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**INFLUENCE OF PRIVATE-PUBLIC PARTNERSHIPS ON
INFRASTRUCTURE DEVELOPMENT OF HIGHER EDUCATION
INSTITUTIONS IN NIGERIA**

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Abstract

This research aimed at investigating the influence of private-public partnerships on the development of higher education institutions through provision of infrastructure in Nigeria. The study employed descriptive survey research design. The population for the study comprises staff and students of all the three public tertiary institutions in Oyo town. Random sampling technique was adopted to select 200 respondents. A self-constructed structured questionnaire tagged Public-Private Sector Contribution to Higher Education Questionnaire (PPCHEQ) that was validated through split-half reliability test at 0.87 was obtained. All data were analysed using frequency counts and chi-Square statistics at $\alpha=0.5$. Findings revealed that the private sector plays a substantial role in advancing the infrastructure of the country's colleges and universities. Furthermore, finding showed that participation of private enterprises has a substantial influence on the advancement of infrastructure development in Nigeria's higher education institutions. It was revealed that the private sector has several challenges when it comes to its participation in the progress of Nigeria's higher education institutions. The difficulties include challenges such as lack of transparency, intense competition in the procurement process, delays in project timelines, political instability, corruption, and poor management of project stakeholders. Hence, it is advisable for Nigeria's higher institutions to strive for worldwide eminence in terms of ranking. Prioritise the Critical Success Factors, which have the utmost significance for both public and private entities engaged. The effective implementation of infrastructure projects at Higher Institutions via Public-Private Partnerships (PPPs) and the

attainment of the targeted objectives of the partnership arrangement depend on several pivotal variables.

Keyword: Funding, Higher Institution, Infrastructure, Partnership, Private sector, Public sector

Introduction

The significance of infrastructure supply in developing countries cannot be overstated, as it serves as the fundamental framework supporting the national economy of the country. The provision of infrastructure has long been recognised as a crucial responsibility of government at various levels, including local, state, and federal (Greer, 2020). Historically, governments have relied heavily on loans and credits from financial institutions to fulfil this responsibility. However, it is crucial to recognise that the investment required to tackle the infrastructure shortfall is so substantial that it cannot be realistically fulfilled exclusively via public sector dependence and heightened public borrowing. To ensure the successful involvement of private investors in the construction of infrastructure facilities within higher education institutions, it is crucial to assess both the aspects concerning private sector participation and the ones concerning the development of educational infrastructure (Bush, 2020). This study aims to evaluate the participation of the private sector in the advancement of infrastructure inside higher educational institutions in Nigeria.

The impact of private sectors on Nigerian education, both in theory and in practice, has not been definitively determined. Several studies have examined the effects of private sector involvement in the building of infrastructure in Nigerian higher education institutions, some studies have shown positive and significant advantages, others have reported significantly negative outcomes or no noticeable impact at all (Inoma, Ibadode & Ibadode, 2020).

This study endeavour holds potential benefits for several entities, including governmental bodies, educational stakeholders, societal groups, and private people. This research seeks to analyse the impact of private sector involvement in the development of infrastructure inside Nigerian higher education institutions. It will analyse the impact of such involvement and afterwards provide solutions to address the identified issues.

Purpose of the Study

The purpose of this research is to assess the involvement of the private sector in the development of infrastructure in higher education institutions in Nigeria.

Hypotheses

- H₀1: Private sector infrastructural impact has no significant development on tertiary institutions in Nigeria.
- H₀2: Private sector involvement in infrastructural provision has no significant effect on development of Nigeria's higher institutions.

- H₀₃: There is no significant difference in the awareness of people about private sector involvement in the infrastructural development of Nigeria's higher institutions.
- H₀₄: Problems facing private sectors in their involvement in the infrastructural development of Nigeria's higher institutions are the same.

Empirical Review of Literature

In a study conducted by Afieroho (2022) on difficulties associated with establishing Public-Private Partnerships (PPPs) in the education infrastructure sector in Nigeria using an open-ended, inductive, and qualitative strategy for both data gathering and analysis the result shows lack of well-defined and transparent laws and regulations regarding public-private partnerships (PPP) in the Nigerian education sector has generated apprehension among private sector investors. Notwithstanding the confidence offered by the direct approaches to engaging with important public sector bodies and the streamlined procedural processes, the absence of lucidity and openness in the governance framework is disconcerting. The absence of clear and readily comprehensible rules was apparent in the lack of a financial system established to support the advancement of feasible ideas, especially within this specific industry. This paper provides a series of recommendations designed to enhance the effectiveness of current legislation, regulatory processes, and institutional structures that regulate Public-Private Partnerships (PPP) in Nigeria. To summarise, it is advisable to create a thorough and enduring vision for the sector, together with measurable goals and a strategic legal framework.

