



OPTIMISING FUNDING ARCHITECTURE: OVERCOMING CHALLENGES AND IMPLEMENTING STRATEGIES FOR ADVANCING TERTIARY EDUCATION FUNDING IN NIGERIA

**Odaudu, S. Adejo, Adejo-Odaudu, V. Omomine, Damburam U. Ibrahim,
Jutum, J. Isaiah, Agbu, Koku & Shawulu, Masho**

Department of Educational Foundations, Taraba State University,
Jalingo odaudu.sunday@tsuniversity.edu.ng

Abstract

Quality tertiary education is a requirement for sustainable national development, and this is receiving attention on a global scale. In Nigeria, however, public tertiary education sector is faced with severe challenges due to insufficient funding, which has affected the quality of education. Drawing on funding architecture perspective that is anchor on Public Good Theory and Fiscal Policy and Efficiency Theory, funding architecture is put forward as a framework for analyzing the general mechanism for sourcing and strategies for tertiary education financing. Therefore, the aim of this study is to explore the challenges of funding and practical strategies for funding tertiary education in Nigeria to addresses the current challenges and promote sustainability. Mixed methods research design was adopted for the study. A total of 339 respondents were selected using multistage sampling while 12 participants (administrators, parents, teachers and students) were selected for the Key Informant Interview using purposive and snowball techniques. Data were analysed thematically, with the aid of Atlas.ti qualitative analysis software. It highlighted the funding challenges and noted that Nigerian tertiary institutions have been largely underfunded. The study recommends for policy public-private partnership, proper review and benchmarking, good governance and accountability to enable sustainable funding of tertiary education in Nigeria.

Keywords: Funding architecture, Funding challenges, Funding models, Sustainability.

Introduction

In many African countries, low funding levels persist (Nwadiani, 2022; Saric et al., 2018), posing a significant challenge to the performance of tertiary education institutions. Tertiary institutions rely on financial resources to enhance educational quality and realize their development goals (Nwadiani, 2022). However, the dwindling public funding in Nigerian tertiary institutions is alarming, compounded by increasing demands and the rising cost of education. The impact of underfunding on tertiary education performance is well-documented, with various factors contributing to this pervasive issue.

The global decline in education funding, exacerbated by economic recessions and the recent COVID-19 pandemic, has further strained resources, affecting donor spending and overall investment in education. Marketization and privatization trends in higher education systems, coupled with conservative economic theories emphasizing market competitiveness, have led to a reduction in public sector resources and the marginalization of public institutions. Despite efforts to enhance funding mechanisms, systemic challenges persist,

necessitating a closer examination and restructuring of funding architectures for sustainable development. In Nigeria, the underfunding of education, particularly at the tertiary level, has had profound repercussions, as evidenced by the Academic Staff Union of Universities' prolonged strike (8 months) in 2022. The demands for revitalizing universities and improving funding remain unresolved despite government assurances. Budgetary allocations to education have been disproportionately low. For example, in the 2022, 29 trillion was the national budget with only 7.9 percent to education (Premium Times, Nigeria, 2021). Thus, hampering educational quality, teacher retention, innovation, research, and exacerbating skills gaps in the labour market.

Recognizing the critical role of funding architecture in shaping the future of tertiary education, stakeholders, including the Association for Educational Management and Policy Practitioners, (A'EMPP) during her annual Conference in 2023 at Calabar, advocated for sustainable funding models. The discourse surrounding public funding underscores the complex interplay of government policies, societal needs, institutional missions, student affordability, and

financial sustainability. Despite the acknowledged importance of public funding, persistent underfunding hampers educational quality and institutional efficacy. Against this backdrop, this study aims to explore practical funding models for tertiary education in Nigeria, addressing existing challenges and fostering sustainability. By analyzing the current funding landscape and proposing strategic interventions, this research seeks to contribute to the ongoing dialogue on enhancing tertiary education funding for improved educational outcomes and long-term development.

