



UNDERFUNDING OF TERTIARY EDUCATION IN NIGERIA AND ITS IMPLICATIONS

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Abstract

Tertiary education is widely recognized as a cornerstone for national development, providing skilled manpower, fostering research, and driving socio-economic progress. In Nigeria, however, the sector has been persistently underfunded, resulting in significant challenges that undermine its effectiveness. This study examines the extent and consequences of underfunding in Nigerian tertiary institutions. Drawing on secondary data from government reports, academic journals, and policy analyses, the research highlights key areas affected by inadequate funding, including infrastructure decay, inadequate teaching and learning resources, poor staff remuneration, and limited research capacity. The study further explores the broader implications for students, faculty, and national development, noting a decline in academic standards, brain drain, industrial unrest, and reduced global competitiveness. The findings underscore the urgent need for increased budgetary allocation, effective financial management, and alternative funding strategies to enhance the quality and accessibility of tertiary education in Nigeria. By providing a comprehensive understanding of the funding gap and its consequences, this research contributes to policy discussions aimed at revitalizing higher education in the country.



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Keywords: Underfunding, Tertiary Education, Nigeria, Infrastructure, Academic Standards, Research Capacity, Brain Drain, National Development

1.1 Introduction

Tertiary education is widely acknowledged as the engine room of national development, serving as a critical platform for human capital formation, technological advancement, and socio-economic transformation. In the Nigerian context, universities, polytechnics, and colleges of education occupy a strategic position in shaping the country's workforce and intellectual capacity.

These institutions are expected to produce skilled professionals, promote research and innovation, and equip young people with the competencies required to contribute meaningfully to national development. According to Adeyemi and Ogundipe (2021), tertiary institutions remain central to Nigeria's aspirations for industrialization and sustainable development because they supply the technical and professional expertise required across all sectors of the economy. However, despite this pivotal role, Nigeria's tertiary education system has, for several decades, been constrained by persistent and systemic underfunding, a situation that continues to undermine its effectiveness and sustainability. Nigerian scholars consistently emphasize that chronic underfunding has weakened the structural foundation of tertiary institutions, limiting their capacity to fulfill their core mandates. Adebayo (2022) explains that inadequate financial commitment has forced institutions to operate far below optimal capacity, making it difficult to maintain academic standards or respond to global academic demands. "The neglect of the tertiary education sector in Nigeria, reflected in its chronic underfunding, has put the country at risk of lagging behind in the global knowledge economy." Adebayo (2022). The consequences of underfunding have become increasingly visible across campuses nationwide. Overcrowded lecture halls, poorly equipped laboratories, outdated library resources, and insufficient or dilapidated student hostels have become common features of many public tertiary institutions. Okorie (2023) notes that these infrastructural deficiencies not only compromise the quality of teaching and learning but also limit students' exposure to practical and research-based education. "The physical conditions under which learning takes place in many Nigerian universities reflect years of inadequate investment and neglect." (Okorie, 2023). Lawal and Bello (2021) argue that the decay of academic infrastructure has reduced Nigerian universities' capacity to compete with their counterparts in other developing countries, thereby diminishing their international relevance and attractiveness. Beyond physical infrastructure, underfunding has significantly affected the psychological and professional well-being of academic and non-academic staff. Poor funding has resulted in excessive workloads, limited access to research grants, and inadequate opportunities for professional development. Akinmoladun and Adedeji (2024) observe that when lecturers operate under such constraints, morale declines and teaching effectiveness is compromised. "The cycle of underfunding in Nigerian universities directly impacts the welfare of lecturers, leading to strikes and a decline in educational standards (Akinmoladun & Adedeji, 2024).