Using Cobb Douglass production function modelling to estimate the impact of public-private partnership on educational development in Nigeria, Adeagbo (2022) finding shows that government allocation to education in Nigeria during periods under estimation falls below 18% as recommended by UNESCO. The finding however revealed that Gross Fixed Capital Formation, unemployment rate, total labour force, public and private expenditure on education grossly affect educational development in Nigeria.

In a study conducted by Osuji, Mafar and Chagbe (2016) investigating the rationale for using the private sector in advancing higher education in Africa, particularly in relation to economic rejuvenation in a globalised context shows that globalisation acts as a stimulus for economic growth and development, but it also imposes limitations on these phenomena. The authors contend that it is crucial to cultivate the information, skills, and attitudes necessary to effectively exploit the possibilities presented by globalisation, while simultaneously tackling the difficulties it presents. Achieving this goal may be attained by pursuing higher education. Nevertheless, the public education system in Africa is constrained by certain limits that impede its scope and efficacy. Hence, they propose a greater participation of the private sector in the realm of higher education as a feasible solution for addressing certain deficiencies seen in public higher education.

The work of Ateloye, Bowles and Oyegoke (2016) on determinants of

limited involvement in the Private Public Partnership procurement system in the Nigerian Higher Education sector shows that there was a noticeable reluctance among the commercial sector to engage in collaborations with the public sector. The research findings also show that the adoption of enhanced transparency and accountability measures in the bidding processes can have a substantial positive impact on the efficacy of Private Public Partnership projects within the Higher Education sector. Therefore, it is advisable to build governance structures and processes in order to minimise corruption and cultivate trust among stakeholders.

In their study, Babatunde, Opawole and Akinsiku (2012) analyse the optimal infrastructure projects for implementation through public-private partnerships (PPP) and identify key elements that contribute to the success of collaborations between the public and the private sectors. The aim of this effort is to improve the efficiency and efficacy of infrastructure delivery in Nigeria. Surveys are often used as the primary method for gathering data, based on the current body of knowledge on significant determinants for success. Participants engaged in Public-Private Partnership (PPP) projects in Lagos State were given standardised questionnaires at several stages: the inception, construction, and maintenance and operation phases. The average score ranking revealed that transportation, which includes roads, trains, and airports, had the highest place, with electricity and water closely trailing after. Public-Private Partnerships (PPPs) were deemed unsuitable for projects involving real estate and educational infrastructure. However, the one-way analysis of variance (ANOVA) findings showed that there was no statistically significant variation in the appropriateness of public-private partnership (PPP) for infrastructure project delivery.

The study also listed nine crucial success factors (CSFs) related to public-private partnerships (PPPs). The factors that contribute to this include a rigorous and competitive procurement process, a thorough and practical cost-benefit analysis, a favourable regulatory framework, effective risk allocation and sharing mechanisms, government guarantees, strong political support, stable macroeconomic conditions, sound economic policies, and a well-suited financial market. The research findings revealed that private investors place a high importance on governmental institutions that are well-organised and devoted, as well as societal support, project technical feasibility, and aims that offer many advantages.

Public customers prioritise critical success factors (CSFs) including transparency in procurement processes, shared authority between public and private sectors, comprehensive and realistic cost-benefit analyses, commitment and responsibility from both sectors, and the formation of strong and efficient private consortia.

In a study conducted by Ehigiamusoe (2012), the focus was on examining the involvement of the private sector in secondary education in Nigeria and the potential consequences it may have on the country's overall progress. The population consisted of individuals who both provided and utilised private secondary school services inside the Federal Capital Territory (FCT). Random sampling method was

employed to choose a sample of 200 individuals who are involved in the provision and reception of private secondary education. The sample was obtained from the six Area Councils situated inside the Federal Capital Territory (FCT). The data collection method was conducted using a tool called the Private Sector Participation in Secondary Education (PSPSE) instrument. The data was evaluated using the Chi-Square technique to assess the validity or invalidity of the research hypotheses. The study's results indicate that students enrolling in private secondary schools exhibit superior academic achievement in comparison to their peers attending public secondary schools and private secondary schools in Nigeria have more sophisticated infrastructure when compared to public schools.

Nevertheless, it has been noted that private secondary schools in Nigeria provide a comparatively lesser contribution to the cultivation of human resources when compared to public schools. Proposals are put up to augment the sustainability and adaptability of private secondary education in alignment with social demands

Methodology

This research used a descriptive design. This research includes collecting data from participants and drawing conclusions regarding the survey on the role of the private sector in constructing infrastructure in higher education institutions in Nigeria.