Statement of the Problem

Public funding plays a crucial role in enabling tertiary institutions to deliver essential academic services. However, the education sector in Nigeria faces a significant challenge due to the consistently low allocation to tertiary education, leading to gross underfunding of institutions and subpar performance. As a result, institutions increasingly rely on student tuition and fees to bridge the funding gap. This financial strain has ramifications across various aspects of tertiary education, with institutional managers grappling with a growing student-staff ratio, lecturers being burdened with large class sizes instead of focusing on professional development, inadequate facilities hampering the learning environment, and dwindling research output despite interventions like TETFUND.

The repercussions of underfunding are evident in the declining quality of education, as overcrowded classrooms and limited resources hinder effective teaching and learning processes. With a surge in student enrolment and mounting pressure on already strained facilities, there is a pressing need for the tertiary education system in Nigeria to innovate and implement sustainable funding strategies. This study seeks to delve into the funding architecture of tertiary education, specifically addressing the challenges of funding and exploring practical strategies to enhance funding mechanisms in Nigeria. By examining these issues, the research aims to uncover viable solutions that can promote the sustainability and quality of tertiary education in the Nigerian context.

Research Questions

The research questions answered in this study are:

1. What are the challenges of funding tertiary education in Nigeria?
2. What mechanism can be adopted to ensure sustainability in the funding of tertiary education institutions in Nigeria?

Literature Review

Funding architecture in the context of tertiary education encompasses the diverse sources and

mechanisms through which financial resources are acquired, allocated, and utilized by educational institutions and government bodies to fulfill their mandates and activities. Odaudu (2023) defines funding architecture as the blueprint that provides insight into the structure and processes governing the funding practices within the education sector. Undie (2007) elaborates on this concept by portraying funding architecture as the financial manifestation of educational sector activities within a society at a specific point in time. It encapsulates the procurement and disbursement processes aimed at maintaining a predefined standard of education set by society (Ogar, et al 2022).

The dependence solely on governmental sources such as subsidies, grants, and scholarships or international aid for education is deemed inadequate in financing tertiary education sustainably (Lewin, 2020). The overarching goal of funding architecture for tertiary education is to ensure objective, efficient, transparent, and sustainable funding mechanisms that not only guarantee the delivery of quality education but also foster equity and societal development.

The perspective of funding architecture for tertiary education is anchored on Public Good Theory, as expounded by Paul Samuelson, and the Fiscal Policy and Efficiency Theory. Public Good Theory rationalizes government intervention and public funding for education by highlighting education as a non-excludable and non-rivalrous good, necessitating collective investment for societal benefit. The Fiscal Policy and Efficiency Theory emphasize the efficient allocation of resources within education, focusing on optimizing returns through effective funding mechanisms and budget considerations.

Garba and Ahmad (2012) explored funding models in higher education, emphasizing the potential of formula funding as an effective allocation mechanism for public higher educational institutions. Lawal (2013) delved into pragmatic funding sources for higher education in Nigeria, aligning them with the Nigerian National Policy on Education (FRN, 2004). However, challenges persist in the effective utilization of these funding sources, impacting program quality and outcomes in tertiary institutions in Nigeria.

Bolatitio (2017) highlighted insufficient funding as a major challenge facing tertiary education in Nigeria, attributing it to the limited budgetary allocation to the education sector. This financial constraint hinders institutions from reaching their full potential and competing globally. Identifying and addressing stakeholders' perceptions of these challenges are essential for creating sustainable solutions and enhancing the educational landscape in Nigeria.

The gaps and challenges identified in existing literature underscore the importance of further



exploration and practical strategies to reframe funding architecture for tertiary education in Nigeria. By leveraging theoretical frameworks, empirical studies, and stakeholder perspectives, efforts can be directed towards developing sustainable funding models that prioritize quality, equity, and innovation in tertiary education.

Methodology:

This study adopted Concurrent Mixed Methods (QUAL + quan) design (Falaye, 2018; Jekayinfa *et al*, 2021). This design is suitable for the study because the interest is on in-depth information on the sources of funding and the challenges with the aim of proposing strategies for funding sustainability for the Nigerian tertiary education system. The approaches allow the researchers to gain in-depth insight by describing the experiences of stakeholders.