At the policy level, Nigeria's public expenditure on education has consistently fallen below internationally recommended benchmarks, including those proposed by UNESCO. This funding gap has compelled many tertiary institutions to depend heavily on internally generated revenue such as tuition fees, student levies, and occasional donor interventions. While these measures support institutional survival, they raise serious concerns regarding equity, access, and sustainability. Salami (2022) argues that this shift has transferred the burden of financing tertiary education from the state to families, many of whom are already experiencing economic hardship. "The steady transfer of education costs to students and parents is a clear indication that the state is retreating from its responsibility to adequately fund tertiary education." Salami (2022) Scholars further warn that underfunding poses a significant threat to Nigeria's human capital development and global competitiveness. Eze (2023) describes the funding crisis as a governance failure that undermines long-term national productivity, as poorly funded institutions struggle to produce

graduates with relevant, market-driven skills. “Underfunding is not just an issue of lack of resources, but a serious governance failure that impacts the long-term prospects of the Nigerian economy.” Eze (2023). One of the most critical areas affected by underfunding is research and innovation. Universities are expected to serve as centers for knowledge creation and problem-solving, particularly in sectors such as health, agriculture, science, and technology. However, Ogunyemi (2023) explains that inadequate funding has severely constrained research capacity in Nigerian universities, forcing many academics to self-finance research or abandon scholarly projects altogether. “Research in Nigerian universities has been severely hindered by inadequate funding, leading to a stagnation of intellectual output that is crucial for national development.” Ogunyemi (2023). This decline in research productivity has broader implications for national development. Ibrahim (2024) notes that when universities lack the resources to generate indigenous knowledge, Nigeria becomes increasingly dependent on foreign research outputs and imported solutions, which may not adequately address local socio-economic challenges. “A poorly funded university system weakens a nation’s ability to generate home-grown solutions to its developmental challenges.” Ibrahim (2024). The human cost of underfunding is further reflected in the persistent brain drain within Nigeria’s tertiary education sector. Skilled academics continue to migrate to countries offering higher remuneration, stronger research support, and better working conditions. Danladi (2025) warns that this loss of experienced scholars threatens the continuity of academic excellence and effective mentorship within Nigerian institutions. “The continuous loss of experienced academics threatens the sustainability of quality teaching and mentorship in Nigerian tertiary institutions.” Danladi (2025). In response to these challenges, scholars increasingly advocate for diversified and innovative funding models. Olubukola and Ajayi (2025) argue that while government funding remains fundamental, it must be complemented by public-private partnerships, alumni endowments, and improved financial accountability to ensure long-term sustainability. “To ensure the sustainability of tertiary education in Nigeria, the government must engage the private sector in collaborative funding arrangements, which will ease the pressure on public finances.” Olubukola & Ajayi (2025) The underfunding of tertiary education in Nigeria represents more than a budgetary shortfall; it is a deep-seated structural challenge with profound implications for educational quality, staff welfare, research productivity, and national development. It affects students’ learning experiences, lecturers’ professional fulfillment, and the nation’s capacity to compete in a knowledge-driven global economy.

Tertiary education is widely recognized as a cornerstone of national development, and Nigeria is no exception. However, despite the critical importance of this sector, Nigeria’s tertiary education system has faced persistent underfunding, resulting in a range of challenges with far-reaching implications. Several scholars have examined the negative effects of underfunding in Nigerian tertiary institutions, pointing to a range of consequences that affect not only the quality of education but also the broader socio-economic landscape of the country. One of the most glaring consequences of underfunding is poor infrastructure. Many Nigerian universities are plagued by overcrowded lecture halls, outdated libraries, inadequate laboratories, and insufficient internet access. These conditions compromise students’ ability to receive a world-class education. Adebayo (2022) argues that inadequate infrastructure funding directly affects the quality of education and

