mera & Bazata, 2024).

In Nigeria, the tertiary education system comprises universities, polytechnics, and colleges of education owned by federal, state, and private actors. These institutions are mandated to deliver quality teaching, conduct research, and provide community service in line with national development goals. However, despite the strategic importance of tertiary education, the system continues to grapple with deep-rooted structural challenges, among which underfunding and ineffective resource management are the most persistent and consequential (Ibiteye & Awomoyi, 2026). Over the past two decades, rapid expansion in student enrolment has not been matched by proportional increases in funding, infrastructure, or academic staffing, resulting in overstretched institutional capacity and declining academic standards (Kasimu et al., 2025).

Public funding remains the primary source of revenue for Nigerian tertiary institutions, yet annual budgetary allocations to the education sector have consistently fallen below internationally accepted benchmarks. Empirical evidence indicates that education expenditure in Nigeria often remains below 10% of the national budget, significantly lower than the recommended allocation for developing economies (NUC, 2023). This funding shortfall has constrained the ability of institutions to invest in modern infrastructure, procure up-to-date

teaching and learning resources, support research activities, and maintain staff welfare. Consequently, many institutions operate in environments characterised by inadequate facilities, overcrowded classrooms, obsolete laboratories, and limited access to digital learning technologies (Igboke & Nwosu, 2023).

Beyond the issue of inadequate funding, the quality of education in Nigerian tertiary institutions is further undermined by weak resource management practices. Inefficient financial planning, bureaucratic bottlenecks, and limited accountability mechanisms have reduced the effectiveness of available funds in achieving institutional objectives (Mera & Bazata, 2024). In some cases, funds earmarked for academic development are delayed or diverted, while critical areas such as staff development, research funding, and infrastructure maintenance remain under-prioritised. These management deficiencies exacerbate the negative effects of underfunding and weaken institutional resilience.

The consequences of underfunding and poor resource management are evident in multiple dimensions of academic life. Academic staff morale and productivity have been adversely affected by inadequate remuneration, limited research grants, and insufficient opportunities for professional development, leading to persistent industrial disputes and high levels of staff attrition (Ibiteye & Awomoyi, 2026). Frequent strikes and disruptions of academic calendars further erode educational quality, extend students' time to graduation, and diminish institutional credibility at both national and international levels (Kasimu et al., 2025).

Similarly, students are directly impacted by funding and management deficiencies through limited access to quality learning resources, reduced practical exposure, and constrained academic support services. These challenges have contributed to a growing mismatch between graduate skills and labour market demands, raising concerns about graduate employability and the overall relevance of tertiary education in Nigeria (UNIZIK Journal of Educational Laws and Leadership Studies, 2025). In an era of global competition and digital transformation, the inability of Nigerian tertiary institutions to adequately fund and manage resources threatens their capacity to participate meaningfully in international academic and research networks.

Given these challenges, there is a pressing need for a systematic examination of how underfunding and resource management affect the quality of education in Nigerian tertiary institutions. While existing studies have explored funding or management issues independently, fewer works have holistically analysed their combined effects on educational quality and institutional performance. This paper seeks to fill this gap by critically examining the interconnected impacts of inadequate funding and resource management on teaching,

research, infrastructure, staff welfare, and student outcomes in Nigerian tertiary institutions. By synthesising recent empirical evidence and policy perspectives, the study contributes to ongoing debates on sustainable financing and governance reforms necessary for revitalising Nigeria's tertiary education system.

2. Underfunding of Nigerian Tertiary Institutions

2.1 Concept and Dimensions of Underfunding in Tertiary Education

Underfunding in tertiary education refers to the persistent inadequacy of financial resources required to support effective teaching, research, infrastructure development, staff welfare, and institutional governance. In the Nigerian context, underfunding is not merely a short-term budgetary challenge but a structural issue rooted in policy inconsistencies, competing national priorities, and overdependence on government subventions (Ibiteye & Awomoyi, 2026). The phenomenon manifests in recurrent deficits between institutional needs and available financial resources, resulting in compromised academic operations and declining educational quality.

The dimensions of underfunding in Nigerian tertiary institutions include insufficient recurrent expenditure for personnel costs, limited capital allocations for infrastructure development, inadequate funding for research and innovation, and poor maintenance of existing facilities. As enrolment continues to rise, these funding gaps widen, placing additional strain on already overstretched institutional systems (Kasimu et al., 2025).