The research involved a multistage sampling approach, where three states (Gombe, Taraba,

Adamawa) were randomly selected, and three tertiary institutions were purposively chosen in each state along with the State Ministry of Education.

A total of 378 participants, comprising students, lecturers, education managers, and ministry officials, were selected from each state. Data collection involved the use of a Funding Architecture for Tertiary Education Questionnaire (FATEQ) and Key Informant Interview Guide (KIIG) conducted via WhatsApp. Twelve additional participants were selected for in-depth Key Informant Interviews (KII) using snowball sampling techniques.

The data obtained from the participants were transcribed and coded thematically using an inductive approach of thematic content analysis with the assistance of ATLAS.ti qualitative analysis software. Ethical guidelines were strictly observed, ensuring participant confidentiality and voluntary consent.

Results

Research Questions One

What are the challenges of funding tertiary education in Nigeria?

Table 1: Mean response on the Challenges of funding tertiary education in Nigeria

S/No.	Items	N	Mean	SD	Dec.
1	Inadequate public funding	378	3.251	.8757	Agree
2	Overreliance on tuition fees	378	2.878	.6015	Agree
3	Inefficient allocation of resources	378	3.407	.8482	Agree
4	Insufficient research funding	378	3.291	.8400	Agree
5	Brain drains	378	1.952	1.0468	Disagree
6	Poor infrastructural development	378	2.918	.6190	Agree
7	Limited access and affordability	378	1.958	1.0188	Disagree
Grand Mean			2.8	0.835714	Agree

Researchers field survey (2023).

Table 1 shows the mean ratings and standard deviations of responses regarding the challenges of funding tertiary education in Nigeria. An item-by-item analysis reveals that items 1, 2, 3, 4, and 6 have means above 2.5, indicating agreement, supported by their corresponding standard deviations. In contrast, items 5 and 7 have means below 2.5, indicating disagreement. The grand mean of 2.8 surpasses the cut-off point of 2.5, further supporting the overall agreement among respondents. Specifically, participants agree that inadequate public funding, overreliance on tuition fees, inefficient allocation of resources, insufficient research funding, and poor infrastructural development are significant challenges in funding tertiary education in Nigeria. However, there

is disagreement among respondents regarding brain drain and limited access and affordability as major challenges.

Research Questions Two

What mechanism can be adopted to ensure good governance, transparency in the funding of tertiary education institutions in Nigeria?

Table 3: Mean response on the mechanism to ensure good governance and transparency in the funding tertiary education in Nigeria

S/No.	Items	N	Mean	SD	Dec.
14	Ensuring that clear policies and regulations are maintained in the allocation of funds	378	2.934	.6294	Agree
15	Independent audit and oversight on institutions	378	3.291	.8400	Agree
16	Performance evaluation reporting	378	2.878	.6015	Agree
17	Stakeholders' engagement	378	3.407	.8482	Agree
18	Ensuring freedom of information and transparency in financial information	378378	1.958	1.0188	Disagree
19	Maintaining ethical standard	378	1.952	1.0468	Disagree
20	Peer review and benchmarking for standards and global best practices	378	2.918	.6190	Agree
Grand Mean			2.8	0.800529	

Researchers field survey (2023).

Table 2 shows the mean ratings and standard deviations of responses regarding the mechanisms to ensure good governance and transparency in funding tertiary education in Nigeria. An item-by-item examination reveals that items 14, 15, 16, 17, and 20 have means above 2.5, indicating agreement, supported by their corresponding standard deviations. In contrast, items 18 and 19 have means below 2.5, indicating disagreement. With a grand mean of 2.8 exceeding the cut-off point of 2.5, there is overall agreement among respondents regarding the mechanisms for good governance and transparency. Specifically, participants agree that establishing clear policies and regulations, implementing audit and oversight measures, conducting performance evaluation reporting, engaging stakeholders, and incorporating peer reviews and benchmarking for standards and global best practices are essential for ensuring transparency and good governance in tertiary education funding in Nigeria.