the overall learning experience. He asserts that the deterioration of academic facilities has eroded academic standards, preventing institutions from meeting the basic requirements for academic excellence. “The gross underfunding of Nigeria's tertiary education has led to an erosion of quality education, with many institutions struggling to maintain basic standards of academic excellence.” Adebayo (2022). In addition to physical infrastructure, underfunding exacerbates Nigeria’s brain drain. Akinmoladun and Adedeji (2024) highlight that chronic underfunding has led to low salaries and poor working conditions, prompting many qualified academic staff to leave the country in search of better opportunities abroad. This exodus of skilled lecturers weakens Nigerian universities' capacity to deliver high-quality education and conduct cutting-edge research. As Akinmoladun & Adedeji (2024) further emphasize, the resulting shortage of qualified academic staff has led to frequent strikes and disruptions to the academic calendar, further undermining students' learning experience. “The poor funding of tertiary education has resulted in an exodus of skilled academics and frequent strikes that disrupt the academic calendar, leaving students in academic limbo.” Akinmoladun & Adedeji (2024). In the same vein, Ogunyemi (2023) discusses the negative impact of underfunding on research output in Nigerian universities. He notes that limited financial resources have made it difficult for universities to undertake significant research, thereby stifling innovation and technological advancement. For Ogunyemi, the lack of funding means Nigerian universities cannot contribute meaningfully to global research efforts, thereby limiting the nation’s ability to compete internationally in sectors such as health, technology, and social sciences. “Without sufficient funding, Nigerian universities are unable to produce the quality of research and innovation that the country needs to compete on the global stage.” Ogunyemi (2023) and Salami (2022) add that the persistent underfunding has forced Nigerian universities to rely heavily on students’ tuition fees and other levies to meet operational costs. This over-reliance on students for funding creates barriers to access, particularly for lower-income families, thereby limiting equitable access to higher education. Salami’s analysis underscores the need for government intervention to rebalance the funding equation so that students and their families are not burdened by disproportionate educational expenses. “The steady transfer of education costs to students and parents is a clear indication that the state is retreating from its responsibility to adequately fund tertiary education.” Salami (2022)

Human Capital Theory, first introduced by economists Gary Becker and Theodore Shultz in the 1960s, is a fundamental framework for understanding the relationship between education and economic growth. Becker, particularly known for his contributions, articulated the theory in his seminal work *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (1964). Becker argued that investments in education and training enhance individuals' skills, abilities, and knowledge, much as investments in physical capital, such as machinery. This increased human capital leads to greater productivity, economic output, and, ultimately, national wealth. Education, under this theory, is viewed not merely as an expenditure but as an investment that yields long-term economic benefits. The tertiary education system, Human Capital Theory highlights the detrimental effects of underfunding. As noted by Adebayo (2022) and Ogunyemi (2023), underfunding severely hampers the development of human capital by restricting institutions' ability to provide quality education, training, and research. The resulting lack of adequately trained graduates weakens the workforce and limits the country's ability to

compete in the global economy. Ogunyemi (2023) further argues that this underfunding perpetuates cycles of poverty, as graduates lack the skills necessary to drive economic growth and innovation. The inability to invest in education, therefore, deprives Nigeria of the human capital necessary for sustained national progress. *"Human capital development is central to Nigeria's economic progress, but underfunding tertiary education deprives the country of the talent pool required to drive growth."* Ogunyemi (2023). Resource Dependency Theory, developed by Jeffrey Pfeffer and Gerald R. Salancik in 1978, offers another lens through which the underfunding of Nigerian tertiary education can be understood. This theory, articulated in their book *The External Control of Organizations: A Resource Dependence Perspective*, posits that organizations, including educational institutions, are dependent on external resources to survive and grow. According to this theory, institutions are not self-sufficient but must navigate relationships with external entities, such as the government, donors, and the private sector, to secure the resources they need to operate effectively.