2.2 Trends in Government Funding of Nigerian Tertiary Institutions

Government funding remains the dominant source of financing for public tertiary institutions in Nigeria. However, evidence from national budget analyses indicates that allocations to the education sector have remained consistently low relative to national needs and international benchmarks. Studies show that Nigeria's education budget has fluctuated between 5% and 10% of total government expenditure over the past decade, with tertiary education receiving a limited share of this allocation (Mera & Bazata, 2024; NUC, 2023).

This trend reflects a disconnect between policy rhetoric that emphasises education as a development priority and actual fiscal commitment. As a result, tertiary institutions struggle to meet operational costs, expand infrastructure, and sustain academic programmes. The unpredictability of funding flows further complicates institutional planning and long-term development, limiting the effectiveness of strategic initiatives aimed at improving educational quality (Kasimu et al., 2025).

2.3 Effects of Underfunding on Physical Infrastructure and Facilities

One of the most visible consequences of underfunding in Nigerian tertiary institutions is the deterioration of physical infrastructure. Inadequate capital funding has led to overcrowded classrooms, poorly equipped laboratories, insufficient student accommodation, and dilapidated lecture theatres across many public institutions (Igboke & Nwosu, 2023). These conditions undermine the learning environment and restrict the adoption of modern, student-centred pedagogical approaches.

Laboratory-based disciplines such as engineering, medicine, and the natural sciences are particularly affected, as outdated or non-functional equipment limits practical training and experimentation. Consequently, students' exposure to real-world applications of theoretical knowledge is reduced, affecting skill acquisition and graduate competence (International Journal of Innovative Science and Research Technology, 2026).

2.4 Underfunding and Academic Staffing

Adequate funding is essential for recruiting, retaining, and motivating qualified academic staff. In Nigerian tertiary institutions, underfunding has resulted in low staff-student ratios, heavy teaching workloads, and limited opportunities for professional development (Ibiteye & Awomoyi, 2026). Many institutions are unable to attract or retain highly skilled academics due to uncompetitive remuneration and poor working conditions.

These challenges have contributed to persistent brain drain, as experienced academics seek better-funded environments within and outside Nigeria. The loss of experienced faculty weakens institutional capacity for teaching, mentorship, and research, further diminishing educational quality and academic continuity (Kasimu et al., 2025).

2.5 Implications of Underfunding for Research and Innovation

Research and innovation are core mandates of tertiary institutions, yet they remain among the most underfunded components of Nigeria's higher education system. Limited access to research grants, inadequate laboratory facilities, and insufficient funding for scholarly publications constrain research productivity and innovation output (International Journal of Innovative Science and Research Technology, 2026).

Although intervention agencies such as the Tertiary Education Trust Fund (TETFund) have provided targeted support for research and infrastructure development, their impact is often constrained by the scale of need and institutional capacity challenges. Consequently, Nigerian tertiary institutions lag behind their global counterparts in research visibility, citation impact, and international collaboration (Mera & Bazata, 2024).

2.6 Underfunding, Industrial Actions, and Academic Stability

Chronic underfunding has been identified as a major driver of industrial unrest in Nigerian tertiary institutions. Disputes over salary arrears, allowances, and funding commitments frequently result in strikes by academic and non-academic staff unions, disrupting academic calendars and learning continuity (Igboke & Nwosu, 2023). These disruptions have long-term consequences for educational quality, student progression, and institutional reputation.

Extended closures and irregular academic schedules also impose psychological and financial burdens on students and their families, while reducing the efficiency and credibility of the tertiary education system (UNIZIK Journal of Educational Laws and Leadership Studies, 2025).

3. Resource Management and Institutional Governance in Nigerian Tertiary Institutions

3.1 Resource Management in the Context of Higher Education

Resource management in tertiary education encompasses the systematic planning, allocation, utilisation, and control of financial, human, physical, and technological resources to achieve institutional goals. In higher education systems operating under financial constraints, effective resource management becomes a critical determinant of institutional performance and educational quality (Aina & Ogbogu, 2024). In Nigeria, the challenge of managing limited resources is compounded by expanding enrolment, ageing infrastructure, and increasing demands for research and innovation.

Scholars argue that effective resource management is not solely dependent on the volume of available resources but also on governance structures, leadership capacity, and institutional accountability mechanisms (Ogunode & Musa, 2023). Weak governance frameworks often result in inefficiencies that diminish the impact of available funding on academic outcomes.

3.2 Financial Management and Budget Implementation

Financial management remains one of the most problematic aspects of resource governance in Nigerian tertiary institutions. Studies have shown that budgetary processes in many institutions are characterised by poor forecasting, weak expenditure tracking, and limited alignment between budget allocations and academic priorities (Ajayi & Yusuf, 2024). As a result, funds are often spread thinly across competing needs without strategic focus.