However, respondents disagree on the importance of freedom of information and maintenance of ethical standards as key mechanisms. This disparity in perspectives highlights areas where further attention and alignment may be needed to promote transparency and governance effectiveness in funding mechanisms for tertiary education.

Results of Qualitative Data Analysis

The inductive approach to thematic content analysis was employed, supported by the use of Atlati qualitative analysis software, to analyze the interview data collected from participants. Through this method, two overarching themes, each containing sub-themes, emerged from the data, offering valuable insights into the phenomenon under investigation. The identified themes encompass the challenges associated with funding and strategies for ensuring sustainable funding practices.

Challenges of funding

In the qualitative studies, the challenges of funding generated three primary sub-themes: inadequate funding, reliance on school fees, and inefficient allocation of funds (refer to Figure 1, 2, and 3). On the other hand, quantitative studies identified additional challenges of funding such as brain drain, limited access, and affordability. These identified challenges, particularly the three main ones related to inadequate funding, school fees dependency, and fund allocation inefficiency, reflect key individual-related factors contributing to the challenges of tertiary education funding in Nigeria. Each of these challenges encompasses various issues, highlighting their complexity and impact.

Inadequate funding



One significant concern raised by a participant concerning inadequate funding was regarding teacher's salaries. For example, a participants said:

one of the challenges of inadequate funding is non-payment of teacher's salary (P1).

Poor funding is responsible for increased disparities between public and private universities education (P12)

Another participant believed that inadequate funding was responsible for:

Overcrowded classrooms and inadequate resources (P4).

Insufficient funds

The participants unanimously emphasized and agreed that insufficient funds are a major challenge of tertiary education in Nigeria. For example, the participants said:

Insufficient allocation may result in poor and staggered salary payment of teacher salaries, making it challenging to attract and retain talent (P2).

Limited allocation of funds can perpetuate social inequalities and hindered upward mobility (P10).

Reduced opportunities for scholars to pursue research projects and investments (P5).

On reliance on tuition fees

The participants generally agreed that reliance on tuition fees to fund tertiary education in Nigeria is a significant challenge. The participants said:

When schools rely on tuition fees, they are tendency for them to allocate resources to popular, profitable programmes rather than in useful research endeavours (P7).

Some students may opt for alternatives like vocational training or joining the workforce directly (P3).

Institutions will struggle to maintain operations, impacting educational continuity in some poorly enrolled tertiary institutions (P13).