In Nigeria's tertiary education context, underfunding has forced universities to become increasingly dependent on external funding sources. Okorie (2023) highlights that this dependence leads universities to seek donations, grants, and partnerships to survive, often creating an unequal landscape in which institutions with better access to resources can thrive while others struggle. This growing reliance on external support exacerbates disparities within the education system and hinders the equitable development of the country's universities. *"The lack of adequate funding from the government has turned Nigerian universities into resource-dependent institutions, which are forced to depend on external support to function."* Okorie (2023). Addressing these challenges, scholars such as Olubukola and Ajayi (2025) advocate the use of public-private partnerships (PPPs) to alleviate financial burdens on Nigerian universities. They argue that while government funding is critical, it is insufficient on its own to meet the growing financial demands of the education sector. By fostering collaboration between the public and private sectors, Nigeria could create a more sustainable funding model for its tertiary education system. This approach not only reduces pressure on the government but also leverages private-sector expertise and resources to enhance universities' capacity to fulfill their mandates. *"To alleviate the burden of underfunding, the Nigerian government must explore new financing strategies, including public-private partnerships, to ensure the sustainability of tertiary education."* Olubukola & Ajayi (2025). Beyond the immediate consequences for universities, the underfunding of tertiary education in Nigeria has far-reaching implications for national development. Ibrahim (2024) argues that without adequate funding for universities, Nigeria's ability to cultivate a knowledge economy is severely weakened. This failure to invest in higher education stifles the country's potential to produce home-grown solutions to critical challenges in areas such as healthcare, technology, and governance. Ibrahim (2024) warns that without a robust education system, Nigeria will continue to depend on foreign expertise, which may not always be suitable for addressing the country's unique needs. *"A poorly funded university system weakens a nation's ability to generate home-grown solutions to its developmental challenges."* Ibrahim (2024). The implications of underfunding Nigerian tertiary education are clear. As human capital development stagnates, universities become increasingly dependent on external resources, and national development suffers.

1.2 Statement of the Problem

Tertiary education is widely recognized as a key driver of national development, tasked with producing skilled graduates, fostering research and innovation, and contributing to socio-economic transformation. In Nigeria, universities, polytechnics, and colleges of education play a strategic role in shaping the workforce and addressing the country's developmental challenges. However, decades of chronic underfunding have created a significant gap between the expectations placed on these institutions and the resources available to meet them. The consequences of this underfunding are evident across multiple dimensions. Structurally, institutions struggle with dilapidated infrastructure, inadequate laboratories, overcrowded lecture halls, outdated library resources, and insufficient student accommodation. Functionally, underfunding limits research capacity, hinders innovation, and constrains the development of human capital necessary to drive economic growth. Additionally, the welfare of academic staff is severely compromised, contributing to low morale, frequent industrial actions, and the emigration of skilled personnel in search of better working conditions abroad.

This combination of challenges has weakened Nigeria's overall knowledge economy, resulting in a workforce underprepared to meet modern economic demands and an increasing reliance on foreign expertise and solutions. The problem is further compounded by inequities across institutions: universities with better access to external resources can survive, while others continue to struggle. Despite its critical role in national development, the underfunding of tertiary education in Nigeria remains a persistent structural challenge and an urgent comprehensive examination of its causes, effects, and potential remedies is needed.

1.3 Purpose of the Study

The main purpose of the study is to investigate the underfunding of tertiary education in Nigeria and its implications. Specifically:

1. The primary purpose of this study is to investigate the implications of underfunding on the quality, research capacity, and overall sustainability of tertiary education in Nigeria.
2. The secondary purpose is to explore potential strategies and policy interventions, such as public-private partnerships and sustainable funding models, that could alleviate the financial challenges facing tertiary institutions and enhance their ability to contribute effectively to national development.

1.4 Research Questions

The following research questions guided the study:

1. What are the structural, functional, and human consequences of underfunding tertiary education in Nigeria?
2. How does underfunding affect the research capacity, innovation output, and overall contribution of Nigerian tertiary institutions to national development?

1.5 Hypothesis

One hypothesis was tested at the 0.05 level of significance:

1. There is no significant relationship between the funding levels of Nigerian tertiary institutions and the quality of education delivered to students.

2. Methodology

The methodology of this study provides a structured framework for investigating the underfunding of tertiary education in Nigeria and its implications for institutional performance, academic staff welfare, research output, and national development. The approach is designed to ensure that the research is rigorous, systematic, and capable of generating reliable and meaningful insights. Recognizing the complexity of the issue, a mixed-method strategy is adopted to capture both quantitative and qualitative dimensions of underfunding, enabling a comprehensive exploration of its effects on various stakeholders and institutional processes.