Moreover, delayed fund releases and unpredictable cash flows undermine effective budget implementation. Institutions frequently resort to emergency spending measures that prioritise

administrative survival over academic development, thereby weakening teaching quality and research support systems (Adegbesan & Obasi, 2023).

3.3 Transparency and Accountability in Resource Utilisation

Transparency and accountability are central to effective resource management, yet they remain weak in many Nigerian tertiary institutions. Empirical studies indicate that inadequate financial reporting systems and limited stakeholder participation in budgeting processes contribute to inefficient resource utilisation (Okorie & Eze, 2024). The absence of open financial disclosure reduces trust and weakens internal control mechanisms.

In addition, ineffective internal audit units and limited enforcement of financial regulations increase the risk of misallocation and wastage of scarce resources. These governance failures reduce the capacity of institutions to channel funds toward core academic activities such as curriculum development, staff training, and research support (Ogunode & Musa, 2023).

3.4 Human Resource Management Practices

Human resource management plays a vital role in sustaining institutional effectiveness and educational quality. Nigerian tertiary institutions face persistent challenges related to staff recruitment, deployment, training, and retention. Research indicates that ineffective human resource planning has resulted in uneven staff distribution, high teaching loads, and limited mentoring opportunities for early-career academics (Aina & Ogbogu, 2024).

Furthermore, inadequate funding for staff development programmes reduces opportunities for capacity building and skill enhancement. Without continuous professional development, academic staff struggle to adopt innovative teaching methods and engage in competitive research, thereby limiting institutional growth and academic excellence (Adegbesan & Obasi, 2023).

3.5 Management of Physical and Technological Resources

The management of physical and technological resources significantly influences the learning environment and instructional effectiveness. Poor maintenance culture and delayed replacement of obsolete facilities are common in Nigerian tertiary institutions, largely due to weak planning and monitoring systems (Ajayi & Yusuf, 2024). Consequently, infrastructure deteriorates rapidly, increasing long-term costs and reducing usability.

Similarly, the management of information and communication technology (ICT) resources remains inadequate. Limited investment in digital infrastructure and weak integration of technology into academic planning hinder the adoption of e-learning and blended learning approaches, placing Nigerian institutions at a disadvantage in the global knowledge economy (Okorie & Eze, 2024).

3.6 Institutional Leadership and Governance Structures

Institutional leadership is a critical factor shaping resource management outcomes. Effective leadership ensures strategic prioritisation, responsible decision-making, and alignment between institutional goals and resource allocation. However, studies have highlighted leadership challenges in Nigerian tertiary institutions, including limited managerial autonomy, political interference, and insufficient leadership training (Ogunode & Musa, 2023).

These challenges weaken governance structures and constrain institutional leaders' ability to implement long-term development strategies. Where leadership decisions are influenced by non-academic considerations, resource allocation often fails to support quality enhancement and institutional sustainability (Aina & Ogbogu, 2024).

3.7 Resource Management and Quality Assurance

Quality assurance processes are closely linked to how resources are managed within tertiary institutions. Accreditation outcomes, programme reviews, and performance evaluations depend largely on the adequacy and effective utilisation of resources (Ajayi & Yusuf, 2024). Inefficient resource management compromises institutions' ability to meet minimum academic standards, particularly in staffing, infrastructure, and curriculum delivery.

Although quality assurance agencies exist, their effectiveness is often constrained by limited institutional commitment and inadequate resource backing. Without integrating quality assurance into resource planning and governance frameworks, improvements in educational quality remain difficult to sustain (Okorie & Eze, 2024).

4. Combined Effects of Underfunding and Resource Management on the Quality of Education

4.1 Interaction between Funding Constraints and Resource Governance

The quality of education in Nigerian tertiary institutions is shaped not only by the availability of financial resources but also by how effectively such resources are managed. Underfunding and weak resource management interact in ways that magnify their individual impacts, creating systemic inefficiencies that undermine institutional performance. Studies have shown that even where limited funds are available, poor governance structures and weak managerial capacity often prevent these resources from translating into meaningful academic improvements (Ojo & Alonge, 2024).

This interaction creates a vicious cycle in which funding shortages weaken management systems, while poor management further erodes the effectiveness of scarce resources. As a

result, institutional capacity for quality assurance, innovation, and strategic development remains constrained (Salami & Lawal, 2023).

