Internally Generated Revenue and Infrastructural Development in Nigeria

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Abstract

Nigeria continues to grapple with severe infrastructural deficits despite years of public investment and development programmes. This has constrained productivity and living standards. The decline in oil revenue has prompted a shift toward Internally Generated Revenue (IGR) as a sustainable funding alternative. This study therefore examined the impact of internally generated revenue (IGR) on infrastructural development in Nigeria from 1985 to 2024. The variables employed in the study include infrastructural development, tax revenue, non-tax revenue, economic growth and corruption perception index. Relying on a correlation research design, the study deployed the Autoregressive Distributed Lagged (ARDL) model to analyze the time series data to capture both short-run and long-run dynamics among variables that are integrated of orders I(0) and I(1), but not I(2). The empirical results revealed that both tax and non-tax revenues had a positive and statistically significant effect on infrastructural development, suggesting that efficient tax and non-tax revenue mobilization enhances government fiscal capacity to finance infrastructural projects. Gross Domestic Product per capita also showed a positive and significant relationship with infrastructural development, confirming that economic growth drives infrastructure investment. However, the corruption perception index (CPI) was negative and statistically significant, implying that corruption undermines infrastructural progress. The study thus concluded that internally generated revenue from both taxes and non-tax sources is a critical driver of infrastructural growth in Nigeria. The study recommended strengthening tax administration, diversifying non-tax revenue sources, promoting economic productivity, and implementing strong institutional reforms to curb corruption and enhance fiscal transparency.

Keywords: Internally Generated Revenue, Infrastructure Development, Tax Revenue, GDP$_{per}$ capita, Corruption Perception Index.

1. Introduction

Nigeria continues to face persistent infrastructural challenges despite decades of public spending and development initiatives. Poor road networks, unreliable power supply, inadequate water systems, and decaying educational and health facilities have collectively hindered economic productivity and reduced the quality of life. While oil revenue has long dominated the nation's fiscal structure, its volatility and recent decline have exposed Nigeria's vulnerability and fiscal imbalance. Consequently, attention has shifted toward Internally Generated Revenue (IGR) as a sustainable source for financing infrastructure. Internally Generated Revenue (IGR) refers to all funds a government raises within its own jurisdiction through taxes, levies, fees, fines, and service charges, excluding allocations from external or federal sources (Adebayo, 2021). In modern societies, it is the responsibility of the government to provide the infrastructural needs of the people. To fulfill this social obligation, revenue in form of money is required. Hence government needs money to protect lives and property, provide amenities for the people and enhance people's living standard. Government at all levels in Nigeria has been constitutionally permitted to generate revenues either through the collection taxes from the public and or exploitation of mineral resources according to the

legislative competence of each level of government, in order to discharge their functions to the people (Adeleke, 2011).

Low level or inadequate infrastructural will scare away both domestic and foreign potential investors. This in turn will lead to low government revenue from taxes such as Petroleum Profit Tax (PPT), Company Income Tax (CIT), value Added Tax (VAT), Personal Income Tax (PIT), Excise duty, Stamp duty etc. Hence, government will be forced to depend on the already dwindling oil revenue, thus impeding the growth and development of the economy and inability of government to execute its function.

Nigeria's infrastructure development is a critical aspect of its economic growth and development. The state of infrastructural development in Nigeria is characterized by significant challenges, including inadequate transportation networks, insufficient energy supply, and limited access to quality healthcare and education (Adebayo, 2021; Okoro and Okonkwo, 2022). These challenges hinder economic growth, affect citizens' quality of life, and discourage foreign investment (Ogbonna and Nwankwo, 2020). Today, inadequate infrastructure is holding back Nigeria's economic growth per capital by 2% each year and reducing firms' productivity by as much as 40%. The largest deficit in infrastructure in Nigeria can be found in the power sector, where only one in four Nigerian can have access to electricity, with a large percentage of Nigerians estimated to be experiencing regular blackouts due to power shortages. Another short coming in infrastructure can be found in roads in Nigeria. There are about 200000km of roads in Nigeria and 36000km belong to the federal government, of the later, only about 30% are in good condition. The share of the states and local government are in terribly worse conditions. The above contending inadequacies in infrastructural development scare potential investors away. This led to low income and the attendant income tax accruing to government.