The study's population comprises all the five (5) public and private tertiary institutions in the Oyo area of Oyo State, Nigeria, with a specific focus on three (3) public prominent educational institutions within the state. The academic institutions in question include the Federal College of Education (FCES), Oyo, Ekiti State University (EKSU) of Emmanuel Alayande College of Education Oyo campus, and Emmanuel Alayande College of Education, Oyo.

The study employed the use of simple random sampling techniques which exposed the target population to equal chance of being selected for the study. In all, a total of two hundred (200) educational stakeholders (students and staff of the two institutions) were selected to elicit the information needed as relevant to the study.

The data gathering tool employed in this study is a self-designed closed-ended questionnaire tagged Public-Private Sector Contribution to Higher Education Questionnaire (PPCHEQ). The questionnaire comprises two primary components. The section A of the questionnaire pertained to the demographic characteristics of the participants. Section B analyses the influence of public-private partnerships on the progress of higher education institutions in Nigeria. Participants are required to evaluate each topic using a four-point Likert scale, which spans from strongly agree (SA) to agree (A), to strongly disagree (SD) and disagree (D).

To confirm the instrument's dependability, questionnaires were administered to respondents outside the research region. The researchers utilised the split-half reliability approach to assess the instrument's reliability. The obtained value of 0.87 indicates that the instrument is dependable.

All data were analysed using basic percentage calculations and Chi-square

statistical analysis this method is preferred because of the nature of data set which categorises samples into different classes and collected responses through different institutions and class level. Besides, all observations are independent. The significance threshold was set $\alpha=0.05$.

Results and Discussion

Descriptive Analysis of Data

Demographic Information of the Respondents

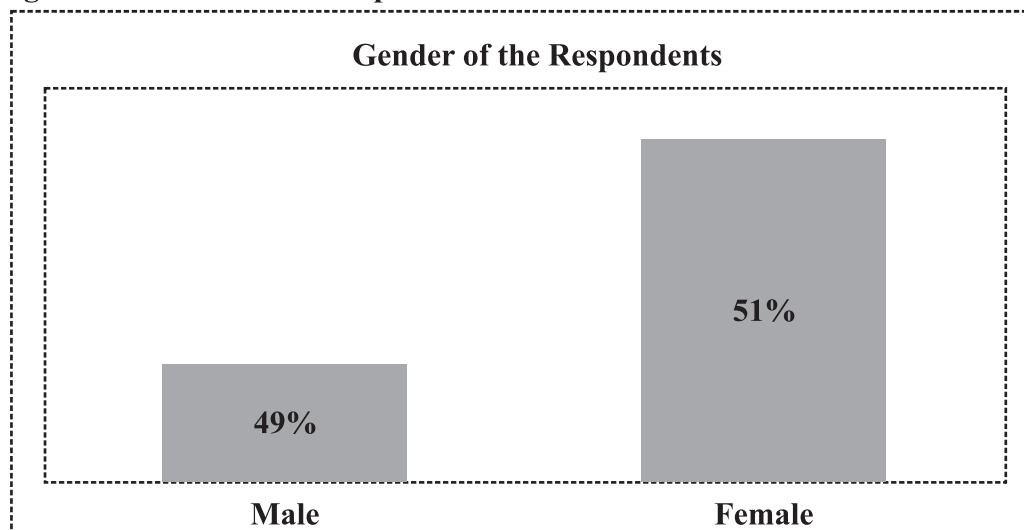
Table 1: Respondents' Institutions

Item	Frequency	Per cent
EACOED	50	25.0
FCES, OYO	50	25.0
EKSU, OYO	100	50.0
Total	200	100.0

Source: Field Work (2023)

Table 1 illustrates distribution of the respondents based on the school attendance. From the result, 50(25%) of the respondents were from EACOED OYO, 50(25%) of the respondents were from FCES, OYO while 100(50%) of the respondents were Degree Students of EKSU Oyo Campus. Hence, the majority of the respondents were degree students from EKSU, Oyo. The selection was based on enrolment rate of the two institutions. Emmanuel Alayande College of Education Oyo has more students and staff population than the Federal College of Education (Special), Oyo

Figure 1: Gender of the Respondents



Source: Field Work, (2023).

According to the data shown in figure 1, the findings indicate that out of a total of 200 participants, 98 (49%) were male and 102 (51%) were female. Therefore, most of the participants were female.