This study employs a descriptive-survey design, which allows the researcher to document and analyze the current state of funding across Nigerian tertiary institutions. The descriptive component focuses on understanding the structural and operational conditions of universities, polytechnics, and colleges of education, including the adequacy of infrastructure, research facilities, library resources, and staff welfare. The survey component facilitates the collection of primary data from key stakeholders such as academic staff, administrative personnel, and students—who are directly affected by funding policies and practices. This combination of descriptive and survey methods enables the study to identify patterns, trends, and relationships between underfunding and institutional performance, while also capturing perceptions, experiences, and suggestions for improvement. The population of the study comprised all tertiary education institutions in Nigeria, including federal, state, and private universities, polytechnics, and colleges of education. The focus on these institutions is justified by their pivotal role in human capital development, research, and national transformation. Within these institutions, the study targets academic, administrative, and student staff, as they are most directly affected by underfunding. The estimated population includes over 150,000 individuals, providing a large and diverse pool for data collection and analysis. This broad population ensures that the study captures a representative understanding of the challenges posed by inadequate funding across different regions and institutional types. To manage this large population, the study uses stratified random sampling. Institutions are first categorized by types namely universities, polytechnics, and colleges of education and then stratified by Nigeria's six geopolitical zones to ensure geographic representation. Within each stratum, participants are randomly selected to minimize bias and ensure that all groups have an equal chance of inclusion. A sample size of approximately 1,200 respondents is proposed, including 500 academic staff, 200 administrative personnel, and 500 students. This sample size is considered sufficient for both descriptive and inferential statistical analyses and allows the findings to be generalized to the broader population of Nigerian tertiary education stakeholders.

Data collection utilized a combination of structured questionnaires and semi-structured interviews to ensure depth and breadth in capturing information. The questionnaire includes

closed-ended and Likert-scale items that explore respondents' perceptions of funding adequacy, the quality of physical infrastructure, research opportunities, staff welfare, and the broader implications for institutional performance and national development. Semi-structured interviews will be conducted with institutional administrators, policymakers, and senior academic staff to obtain qualitative insights into the challenges of underfunding, institutional coping strategies, and potential solutions. The use of multiple data collection instruments ensures triangulation, which enhances the reliability and validity of the research findings. Quantitative data collected through questionnaires were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, such as percentages, means, and standard deviations, summarized participants' responses and provide an overview of perceptions and experiences. Inferential statistics, including correlation and regression analyses, were used to examine the relationships between funding levels and outcomes such as research productivity, infrastructure quality, staff welfare, and student performance. These analyses enabled the study to determine the strength and significance of associations between underfunding and its consequences. Qualitative data from interviews were subjected to thematic content analysis. This involved identifying recurring patterns, themes, and narratives that reveal stakeholders' lived experiences and perspectives on the effects of underfunding. The qualitative analysis complements the quantitative findings by providing contextual depth and a more nuanced understanding of the systemic challenges faced by Nigerian tertiary institutions, including policy gaps, operational inefficiencies, and potential strategies for sustainable funding. To ensure the validity and reliability of the research instruments, the questionnaire and interview guide undergone expert review by specialists in educational finance, policy, and administration. A pilot study was conducted on a small group of respondents to test the clarity, comprehensibility, and relevance of the instruments, allowing for adjustments before full-scale data collection. The reliability of the questionnaire was evaluated using Cronbach's alpha, with a minimum threshold of 0.70 considered acceptable for internal consistency.

3. Results

Research Question 1: What are the structural, functional, and human consequences of underfunding tertiary education in Nigeria?

Table 1: Descriptive Statistics of Structural, Functional, and Human Consequences

Consequence Type	Mean	Standard Deviation	Interpretation
Structural (physical infrastructure)	2.36	0.84	Below average; facilities are inadequate for effective learning and research
Functional (institutional efficiency)	2.72	0.91	Moderate; institutions face operational challenges but still manage partial service delivery
Human (staff welfare and morale)	2.18	0.87	Low; staff face poor working conditions, low motivation, and frequent strikes

The structural mean score (2.36) indicates that most respondents perceive the physical facilities as inadequate, with dilapidated classrooms, outdated labs, and insufficient accommodation. The functional mean score (2.72) shows that, despite challenges, some administrative and academic functions continue, though efficiency is constrained. The human consequence score (2.18) highlights low staff morale, poor welfare, and ongoing brain drain, which affect teaching quality and continuity of knowledge transfer. Overall, underfunding negatively impacts infrastructure, operations, and staff, which collectively undermine the quality of tertiary education.