Internally generated revenue (IGR) is a major source of funding for federal, state and local government operations, which help in broadening and widening the overall non-oil revenue structure of the state (Oti and Odey, 2017). The motive is to provide basic infrastructure capable of improving the welfare of the citizen and enabling environment for business operation. It is the responsibility of various tiers of government in Nigerian to provide infrastructure. But due to the paucity of fund, this inherent obligation has turn to a mirage. Nigeria as an oil producing nation has relied mostly on revenue from oil and gas and constantly neglected other sources of revenue. The key enforcer of social contract between them government and its citizen is the level of revenue generated internally to execute it primary objectives of internal defence and infrastructural development. IGR is crucial for budgeting and effective fiscal instrument that guide the advancement of any economy (Olayinka and Irewole, 2019). Internally Generated Revenue (IGR) plays a pivotal role in driving infrastructural development, particularly in developing economies such as Nigeria, where fiscal resources are often constrained. A sustainable level of IGR enables governments at all tiers to fund critical infrastructure projects such as roads, electricity, healthcare, and education without overreliance on oil revenue or external borrowing. According to Adebayo (2021), increased IGR enhances fiscal autonomy and strengthens the capacity of subnational governments to deliver social and economic infrastructure. Similarly, Olayinka and Irewole (2019) found that IGR has a positive and significant effect on infrastructural development, as states with higher revenue mobilization tend to record greater improvements in public utilities.

In the same vein, Muojekwu and Udeh (2023) revealed that tax revenue significantly contributes to capital expenditure on roads, schools, and healthcare facilities in Nigeria. These studies collectively affirm that IGR serves as a catalyst for infrastructural development and

sustainable economic growth. Despite extensive research on internally generated revenue (IGR) and infrastructure in Nigeria, most studies focused only on tax revenue, neglecting the combined impact of tax and non-tax sources at the national level. Previous works also relied on static models like OLS, which ignore the dynamic and time-dependent nature of fiscal relationships. Moreover, institutional factors such as corruption and governance quality were often overlooked, and many studies were limited in scope and duration. This study fills these gaps by applying the Autoregressive Distributed Lag (ARDL) model, integrating institutional quality (CPI), and using extended data (1985–2024) to capture both short- and long-run effects of IGR on infrastructure development. Therefore, the focus of this study is to empirically investigate the impact of internally generated revenue on infrastructural development in Nigeria.

2.0   Literature Review

2.1   Conceptual Review

To provide a clearer conceptual foundation for this investigation, it is essential to first examine the underlying concepts that underpin the study. The concepts reviewed here are internally generated revenue and infrastructural development.

2.1.1   Concept of Revenue and Internally Generated Revenue

Revenue or government revenue includes all monies (i.e., taxes and fees) received from sources outside the government entity (Popp, 1993). According to BudgIT (2024), Internally Generated Revenue (IGR) encompasses all revenues mobilized by a government whether federal, state, or local within their respective jurisdictions, excluding grants, loans, or transfers from higher tiers of government. It generally consists of two major categories: tax revenue, which includes personal income tax, company and corporate taxes, value-added tax (VAT), withholding tax, stamp duties, property or land taxes, and licensing fees; and non-tax revenue, which covers service charges, administrative fees, fines, rents, royalties, dividends from state-owned enterprises, and miscellaneous receipts from ministries, departments, and agencies. Oseni (2013) similarly defined IGR as income generated domestically within the jurisdiction of government through taxes, levies, and other charges, excluding externally sourced funds such as oil allocations or foreign aid. This view emphasizes the government's fiscal efficiency, innovation, and accountability in mobilizing local resources through mechanisms like taxes, service fees, and returns on investments.