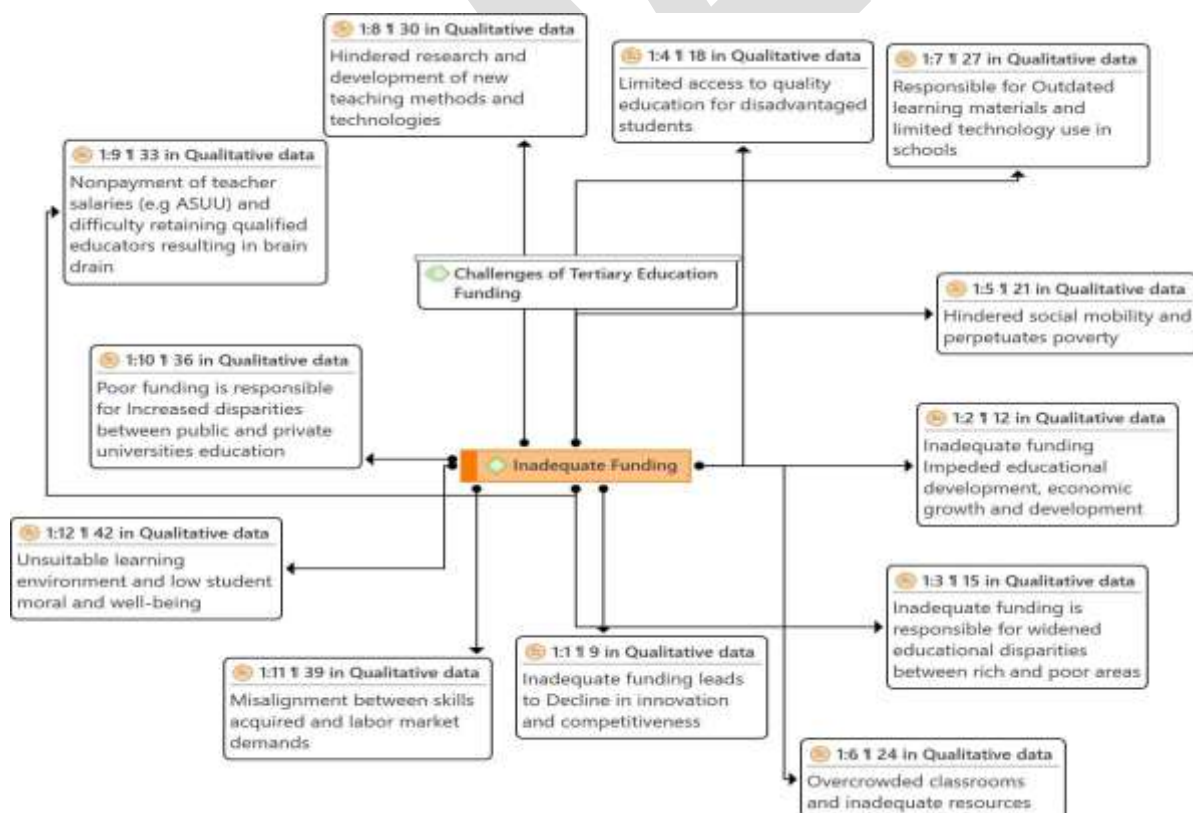


Figure 1: Inadequate Funding

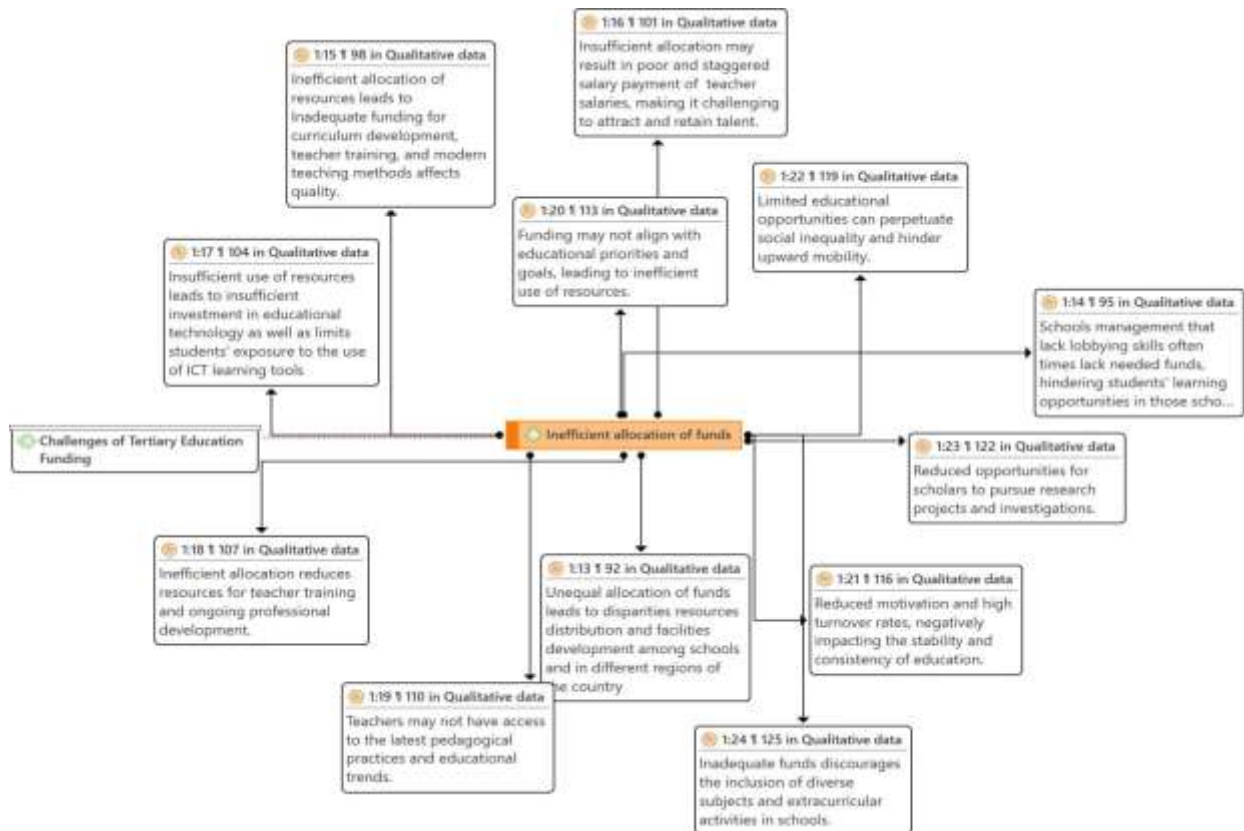


Figure 2: Inefficient allocation of funds

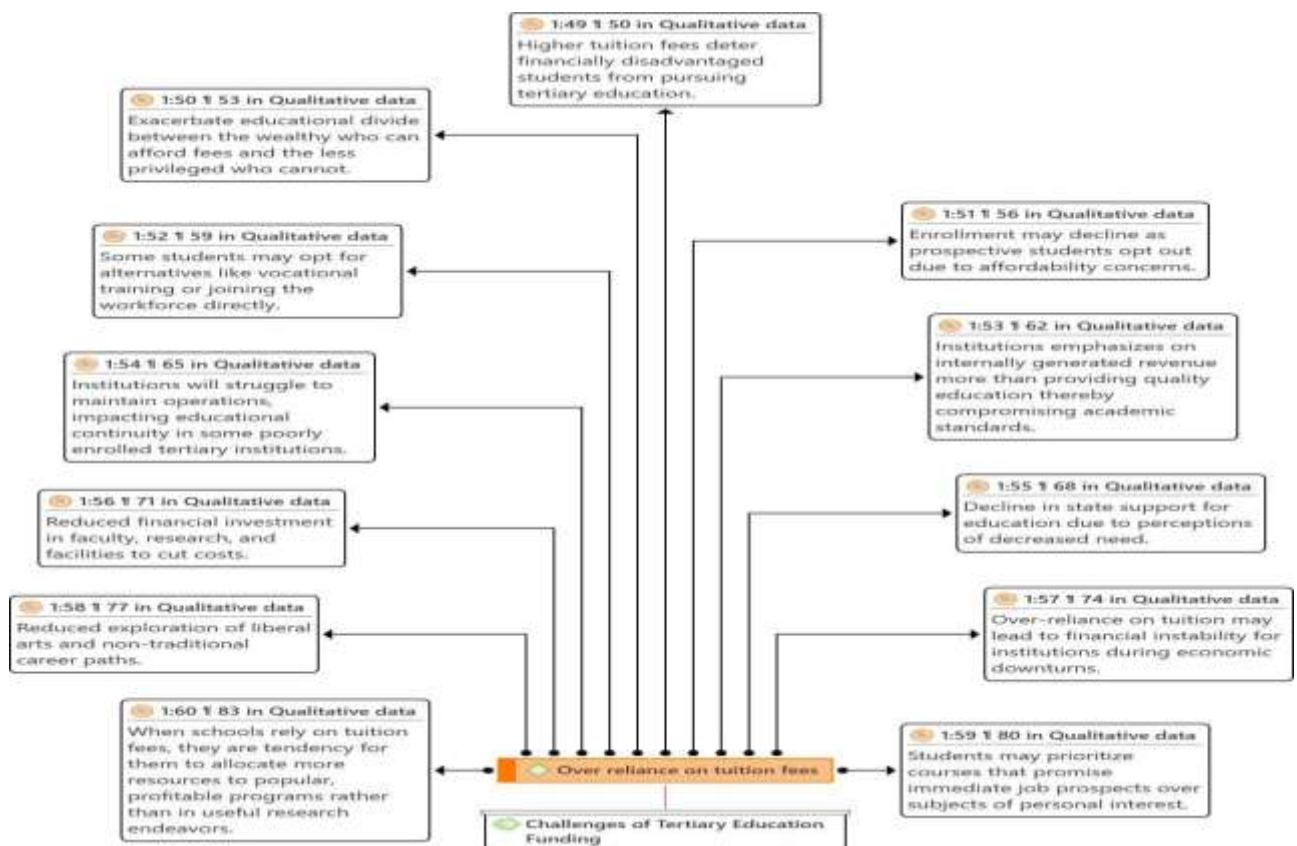


Figure 3: Over reliance on tuition fees

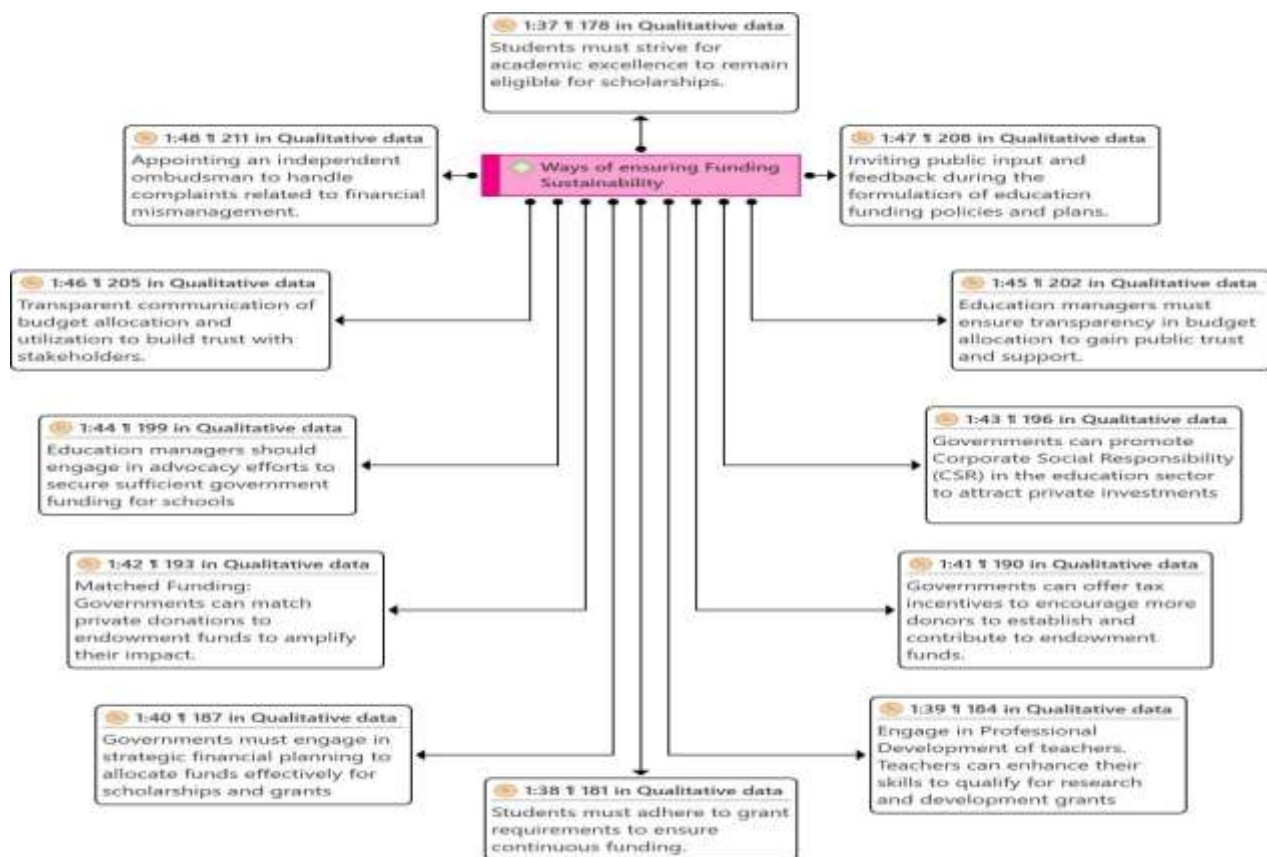


Figure 3: Ways of ensuring funding sustainability

Ways / Strategies for ensuring funding sustainability

Addressing funding sustainability (refer to fig 3) was a key objective of the study. The current focus on the funding framework for tertiary education in Nigeria has sparked increased attention among policy experts and stakeholders regarding the significant underfunding of tertiary education in the country. As a result, there is a growing interest in leveraging funding mechanisms to achieve sustainability objectives. The participants unanimously emphasized the importance of implementing strategies to ensure the sustainable funding of tertiary education. For instance, a participant highlighted the necessity for:

Governments must engage in strategic financial planning to allocate funds effectively for scholarships and grants (P11).

Discussion

The comprehensive analysis carried out in this study, encompassing both quantitative and qualitative data, has shed light on the various challenges and mechanisms related to funding tertiary education.