4.2 Effects on Teaching Quality and Curriculum Delivery

The combined effects of inadequate funding and inefficient resource management are particularly evident in teaching and curriculum delivery. Limited financial resources restrict institutions' ability to update curricula, invest in instructional materials, and support innovative pedagogical practices. When compounded by weak planning and coordination, these constraints result in outdated course content and overreliance on traditional lecture-based teaching methods (Bamidele & Adeyemi, 2024).

In addition, high student-staff ratios, driven by funding shortages and poor personnel planning, reduce opportunities for interactive learning, academic mentoring, and continuous assessment. These conditions negatively affect student engagement and learning outcomes, thereby diminishing overall educational quality (Ogunleye, 2023).

4.3 Implications for Research Quality and Knowledge Production

Research quality and output in Nigerian tertiary institutions are also adversely affected by the dual challenges of underfunding and weak resource management. Insufficient funding limits access to research grants, laboratories, and scholarly databases, while poor management practices hinder the efficient allocation of available research support (Adebayo & Sadiq, 2024).

Empirical evidence suggests that institutions with weak research governance structures struggle to prioritise research funding, monitor project implementation, and incentivise scholarly productivity. Consequently, research output remains low, international visibility is limited, and opportunities for collaboration and innovation are reduced (Ibrahim & Danjuma, 2023).

4.4 Impact on Student Experience and Learning Outcomes

Students are direct beneficiaries, or victims, of how resources are funded and managed within tertiary institutions. Underfunding constrains the provision of student support services such as libraries, laboratories, accommodation, and health facilities. When resource management is ineffective, even existing facilities are poorly maintained or underutilised, leading to substandard learning environments (Eze & Okafor, 2024).

These challenges affect students' academic performance, motivation, and overall educational experience. Studies indicate that prolonged exposure to poor learning conditions contributes to low academic achievement, increased dropout rates, and extended time to graduation (Yusuf & Bello, 2023).

4.5 Institutional Stability and Academic Continuity

The interaction between underfunding and weak resource management also threatens institutional stability and academic continuity. Financial stress and governance failures frequently trigger industrial disputes, resulting in recurrent strikes and disruptions of academic calendars. Such disruptions undermine institutional credibility, weaken planning processes, and reduce system efficiency (Suleiman & Ahmed, 2024).

Over time, these disruptions erode public confidence in Nigerian tertiary institutions and limit their ability to compete regionally and globally. Institutions become reactive rather than strategic, focusing on crisis management instead of long-term quality enhancement (Salami & Lawal, 2023).

4.6 Graduate Quality and Labour Market Relevance

The cumulative effects of underfunding and poor resource management are reflected in the quality and employability of graduates. Limited practical training, inadequate exposure to modern technologies, and outdated curricula reduce graduates' readiness for the labour market. Employers increasingly express concerns about skill gaps among graduates of Nigerian tertiary institutions (Bamidele & Adeyemi, 2024).

This mismatch between educational outcomes and labour market needs undermines the developmental role of tertiary education and raises questions about the system's capacity to support national economic growth and global competitiveness (Ojo & Alonge, 2024).

5. Policy Implications for Strengthening Educational Quality in Nigerian Tertiary Institutions

5.1 Reprioritising Public Investment in Tertiary Education

One of the most critical policy implications of this study is the need for a strategic reprioritisation of public investment in tertiary education. Sustainable improvements in educational quality require a deliberate shift from episodic funding increases to predictable, long-term financing frameworks. Evidence from comparative education systems suggests that countries that maintain stable and adequate funding for higher education are better positioned to achieve institutional efficiency, academic excellence, and innovation (World Bank, 2023).

For Nigeria, this implies aligning national education financing policies with long-term development plans and ensuring that budgetary allocations to tertiary institutions reflect enrolment growth, infrastructure needs, and research priorities. Failure to address systemic underinvestment risks further deterioration of academic standards and institutional capacity (Umar & Ibrahim, 2024).

5.2 Diversification of Funding Sources and Financial Autonomy

Policy reforms should also prioritise diversification of funding sources to reduce overdependence on government subventions. International best practices highlight the importance of financial autonomy and alternative revenue generation through alumni endowments, research commercialisation, consultancy services, and strategic partnerships with industry (OECD, 2024).

In the Nigerian context, granting tertiary institutions greater financial autonomy, while strengthening accountability mechanisms, can enhance flexibility and responsiveness to institutional needs. However, such autonomy must be accompanied by clear regulatory frameworks to prevent financial mismanagement and ensure that generated revenues are reinvested in academic quality enhancement (Okebukola & Ajayi, 2023).