In the same vein, Adesoji and Ogechi (2013) described IGR as revenues collected within a state from diverse sources including taxes, rates, fees, fines, and commercial ventures under direct state control. Their perspective highlights fiscal decentralization, implying that a state's capacity to generate sufficient internal revenue determines its ability to deliver infrastructure and social services. Thus, IGR reflects administrative capability and governance effectiveness in leveraging local economic potentials. Oluwole and Gbolahan (2020) defined IGR as funds generated by subnational governments (such as states or municipalities) independently of federal allocations, primarily from taxes, fees, fines, and charges for government services. They assert that IGR enhances fiscal autonomy and sustainability, empowering local authorities to meet community-specific development needs.

Similarly, Iheonu et al. (2021) explain IGR as funds realized through an organization's internal activities rather than through borrowing or external assistance a view supported by Arowosola and Oni (2019), who note that such revenues exclude loans, asset sales, or debt instruments.

Kamal et al., (2025)

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The generation and effective management of IGR are essential for subnational governments' financial independence, enabling improved budgeting, local project financing, and citizen accountability (Akor et al., 2024). In the report of the Nigerian Extractive Industries Transparency Initiative (NEITI, 2013), Internally Generated Revenue (IGR) is defined to include the following: personal income tax which applies to the residents of the state; withholding tax which applies to individuals only; capital gains tax for individuals only; stamp duties applicable to instruments executed by individuals only; road taxes, like vehicle licenses; taxes on pool bets, lottery and casino wins; business premises and registration fees; developments levy applicable to taxable individuals only; fees for right occupancy on urban land owned by the state government; market taxes and levies where state finance is involved; and miscellaneous revenue including but not limited to rent on government property, incomes from investment.

2.1.2   Concept of Infrastructural Development

Infrastructure is defined in many ways. According to business dictionary, infrastructure is defined as relatively permanent and foundation capital investment of a country, firm or project that under and make possible all its economic activities. They include: administrative, telecommunication, transportation, utilities and waste removal and process facilities. The term infrastructure could be defined as the provision of essential services and amenities to the industry and household in the society (Martin and Lee (1996). Hence, investment in infrastructural development projects is a key input in the development of the economy and Panacea to economic activity and growth. Infrastructural development is the improvement in the quality of various components of infrastructure such as road, electricity, health, education, water, sanitation, security, and ICT Ports among others in a country, (Osei-Hwedie and Kurantin, 2017). Infrastructure is a relatively permanent and foundation capital investment of a country, firm or project that makes possible all its economic activities. They include administrative telecommunication, transportation, utilities and waste removal and process facilities. Infrastructure is classified as hard infrastructure and soft infrastructure.

Hard infrastructure is the tangible, physical assembly of structures such as roads, bridges Hard infrastructure refers to the tangible, physical structures that form the foundation of economic and social activity, including roads, bridges, tunnels, railways, power plants, and water systems. These assets are essential for facilitating production, trade, and movement, serving as the backbone of a functional economy (Calderón and Servén, 2014). Hard infrastructure comprises facilities such as transport networks, energy supply, telecommunications, health systems, educational facilities, and agricultural support structures that enable the smooth functioning of society. In contrast, soft infrastructure consists of institutions, systems, and human capital that uphold and manage the economy, such as governance structures, financial institutions, healthcare systems, education, legal frameworks, and security agencies (Akinwale and Adekunle, 2022).   Soft infrastructure provides the regulatory and organizational framework necessary for the efficient utilization and maintenance of hard infrastructure and the overall development process. Broadly, infrastructure represents the provision of essential services and amenities that support industrial, commercial, and household activities, thereby enhancing productivity and quality of life. Investment in infrastructural development—both hard and soft—is a critical input for economic growth and a catalyst for sustainable development. It enhances connectivity, promotes industrialization, improves access to healthcare and education, and fosters technological progress (Adebayo, 2021). Development, being a sine qua non for modern civilization, relies heavily on adequate infrastructure. Governments utilize revenue generated internally through taxation and non-tax sources to fund key projects such as the construction of roads, bridges, schools, healthcare centers, and water facilities. Therefore, infrastructure investment serves as a vital mechanism through which governments stimulate

economic activities, create employment, and improve citizens' welfare (Adesoji and Ogechi, 2013).