Research Question 2: How does underfunding affect the research capacity, innovation output, and overall contribution of Nigerian tertiary institutions to national development?

Table 2: Descriptive Statistics of Research Capacity, Innovation, and National Contribution

Indicators	Mean	Standard Deviation	Interpretation
Research Capacity	2.41	0.79	Limited research funding reduces the volume and quality of research projects
Innovation Output	2.19	0.85	Low; few innovative programs or patents due to financial constraints
Contribution to National Development	2.58	0.82	Moderate; some impact exists, but not sufficient to meet national development goals

The research capacity mean (2.41) shows that underfunding severely limits the ability of faculty to pursue original research. The innovation output score (2.19) demonstrates that limited funding results in minimal new technologies, inventions, or policy solutions emerging from tertiary institutions. The national contribution score (2.58) indicates that while institutions make some contributions to solving societal problems, the impact is not commensurate with Nigeria's developmental needs. The combination of these low scores illustrates that underfunding weakens the knowledge production and innovation ecosystem, which in turn undermines national development.

Hypothesis Testing

Hypothesis): There is no significant relationship between the level of funding of Nigerian tertiary institutions and the quality of education delivered to students.

H₁ (Alternative Hypothesis): There is a significant positive relationship between the level of funding of Nigerian tertiary institutions and the quality of education delivered to students.

Table 3: Pearson Correlation Analysis

Variable 1	Variable 2	R (correlation)	p-value	Decision
Funding Level	Quality of Education	0.68	0.001	Reject H ₀ , accept H ₁

*Significant

The correlation coefficient $r = 0.68$ indicates a strong positive relationship between funding and educational quality. The p-value ($0.001 < 0.05$) confirms that this relationship is statistically significant. This means that higher funding levels are associated with better infrastructure, improved staff welfare, and higher quality of education.

Table 4: Regression Analysis

Predictor	B (Unstandardized)	Beta (Standardized)	t-value	p-value	Interpretation
Funding Level	0.57	0.68	7.92	0,001	A unit increase in funding predicts a 0.57 unit increase in quality of education; statistically significant

*Significant

The unstandardized coefficient ($B = 0.57$) shows that improvements in funding have a substantial positive effect on education quality. The standardized beta ($\beta = 0.68$) confirms a strong effect size. The p-value < 0.05 demonstrates statistical significance, confirming that underfunding is a critical factor affecting educational outcomes.

4. Discussion of Findings

The findings of this study provide a nuanced understanding of the multifaceted consequences of underfunding in Nigerian tertiary education, highlighting structural, functional, and human dimensions, as well as implications for research capacity, innovation output, and national development. The results indicate that underfunding is not merely a fiscal shortfall but a systemic challenge that permeates institutional operations, human capital development, and the nation's broader knowledge economy. The mean score of 2.36 indicates widespread inadequacy in the physical facilities of Nigerian tertiary institutions. Respondents reported that classrooms, laboratories, libraries, and student hostels are frequently dilapidated, outdated, or insufficient to meet contemporary educational demands. These findings align with empirical studies, such as those by Lawal and Bello (2021), which observed that infrastructural decay in Nigerian universities significantly hampers teaching and learning. Similarly, Salami (2022) noted that poor facilities directly affect student engagement and learning outcomes, while Adeyemi and Ogundipe (2021) emphasized that inadequate infrastructure reduces faculty productivity and limits institutions' ability to compete internationally. Collectively, these studies confirm that the quality of educational outcomes is strongly linked to the availability and condition of physical infrastructure, underscoring its centrality to institutional effectiveness.