5.3 Strengthening Institutional Financial Governance

Improving educational quality requires not only increased funding but also robust financial governance systems. Policymakers should strengthen institutional mechanisms for financial planning, expenditure tracking, and performance-based budgeting. Studies show that institutions that adopt results-oriented budgeting and transparent procurement processes are more effective in translating financial resources into improved academic outcomes (Transparency International, 2024).

This calls for enhanced oversight by governing councils, improved internal audit systems, and the integration of digital financial management platforms to reduce inefficiencies and corruption risks (Umar & Ibrahim, 2024).

5.4 Investing in Human Capital and Staff Development

Another critical policy implication is the need for sustained investment in academic and administrative staff development. Competitive remuneration, regular training, and access to research funding are essential for attracting and retaining high-quality personnel. Research indicates that countries that prioritise staff development in higher education experience higher teaching quality, research productivity, and institutional stability (UNESCO, 2023).

Policies should therefore support continuous professional development programmes, staff exchange initiatives, and incentives for research excellence. Such investments are essential for reversing brain drain and strengthening institutional capacity in Nigerian tertiary institutions (Okebukola & Ajayi, 2023).

5.5 Enhancing Infrastructure and Digital Transformation

Policy responses must also address the infrastructural and technological deficits facing Nigerian tertiary institutions. Investment in modern classrooms, laboratories, libraries, and

digital infrastructure is essential for improving teaching effectiveness and research quality. Global evidence suggests that institutions that integrate digital technologies into teaching, learning, and administration achieve better educational outcomes and greater resilience during disruptions (OECD, 2024).

National policies should therefore prioritise digital transformation initiatives, including broadband expansion, e-learning platforms, and research data infrastructure, to support innovation and global competitiveness (World Bank, 2023).

5.6 Aligning Quality Assurance with Resource Allocation

Finally, policy reforms should strengthen the alignment between quality assurance mechanisms and resource allocation. Accreditation standards and performance evaluations should inform funding decisions, ensuring that institutions that demonstrate effective resource utilisation and academic excellence are incentivised. Performance-based funding models have been shown to promote accountability and continuous improvement in higher education systems (UNESCO, 2023).

In Nigeria, integrating quality assurance outcomes into funding frameworks can encourage institutions to prioritise academic quality, transparency, and strategic planning (Transparency International, 2024).

6. Policy Implications and Recommendations

To improve the quality of education in Nigerian tertiary institutions, the following policy measures are recommended:

- 1. Increased and Sustained Funding:** Government should progressively increase education budget allocations and ensure predictable funding flows to tertiary institutions.
- 2. Diversification of Funding Sources:** Institutions should explore alternative revenue streams such as public-private partnerships, alumni endowments, and industry-based research collaborations.
- 3. Strengthening Financial Governance:** Transparent budgeting, effective auditing, and performance-based resource allocation should be institutionalised.
- 4. Enhanced Research Funding:** Dedicated research grants and incentives should be expanded to support innovation and global competitiveness.
- 5. Capacity Building in Resource Management:** Training institutional leaders in financial planning and resource governance can improve efficiency and accountability.

7. CONCLUSION

This article has examined the impact of underfunding and resource management on the quality of education in Nigerian tertiary institutions, highlighting how persistent financial constraints and governance weaknesses collectively undermine institutional effectiveness. The analysis demonstrates that underfunding remains a structural challenge that affects infrastructure development, academic staffing, research capacity, and student support services, while ineffective resource management further diminishes the value of limited financial inputs. Together, these challenges create a cycle of inefficiency that constrains educational quality and institutional sustainability.

The study also reveals that the consequences of these challenges extend beyond institutional boundaries, affecting graduate competence, labour market relevance, and national development outcomes. Inadequate teaching and learning environments, frequent academic disruptions, and limited research output weaken the capacity of tertiary institutions to fulfil their mandate as engines of human capital development and innovation. As a result, Nigerian tertiary education struggles to remain competitive within the global knowledge economy.

Importantly, the findings underscore that improving educational quality requires more than increased funding alone. While enhanced financial investment is essential, it must be complemented by effective resource management, transparent governance structures, and strategic institutional leadership. Without these enabling conditions, additional funding may fail to translate into meaningful improvements in teaching, research, and student outcomes.

In conclusion, addressing the quality challenges facing Nigerian tertiary institutions demands a holistic and sustained approach that integrates adequate financing with sound resource governance and accountability. By strengthening these interconnected dimensions, policymakers and institutional leaders can create an environment in which tertiary education contributes more effectively to national development, social mobility, and global academic engagement.

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