Table 2: Respondents' Faculty

Item	Frequency	Per cent
Unspecified	24	12.0
Education	24	12.0
Arts and Social Sciences	82	41.0
Science	48	24.0
Languages	20	10.0
Vocational and Technical	02	1.0
Total	200	100.0

Source: Field Work (2023)

Table 2 depicts distribution of the respondents based on their school faculty. From the result, 24(12%) did not specify their faculty, 24(12%) were from school of education, 82(41%) were from school of Arts and Social Sciences, 48(24%) were from school of Sciences, 20(10%) were from school of Languages while 2(1%) were from school of Vocational and Technical Education. Hence, the majority of the respondents were from the School of Arts and Social Sciences.

Table 3: Respondents' Age

Year	Frequency	Per cent
16-19	32	16.0
20-25	90	45.0
26-30	52	26.0
30 years and above	26	13.0
Total	200	100.0

Source: Field Work (2023)

Table 3 illustrates the age of the participants. Among the 200 respondents, 32 individuals (16%) are between the ages of 16 and 19, 90 individuals (45%) are between the ages of 20 and 25, 52 individuals (26%) are between the ages of 26 and 30, and 26 individuals (13%) are 30 years old or older. Therefore, the bulk of the participants belong to the age bracket of 20-25 years.

Table 4: Respondents' Academic Level

Academic Level	Frequency	Per cent
100L	40	20.0
200L	130	65.0
300L	20	10.0
400L	10	5.0
Total	200	100.0

Source: Field Work (2023)

The outcome from table 4 shows the Academic level of the participants. From the result, 40(20%) of the respondents were new entrants, 130(65%) were second year students, 20(10%) were in 300 level while 10(5%) of the respondents were final year students.

4.2 Test of Hypotheses

H₀₁: Private sector infrastructural impact has no significant development on tertiary institutions in Nigeria.

Table 5: Chi-square Analysis Showing the impact of Private Sector in the infrastructural Development of Tertiary Institutions in Nigeria

Item	Mean	SD	X^2_{cal}	X^2_{tab}	DF	Sig.
Impacts of private sector in the Infrastructural development of higher institutions in Nigeria	8.4000	2.73769	81.440 ^a	16.675	06	.000

Source: Author's Computation (2023).

Table 1 shows the responses of the respondents on the impacts of private sector in the infrastructural development of tertiary institutions in Nigeria the Mean values and standard deviation values were 8.4000 and 2.73769 respectively. Also $X^2_{cal} = 81.440$, $X^2_{tab} = 16.675$. Since, X^2_{cal} is greater than and probability is less than 5%, the null hypothesis was rejected. Hence, it was concluded that the Private sector has a significant impact on infrastructural development of higher institutions in Nigeria.

H₀₂: Private sector involvement in infrastructural provision has no significant effect on development of Nigeria's higher institutions.

Table 6: Involvement of Private Sector in the provision of Infrastructural Development on Higher Institutions

Items	Mean	SD	X^2_{cal}	X^2_{tab}	DF	Sig.
Private Sector's involvement in Infrastructural Development of Tertiary Institutions in Nigeria	8.300	2.77390	74.000 ^b	16.675	04	.000

Source: Author's Computation (2023)

Table 6 depicts the involvement of private sectors in infrastructural development of

Nigeria's higher institutions; the Mean values and standard deviation values were 8.3200 and 2.77390 respectively. Also $X^2_{cal} = 31.760$, $X^2_{tab} = 16.675$. Since, the X^2_{cal} is greater than and probability is less than 5%, (H_0) null hypothesis was rejected Hence, we conclude that the awareness of private sector involvement in Higher Institutions infrastructural development in Nigeria.

H_{04} : Problems facing private sectors in their involvement in the infrastructural development of Nigeria's higher institutions are the same.

Table 8: Problems facing Private Sector's Involvement in the Infrastructural Development of Tertiary Institutions in Nigeria

Items	Mean	SD	X^2_{cal}	X^2_{tab}	DF	Sig.
Transparency and competitive procurement process	8.300	2.77390	74.000 ^b	16.675	04	.000
Problem of time lag	10.1212	3.12094	38.485 ^c	21.026	04	.000
Political Instability						
Corruption						
Poor Management of projects stakeholders						

Source: Author's Computation (2023).