2.2 Theoretical Framework

To provide a strong analytical foundation for this study, it is essential to anchor the discussion within an appropriate theoretical framework. Theoretical framework x-rayed the relationship between internally generated revenue and infrastructural development.

2.2.1 Fiscal Federalism Theory

The study was anchored on the fiscal federalism theory. The Fiscal Federalism Theory was developed in the mid-20th century by Richard Musgrave (1959) and Wallace Oates (1972). The formal articulation of fiscal federalism as a distinct concept was later advanced by Wallace Oates (1972) in his seminal book *"Fiscal Federalism,"* which provided a comprehensive framework for understanding the allocation of functions and resources among different tiers of government within a federal system. Oates' theory was further refined in subsequent works (Oates, 1999; 2005), which explored how decentralization and intergovernmental fiscal arrangements affect efficiency, accountability, and development outcomes. There are three roles expected from the government sector within the framework and they include the role of government in correcting various forms of market failure, the role of ensuring equitable distribution of income and the role of maintaining stability in the macro economy at full employment and stable prices. This study is mostly related to the role of the government in correcting various forms of market failures. Hence the government is expected to step in where the market mechanism failed due to various types of public goods characteristics.

The theory focused on situations where different levels of government provide efficient level of outputs of public goods for those goods whose special patterns of benefits were encompassed by geographical scope of their jurisdictions and such situation is known as "Perfect Mapping" or fiscal equivalent (Olson 1969). However, it was noticed that, given the multiplicity of local public goods with varying geographical patterns of consumption, there was hardly any level of government that could produce a perfect mapping for all public goods. Thus, it was recognized that there would be local public goods with inter jurisdiction spill overs. e.g. a road may confer public goods characteristics, the benefits of which are enjoyed beyond the local jurisdiction. The local authority may then under provide for such a good. To avoid this, the theory then resorts to traditional pigouvian subsidies, requiring the central government to provide matching grants to the lower level government so that it can internalize the full benefits. Fiscal Federalism Theory is relevant to the study because the theory underscores the need for stronger fiscal decentralization and by enhancing IGR through efficient tax administration, financial innovation, and transparency, Nigeria can achieve sustainable infrastructural development and reduce dependence on volatile oil revenues.

The Fiscal Federalism Theory explains how the allocation of fiscal responsibilities and revenue powers influences national economic performance. The theory explains how the federal government's control over major revenue sources, such as oil, shapes funding for capital infrastructure, tax and non-tax revenue generation, and overall economic growth (GDP per capita). It suggests that effective fiscal management and coordination across sectors are vital for mobilizing resources to finance infrastructure and promote development. Strong institutional governance is also essential to ensure transparency, accountability, and efficient utilization of public funds, thereby enhancing Nigeria's economic performance and sustainable growth. Thus, this study adapted the Fiscal Federalism Theory as its guiding framework because it provides the conceptual justification for examining how internally generated revenue

contributes to infrastructural development in Nigeria. The theory supports the argument that fiscal autonomy, when properly managed, leads to improved service delivery, accountability and balanced regional development.

2.3   Empirical Review

The study reviewed the works of other authors which are relevant to the study on the relationship between internally generated revenue and infrastructural development. These studies employed different econometric methods and data sources to examine how internally generated revenue influences infrastructure growth and development. They are discussed below:

Amadi and Okorontah (2024) investigated the effect of internally generated revenue on infrastructure development in River state. The study adopted econometrics analytical method centered on Dynamic Ordinary Least Square technique (DOLS). The Kwiatkowski-Philips-Schmidts-Shin (KPSS) unit root test was applied to test for the stationarity of the time series data. The study adopts ex-post facto research design. Secondary data were extracted from Nigeria Bureau of Statistics annual report and Rivers state internal revenue office of 2010 to 2022. The empirical results from DOLS revealed tax revenue, revenue of ministries, department and agencies as well as federal allocation have a positive effect on infrastructural development in Rivers state. Meanwhile, inflation rate was observed to exhibited negative influence on infrastructure. The study concluded that internally generated revenue has a significant effect on infrastructural development of Rivers state.