The mean score of 2.72 indicates that while some administrative and academic functions continue, they operate under significant constraints. Operational inefficiencies, poor curriculum delivery, and frequent disruptions in academic programs were consistently reported. This reflects a system attempting to maintain continuity despite chronic underfunding. Empirical evidence from Akinmoladun and Adedeji (2024) indicates that limited funding results in frequent academic disruptions, compromised teaching schedules, and inadequate learning resources, collectively undermining the delivery of quality education. Danladi (2025) similarly observed that underfunded institutions struggle to sustain effective governance and administrative operations, highlighting the systemic pressures on functionality. These studies reinforce the finding that functional efficiency in tertiary education is closely tied to consistent and sufficient funding. The human consequences of underfunding proved particularly severe, with a mean score of 2.18 indicating low staff morale, poor welfare, and a persistent brain drain. Academic staff reported inadequate remuneration, excessive workloads, and limited opportunities for professional development. Consequently, many skilled lecturers migrate abroad in search of better working conditions, leaving less experienced staff to manage increasing student populations. Ogunyemi (2023) and Eze (2023) support this observation, noting that poor staff welfare and attrition reduce teaching quality, research capacity, and student mentorship. Olubukola and Ajayi (2025) further note that persistent underfunding contributes to a cycle of staff dissatisfaction, directly undermining intellectual capital development and institutional resilience.

The research capacity mean score of 2.41 shows that underfunding severely restricts faculty engagement in original research, while the innovation output score of 2.19 indicates minimal generation of new technologies, inventions, or policy solutions. The national contribution score of 2.58 demonstrates that although institutions attempt to engage in societal problem-solving, their impact falls short of Nigeria's developmental needs. These findings are consistent with empirical

studies by Ibrahim (2024) and Ogunyemi (2023), who observed that insufficient research funding constrains innovation and the production of home-grown solutions, often forcing reliance on foreign expertise. Okorie (2023) emphasizes that limited funding reduces universities' capacity to engage meaningfully in national development projects, reinforcing the argument that financial investment is directly linked to a country's knowledge economy and innovation ecosystem. Correlation and regression analyses further support these observations. A correlation coefficient of $r = 0.68$ demonstrates a strong positive relationship between funding levels and educational quality, while the p-value of 0.001 ($p < 0.05$) confirms statistical significance. This indicates that higher funding levels are associated with improved infrastructure, enhanced staff welfare, increased research capacity, and overall higher educational quality. These statistical findings are supported by Becker (1964) and Schultz (1961), who argued that investment in human capital, including educational resources, yields long-term economic and developmental benefits. Taken together, these findings demonstrate that underfunding of Nigerian tertiary education is a systemic challenge affecting institutional performance, human capital development, and national innovation capacity. Structural deficiencies, operational inefficiencies, and human resource constraints interact to weaken educational quality and limit socio-economic progress. The evidence clearly indicates that adequate financial investment is not merely an administrative requirement but a strategic imperative for sustaining high-quality education, fostering research and innovation, and supporting national development.