Table 8 indicates the result for the research hypothesis on the problems facing the private sector's involvement in the infrastructural development of higher institutions in Nigeria; the Mean values and standard deviation values were 10.1212 and 3.12094 respectively. Also $X^2_{cal} = 38.485$, $X^2_{tab} = 21.026$. Since, the X^2_{cal} is greater than X^2_{tab} and probability is less than 5%, the null hypothesis was rejected. Hence, its is concluded that all the items stated were respective items were the significant problems confronting private sector's involvement in the infrastructural development of tertiary institutions in Nigeria

Discussion of Findings

The empirical findings underscore the substantial developmental impact that private sector involvement has exerted on tertiary institutions within the Nigerian educational landscape. The observed influence extends beyond mere infrastructural enhancements, encompassing broader facets of institutional growth and resilience. As evidenced by recent study by Ogunode and Musa, (2020), private partnerships have not only addressed the longstanding infrastructural deficits but have also catalysed advancements in academic programs, research capabilities, and overall institutional competitiveness. It is imperative for policymakers and stakeholders to

recognize and further explore the multifaceted contributions of private sector engagement, fostering an environment conducive to sustained development and innovation in higher education infrastructure in Nigeria

The examination of private sector involvement in the provision of infrastructure within the higher education sector in Nigeria reveals a profound and noteworthy impact on the overall development of these academic institutions. The findings underscore the critical role played by private partnerships in fostering infrastructural growth and improving the educational landscape. As observed in the study conducted by Ogunode and Musa, (2020), the injection of private capital has not only addressed the persistent challenges related to inadequate infrastructure but has also catalysed advancements in academic facilities and support services. This symbiotic relationship between the private sector and higher education institutions demonstrates a promising avenue for sustainable development, paving the way for enhanced educational quality and broader socio-economic benefits

The findings underscore a notable variance in the awareness levels among individuals regarding the private sector's role in advancing the infrastructure of higher education in Nigeria. This disparity may stem from various factors, including regional disparities, socio-economic backgrounds, and educational levels. The observed differences emphasise the need for targeted and comprehensive awareness campaigns to ensure that a more equitable understanding of private sector involvement permeates diverse segments of the population. Additionally, fostering collaborations between stakeholders, such as government bodies, educational institutions, and private entities, could facilitate a more informed and collective approach towards enhancing public awareness and engagement in higher education infrastructure development initiatives. This nuanced understanding is crucial for shaping effective policies and strategies that can harness the potential benefits of private partnerships in fostering sustainable growth and development within the Nigerian higher education landscape. The results of this finding was in line with the outcomes of Waqas, Rehman and Rehman, (2019); Ogunode and Musa, (2020) and Enamiroro, (2021) who examines the roles of private sectors in the infrastructural development of tertiary institutions in Nigeria.

In conclusion, the examination of private sector engagement in the infrastructural development of Nigeria's higher education institutions reveals a multifaceted landscape marked by significant challenges. The identified issues, including transparency and competitive procurement processes, time lag, political instability, corruption, and poor management of project stakeholders, underscore the complex environment within which private partnerships operate. These challenges not only pose substantial barriers to the effective implementation of infrastructure projects but also impede the overarching goals of enhancing educational facilities in the country. Addressing these issues demands a concerted effort from various stakeholders, including government entities, private enterprises, and academic institutions, to institute robust governance frameworks, foster transparency, and mitigate the impact of external factors such as political instability on project

timelines. Furthermore, a strategic approach to addressing corruption and improving stakeholder management is imperative for fostering sustainable and successful private sector involvement in Nigeria's higher education infrastructure development. This nuanced understanding of the challenges lays the groundwork for informed policy interventions aimed at creating an environment conducive to collaborative and impactful infrastructure initiatives in the Nigerian higher education sector.

Conclusion

In conclusion, the findings underscore the substantial impact of private sector involvement in the infrastructural development of Nigeria's higher institutions. The discernible differences in public awareness regarding this engagement highlight the need for increased communication and advocacy initiatives to enhance public understanding of the positive outcomes associated with private sector participation. However, the study also sheds light on a myriad of challenges faced by private sector entities in this realm, ranging from issues of time lag and political instability to corruption and suboptimal project management. Addressing these impediments is imperative for fostering a conducive environment that allows private partners to contribute more effectively to the advancement of higher education infrastructure in Nigeria. This necessitates coordinated efforts from both governmental and non-governmental stakeholders to institute reforms that enhance transparency, efficiency, and accountability in the procurement and execution of projects, thereby fostering a more robust partnership between the public and private sectors in the nation's educational development.

Recommendations

Policy recommendations include strict transparency and accountability in infrastructural projects procurement and execution, addressing corruption and suboptimal project management. Implementing regulatory frameworks, robust auditing mechanisms, stakeholder consultations, and digital platforms can promote openness and fairness. Addressing external challenges like political instability and time lag requires risk mitigation frameworks, diplomatic efforts, and a dedicated regulatory body overseeing private sector involvement in higher education infrastructure projects.

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