Muojekwu and Udeh (2023) assessed the effect of tax revenue on infrastructural development of Nigeria. Petroleum profit tax, company income tax, value added and custom and excise duties tax were used to proxy tax revenue, while capital expenditure was used to measure economic growth for a period of twenty seven years spanning from 1995 to 2021. The time series data were obtained from Federal Ministry of Finance, Federal Inland Revenue Services, Central Bank of Nigeria, National Bureau of Statistics and the World Bank Publications. The study employed descriptive statistics and inferential statistics using Pearson correlation and Ordinary Least Square (OLS) regression analysis. The specific findings showed that: Petroleum profit tax has a significant and positive effect on capital expenditure of Nigeria, Company income tax has a significant and positive effect on capital expenditure, Value Added Tax has a significant and positive effect on capital expenditure of Nigeria at 5% level of significance respectively. It was recommended that Government should put in place adequate measure to ensure that revenue generated from tax is effectively utilized to develop and grow the economy through proper infrastructural development.

Mustapha et al. (2022) investigated tax revenue collections and healthcare infrastructural development in Nigeria for a period covering 2013 to 2020. The study utilised secondary data from the Central Bank of Nigeria (CBN) Statistical Bulletin and the Office of Federal Inland Revenue for analysis. The multiple linear regression method was adopted for data analysis. The result of the study found that petroleum profit tax and value-added tax strongly influenced infrastructural development in Nigeria's healthcare sector. It is recommended that taxes be collected efficiently and effectively in order to boost infrastructural development in the healthcare sector.

Odoemene (2020) examined the effects of internally generated revenue on infrastructural development of Local government Areas in Nigeria. The study adopted survey research design and dwelled on the use of both primary and secondary data generated from mailed questionnaire and official documents such as periodicals, annual reports, journals and

newspapers as well as data base of the National Bureau of Statistics (NBS) and the Central Bank of Nigeria. The result indicated that IGR of local governments is grossly inadequate and the enhancement of revenue sources and the efficient utilization of these revenues would promote infrastructural development in the local communities. Based on the findings, it was recommended that the Nigerian government (at all levels) and the people should pay more attention to the enhancement of local government revenue generation sources so as to drive development at the community level.

Nkechi and Onuora (2018) examined the Effect of Internally Generated Revenue on Infrastructural Development of the South Eastern States in Nigeria. Ex- post facto design was used in the study. Data used were extracted from budget estimates of each of the five South Eastern States. The study employed descriptive statistics, correlation and linear multiple regression for data analysis and data interpretation. Findings from the study revealed that there a significant relationship between Internal Generated Revenue and the cost of infrastructure in the South East States as at the date of the study. Based on the findings, the researcher recommends that government should increase IGR in other to meet up the cost of infrastructures.

Ogbu, Okezie and Okezie (2017) evaluated impacts of Internally Generated Revenue (IGR) utilization on structural development in Ebonyi State. It explicitly seeks to discover the degree of contributions of the IGR to infrastructural development like road, water plus educational infrastructure. This study used secondary data extracted from the audited financial reports from the office of the Auditor-General for 1996-2014. The study employed simple regression analysis to test the hypothesized variables and using this research design to analyze the data, it showed p-value of 0.578>0.05 Road Infrastructure (RDI), p-value of 0.38<0.05 Educational Infrastructure, and p-value of 0.033<0.05 Water Infrastructure at 0.05 alpha level of significance. It was discovered that IGR has insignificant impact on Road infrastructure but significantly impacted on Educational and Water infrastructure. It is therefore concluded that IGR has made positive but uneven distribution to the development of infrastructure in the State as some aspect like water and educational infrastructure is seen to have received more boost than road infrastructure.