One of the primary findings of the study is the identification of key challenges in funding tertiary education, which include inadequate public funding, inefficient allocation of funds, over reliance on tuition fees, insufficient research funding, and inadequate infrastructural development. Notably, brain drain, limited access, and affordability were not considered major challenges according to the participants. The study highlighted that inadequate public

funding, inefficient allocation of funds, and over-reliance on tuition fees are the most significant factors affecting tertiary education funding in Nigeria. These findings are consistent with previous research conducted by scholars such as Ibara (2011), Nwadiani (2012, cited in Ubogu and Israel, 2023), Odigwe and Owan (2019), and Okebukola (2016). Nwadiani (2012) posited that the decline in the quality of education in Nigeria is primarily due to underfunding, emphasizing that effective strategies often fail due to inadequate budgetary allocations in this critical sector (Odigwe & Owan, 2019). The study highlighted that insufficient budgetary allocation and ineffective fund utilization by both government and higher education institutions

can undermine the intended impact on academic activities, research, and faculty development. Furthermore, a lack of transparency in financial management hinders effective monitoring of fund utilization, as noted by Odigwe and Owan (2019), leading to the collapse of well-intentioned policies due to inadequate financial support in the sector.

The second key finding of the study pertains to mechanisms aimed at ensuring sustainability in tertiary education funding. These mechanisms include the establishment of clear policies and regulations, robust audit and oversight mechanisms, performance evaluation and reporting, stakeholder engagement, and peer review and benchmarking against international standards and best practices. The study also indicated that respondents differed on considering freedom of information and maintenance of ethical standards as measures to ensure funding sustainability, highlighting areas where perspectives may diverge on governance and transparency in funding mechanisms for tertiary education.

Conclusion

This study has provided valuable insights into the prevailing challenges and strategies crucial in this sector. The findings underline the pressing challenges of inadequate public funding, inefficient allocation of resources, and over-reliance on tuition fees as significant obstacles to ensuring quality and sustainable tertiary education in the country. These challenges resonate with previous research and highlight the urgent need for policymakers to address these funding issues to enhance the overall educational landscape.

Moreover, the study recommends key sustainability mechanisms, including the establishment of clear policies, robust oversight, performance evaluation, stakeholder engagement, and benchmarking against global standards. These mechanisms offer a roadmap for improving funding sustainability in tertiary education and fostering transparency and accountability in resource allocation.

Moving forward, it is essential for stakeholders, including government, higher education institutions, and policymakers, to collaborate effectively in implementing these recommended mechanisms and addressing the identified challenges to ensure a robust and sustainable funding framework for tertiary education in Nigeria. By prioritizing strategic financial planning, transparency, and efficient fund

utilization, the sector can pave the way for enhanced educational quality and accessibility for all students, ultimately contributing to the socio-economic development of the nation.

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