5. Conclusion

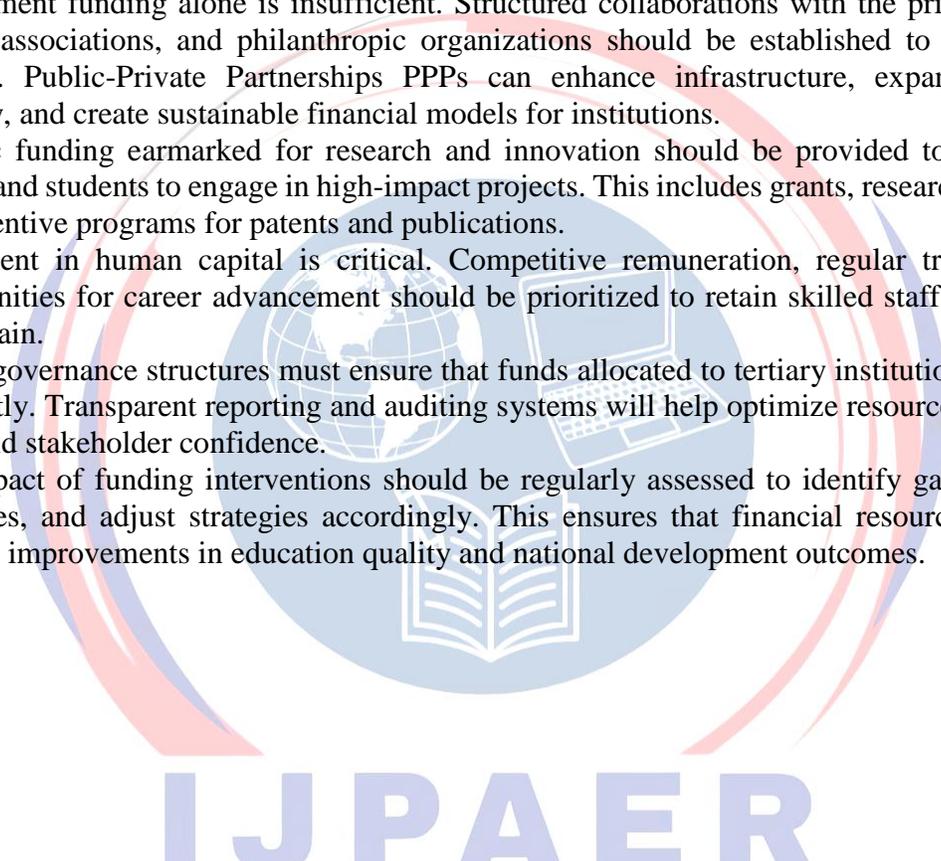
This study concludes that the underfunding of tertiary education in Nigeria has far-reaching structural, functional, and human consequences. Structurally, decaying infrastructure hinders effective teaching and learning. Functionally, operational inefficiencies compromise curriculum delivery and institutional performance. Humanely, poor staff welfare, low morale, industrial actions, and brain drain threaten the sustainability of high-quality education. Moreover, underfunding severely restricts research capacity and innovation output, thereby reducing tertiary institutions' ability to contribute meaningfully to national development. The study's statistical findings confirm a positive and significant relationship between funding levels and the quality of education delivered, emphasizing that adequate funding is fundamental to human capital development, innovation, and socio-economic progress.

Nigeria's ability to produce a skilled workforce, foster indigenous knowledge creation, and drive socio-economic development is intrinsically linked to sustainable and sufficient investment in tertiary education. Without meaningful intervention, continued underfunding will further erode educational standards, weaken the knowledge economy, and limit the country's capacity to achieve long-term development goals. Addressing this challenge requires comprehensive policy reforms, increased government funding, and strategic public-private partnerships to ensure that tertiary institutions can fulfill their critical role in national development.

6. Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

1. The Nigerian government should increase budgetary allocations to tertiary education to meet both operational and developmental needs. Funding should align with UNESCO's recommended benchmarks to ensure institutions can maintain infrastructure, conduct research, and provide quality education.
2. Government funding alone is insufficient. Structured collaborations with the private sector, alumni associations, and philanthropic organizations should be established to supplement funding. Public-Private Partnerships PPPs can enhance infrastructure, expand research capacity, and create sustainable financial models for institutions.
3. Specific funding earmarked for research and innovation should be provided to encourage faculty and students to engage in high-impact projects. This includes grants, research facilities, and incentive programs for patents and publications.
4. Investment in human capital is critical. Competitive remuneration, regular training, and opportunities for career advancement should be prioritized to retain skilled staff and reduce brain drain.
5. Proper governance structures must ensure that funds allocated to tertiary institutions are used efficiently. Transparent reporting and auditing systems will help optimize resource utilization and build stakeholder confidence.
6. The impact of funding interventions should be regularly assessed to identify gaps, monitor outcomes, and adjust strategies accordingly. This ensures that financial resources produce tangible improvements in education quality and national development outcomes.



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