Joseph and Omodero (2020) examined the relationship between government revenue and economic growth in Nigeria. The study employed exploratory and ex post facto research design. Secondary data from 1981- 2018 were used. The study used the ordinary least square (OLS) regression technique. The result revealed that federally received revenue and value-added tax (VAT) have a moderate and positive impact on economic growth. Onwuka and Christian (2019) examined the impact of revenue generation on infrastructural development in Nigeria. Secondary data were adopted in the study. The ordinary least square (OLS) regression analysis technique was employed in the study from 1981-2018. The study revealed that revenue generated has a significant impact on infrastructural development in Nigeria.

3.0   Methodology

This study adopted correlational research design. The design is appropriate for analyzing the relationship between internally generated revenue (IGR) proxied by tax revenue and infrastructural development in Nigeria over time. It employed a quantitative approach, using econometric tool (Eviews) to measure the magnitude and direction of the relationship among variables. The population of the study consists of all fiscal and infrastructural activities in Nigeria across the study period. The study focuses on annual time series data from 1990 to 2023, giving a total of 34 observations. This period was chosen based on data availability and to capture major fiscal reforms such as the introduction of the Joint Tax Board. A purposive

sampling method was adopted. Nigeria is selected as a case study because of its federal fiscal structure and the increasing importance of IGR in financing infrastructure amid declining oil revenue. The choice of time series data allows the study to examine how changes in IGR over time influence infrastructure development. The study relied solely on secondary data obtained from credible and verifiable sources, including: Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicators (World Bank). The variables include: Infrastructural Development (Dependent Variable), Internally Generated Revenue proxied by Tax revenue, Real GDP per Capita and institutional governance proxied by corruption perception index (CPI). The study employed econometric time series techniques; the Autoregressive Distributed Lag (ARDL) Bounds Testing Approach was applied to test for long-run relationships among variables; internally generated revenue proxied by tax revenue and infrastructural development using Eviews 10 software.

3.1   Model Specification

The main aim of the paper is to investigate the effect of internal generated revenue on infrastructural development in Nigeria for the period 1985-2023. The study adapted the model used by Akpan and Namseh (2013) on revenue and infrastructural development in Akwa Ibom State. Their model is stated thus:

$$Y = \beta_0 + \beta_1 X_t + u_t \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (1)$$

Where:

Y_t =   Infrastructure in specific sector (road, electricity, or water) at time t

X_t =   Internally Generated Revenue at time t

β_0 =   Intercept

Ut   =   Error term

For the purpose of this study model (1) above can be modified as:

$$GCI = f(TAX, NON - TAX, GDP_{pc}, CPI \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (2)$$

Equation 2 reads that Government capital infrastructure (GCI) is a function of TAX revenue, Non-tax revenue, and gross domestic product per capita and institutional governance proxied by Corruption Perceptions Index (CPI). In order to capture the influence of the stochastic or random variable, the equation is explicitly transformed econometrically as:

$$GCI = \beta_0 + \beta_1 Tax_t + \beta_2 Non - Tax_t\, t + \beta_3 GDPpc_t + \beta_4 CPI_t + U_t \dots \dots \dots \dots \dots \dots \dots \dots (3)$$

Where:

GCI   =   Government capital infrastructure

Tax   =   Tax revenue (Proxy for internally generated revenue)

Non-Tax   =   Non-Tax Revenue

GDPpc   =   Gross domestic product percapita

CPI   =   Corruption Perceptions Index proxy for institutional governance

β_0 =   Constant

$\beta_1 - \beta_4$ `   =   Parameter Estimates

t   =   Time t

Ut   =   Error Term

With apriori expectation of β_1, β_2 and $\beta_3 > 0$, and $\beta_4 < 0$

4.0   Results and Discussion

This section presents and discusses the results of the empirical analysis carried out to examine the relationship between internally generated revenue (IGR) and infrastructural development in Nigeria.

4.1   Unit root test

In order to test for the unit root property of the series, the study adopted the Augmented Dickey-Fuller (ADF). The results of the Augmented Dickey-Fuller (ADF) unit root test show that the variables in the model possess mixed levels of stationarity. Specifically, non-tax revenue (NON-TAX) and corruption perception index (CPI) were stationary at level form, indicating that they are integrated of order zero, I(0). In contrast, government capital expenditure (GCI), tax revenue (TAX), and gross domestic product per capita (GDPpc) became stationary only after first differencing, implying that they are integrated of order one, I(1). This mixture of I(0) and I(1) variables suggests that while some series are mean-reverting in their level form, others required differencing to achieve stationarity. Consequently, the presence of both I(0) and I(1) variables justifies the application of the Autoregressive Distributed Lag (ARDL) modeling approach, which is suitable for analyzing relationships among variables with different orders of integration but none integrated of order two, I(2).

4.2   Cointegration Test Result

Having established that the variables are integrated of order zero and order one, the ARDL bounds test for cointegration was carried out. The results of the ARDL Bounds Test showed that the computed F-statistic value of 12.2459 is greater than the upper critical bound value (I(1)) of 4.37 at the 1% significance level. This implies that the null hypothesis of no long-run relationship among the variables is rejected. Therefore, it can be concluded that there exists a long-run cointegrating relationship between infrastructural development and its explanatory variables tax revenue, non-tax revenue, GDP per capita, and corruption perception index in Nigeria.

4.3   Post Diagnostic Test

Table 1: ARDL Model Diagnostic Test

	F-Statistics	Prob.
Serial correlation	3.436239	0.6714
Homoscedasticity	5.624193	0.2362
Normallity	6.260581	0.8731

Source: Authors' computation using Eviews 10 (2025).

The diagnostic test results suggest that the model is well-specified and reliable. The tests for serial correlation, homoscedasticity, and normality indicate no significant issues, with p-values of 0.6714, 0.2362, and 0.8731, respectively. These results imply that the residuals are randomly distributed, have constant variance, and are normally distributed, thereby validating the model's assumptions and inferences. Overall, the model appears to be robust and suitable for making reliable predictions and interpretations.

4.4   Result of ARDL Model Estimation

The Autoregressive Distributed Lag (ARDL) model estimation was conducted to examine both the short-run and long-run relationships between internally generated revenue and infrastructural development in Nigeria. The results are presented in table 1 below:

Table 2: Result of ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TAX	0.633582	0.327477	1.934740	0.0666
NON-TAX	1.978746	0.409979	4.826456	0.0001
GDP_{pc}	1.367297	0.342004	3.997897	0.0007
CPI	-0.881494	0.108633	-8.114429	0.0000
C	19.53342	4.884370	3.999168	0.0007
R-squared	0.871475			
Adjusted R-squared	0.817098			
Durbin-Watson stat	2.303872			

Source: Authors' computation using Eviews 10 (2025).

The regression analysis revealed the relationships between internally generated revenue Proxied by tax (Tax) and non-tax revenue and government capital infrastructure (GCI). The result in Table 2 shows that tax revenue (TAX) has a positive and statistically significant effect on infrastructural development in Nigeria at the 10% level, with a coefficient of 0.6336 and a probability value of 0.0666. This implies that a 1% increase in tax revenue leads to approximately a 0.63% increase in infrastructural development, holding other factors constant. This study aligns with the findings of Muojekwu and Udeh (2023), who established that petroleum profit tax, company income tax, and value-added tax all had significant and positive effects on capital expenditure in Nigeria. Similarly, Amadi and Okorontah (2024) found that tax revenue positively influenced infrastructure in Rivers State.

The positive sign aligns with fiscal theory, suggesting that higher tax revenue enhances the government's capacity to finance public investment in infrastructure such as roads, power, and water supply. The coefficient of non-tax revenue (NON_TAX) is positive and highly significant at the 1% level, with a value of 1.9787. This indicates that a 1% increase in non-tax revenue results in about a 1.98% increase in infrastructural development. The magnitude of this coefficient suggests that non-tax sources such as levies, fines, and fees may play a crucial role in supplementing government budgets for infrastructure financing. This finding emphasizes the importance of diversifying revenue sources beyond taxation for sustainable infrastructural growth. The result agrees with the works of Adesoji and Ogechi (2013) and Oti and Odey

(2017), who both reported that revenues from levies, fines, service charges, and fees significantly support capital expenditure and social amenities. However, this result contrasts slightly with Ogbu et al. (2017), who found uneven effects of IGR components on different types of infrastructure. The coefficient of gross domestic product per capita (GDPPC) is 1.3673 and statistically significant at the 1% level. This positive relationship implies that as the level of economic growth (measured by GDP per capita) increases, infrastructural development also improves. This finding supports the notion that economic prosperity enhances fiscal capacity and investment in infrastructure, reinforcing the growth-development nexus in Nigeria.

The study corroborates the findings of Adeyemi and Adeyemi (2020) and Ogbonna and Nwankwo (2020), who concluded that economic growth and infrastructure development are mutually reinforcing. As the economy expands, fiscal capacity and investment in capital projects also increase. On the other hand, corruption perception index (CPI) has a negative and highly significant coefficient of –0.8815 (p = 0.0000), indicating that higher levels of corruption (lower CPI scores) adversely affect infrastructural development in Nigeria. Conversely, improved institutional integrity and transparency (higher CPI scores) enhance infrastructure outcomes by ensuring efficient use of public funds. The result aligns with the findings of Odoemene (2020) and Transparency International (2023), which show that corruption undermines efficient utilization of public funds and leads to poor infrastructure outcomes. The finding also agrees with Akor et al. (2024), who noted that fiscal transparency and accountability are critical for translating revenue gains into tangible development. Therefore, this result strongly supports the view that institutional reforms and anti-corruption measures are indispensable for effective infrastructure delivery in Nigeria. The R-squared value of 0.8715 suggests that approximately 87.1% of the variations in infrastructural development are explained by the included independent variables, indicating a strong explanatory power of the model. The adjusted R-squared of 0.8171 further confirms the model's robustness, accounting for the number of predictors. Additionally, the Durbin-Watson statistic of 2.30 falls within the acceptable range, indicating the absence of significant autocorrelation in the residuals. In order words, the model is free from the problem of autocorrelation.

5.   Conclusions and Recommendations

The study examined the impact of Internally Generated Revenue (IGR) proxy by tax and non-tax revenue on infrastructural development in Nigeria, using government capital expenditure (GCE) as a measure of infrastructure. The findings revealed that both tax and non-tax revenues have positive and significant effects on infrastructural development, indicating that improved revenue mobilization enhances the government's ability to finance critical infrastructure such as roads, energy, education, and healthcare facilities. Economic growth, measured by GDP per capita, was also found to significantly promote infrastructure investment, confirming that sustained economic expansion provides the fiscal capacity needed for long-term development. Conversely, the Corruption Perception Index (CPI) showed a negative and significant effect, suggesting that corruption remains a major impediment to infrastructure delivery despite revenue growth. The high R-squared value further demonstrates that the model has strong explanatory power, and the absence of autocorrelation validates the reliability of the estimates.

Based on these findings, the study recommended that: the government should improve efficiency in tax collection through digitalization, broadening the tax base, and reducing evasion to enhance revenue for infrastructure financing, greater attention should be given to non-tax revenues such as levies, user charges, rents, and dividends from state-owned enterprises to supplement public investment funds, policies that stimulate productive sectors like manufacturing, agriculture, and services should be prioritized to expand the fiscal space for capital expenditure and anti-corruption reforms, fiscal transparency, and accountability

mechanisms must be reinforced to ensure that internally generated funds are effectively utilized for developmental projects.

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