Review Article

Tax Revenue and Infrastructural Development of Health Sector in Nigeria

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Abstract: The study focused on the impact of tax revenues collected by the federal government of Nigeria on infrastructural development of the health sector. The research adopted ex post facto research design was used for this study. The population consisted of tax revenue collected from CIT, PPT, EDT, and VAT sources from 2013 to 2021. Secondary data was used for the research, and it examined the Annual Statistical Bulletin of the Federal Inland Revenue Service and CBN Statistical Bulletin in order to acquire information regarding tax revenue remittance (2013-2021). Data from the study was analysed using both descriptive and inferential statistics including techniques from the Statistical Package for the Social Sciences (SPSS) version 23 such as multiple linear regression. Findings showed that there is a significant positive relationship between expenditure on health infrastructure development and company income tax, petroleum profit tax, value added tax, and a non-significant positive relationship between education tax (EDT) and investment on health infrastructure development. Based on the findings, this study concludes that the only three taxes that have a significant impact on the development of Nigeria's healthcare infrastructure are the petroleum profit tax (PPT), company income tax (CIT), and value-added tax (VAT), while education tax do not significantly influence the development of this infrastructure. The study, therefore, recommended that sufficient company income tax revenue be generated and that the funds be spent on health infrastructure in an ethical manner and also sufficient funds be raised by a tax on petroleum profits in order to maintain and enhance the country's health care system.

Keywords: *Federal government, Health sector, Infrastructural development, Nigeria tax revenues, Taxation*

INTRODUCTION

With recent worldwide crises causing variations in the global oil price, oil revenues have been declining and uncertain. Since tax revenue forms the greatest portion of non-oil government earnings, there is an immediate need to prioritise it. To pay the country's ever-growing infrastructure deficit, the government must produce sufficient tax income. The tax money generated through the years, however, has remained chronically insufficient for addressing the growing infrastructure deficit, particularly in the health sector of the economy, and for expanding growth potentials. To enhance actual tax collection, the Nigerian government has lately updated its tax policy and administration by adopting an electronic tax system and introducing Taxpayer Identification Numbers (TIN) to monitor both taxpayers and officials.

The government has constantly pledged to increase non-oil revenue such as taxation in order to support capital expenditures such as health care expenditures to the satisfaction of the public (Umar-Dauda, & Oyedokun, 2018). The government primarily mobilises financial resources through taxation in order to finance development programmes for its citizens. Therefore, tax revenue is the total amount received by the government through the administration of all types of taxation within the legislatively mandated period

(Oyedokun & Taiwo, 2022). This fund accounts for a sizeable share of the State's sustainable revenues outside of those derived from the sale of petroleum in the country.

This revenue is utilised to support the majority of the government's expenditures, particularly basic amenities such as health infrastructure that promote a healthy populace for economic growth. Consequently, the significance of taxation in Nigeria's economy cannot be overstated. Revenue mobilisation and creation is a fundamental prerequisite for countries to obtain sufficient finance. Nigeria was essentially an agrarian economy, with agriculture being the primary source of income.

Government modifications to Nigeria's tax structure have resulted in an increase in revenue. Reforms such as the introduction of Taxpayer Identification Numbers (TIN) and numerous others were implemented to refocus the revenue authority's attention towards producing more tax income. Recent tax numbers indicate that, as a result of these measures, tax revenue has increased and improved dramatically. However, the important question is whether or whether this rise has favourably impacted the health care infrastructure. In spite of the claimed increase in tax revenue and annual government spending on infrastructure, the state of

Nigeria's health infrastructure has remained poor and remains a major source of concern for all stakeholders.

Despite recent estimates of increased tax revenue and annual projections of government expenditure on infrastructure, the physical condition of Nigeria's infrastructure, particularly the health sector, has been terrible, causing great concern among all stakeholders in the country. For example, the health sector and hospitals have deteriorated further as a result of antiquated equipment and insufficient power supply, as well as the departure of many of our skilled doctors and other sector-wide strikes.

As a result, the key concern is whether the rise in tax revenue has genuinely enabled infrastructural development, notably in the health sector, as well as economic growth. Current research has demonstrated that tax income and infrastructure development are significant in explaining economic growth (Adenugba & Ogechi, 2013; Ajiteru, Adaranijo & Bakare, 2018; Adeleke, Osayomi & Adeoti, 2021). Moreover, research indicates that the provision of infrastructure has a substantial impact on economic growth (Olufemi, Jayeola, Oladele & Naimot, 2018). Furthermore, it has been proved that tax money significantly contributes to economic growth (Olushlola, Oliver, Okon & Osang, 2020). To the best of the researchers' knowledge, research on how tax income creation affects Nigeria's health infrastructure is lacking.

The purpose of this study is to investigate the impact of tax revenues collected by the federal government of Nigeria on infrastructural development of the health sector. The specific objectives are to:

- Assess the influence of Company Income Tax (CIT) on infrastructure development of the health sector in Nigeria.
- Examine the effect of Petroleum Profit Tax (PPT) on infrastructure development of the health sector in Nigeria.
- Determine the role of Value Added Tax (VAT) on infrastructure development of the health sector in Nigeria.
- Access the impact of Education Tax (ET) on infrastructure development of the health sector in Nigeria.

LITERATURE REVIEW
Taxation
Taxation is the principal source of revenue for the government's activities. Taxation is the method by which nations execute policies to redirect private-sector funds to the public sector (Lateef, Lasisi, Adegboye, Ajepe & Isife, 2022). Taxes are described as a reliable source of money for the government to implement its programs (Eze & Onyedikachi, 2020). From these

definitions, it is clear that taxes are a means through which the government finances its varied activities. Taxes can be either direct or indirect, based on who carries the tax burden (Lateef, Lasisi, Adegboye, Ajepe & Isife, 2022). Direct taxes, such as the Personal Income Tax, Corporate Income Tax, Petroleum Profit Tax, and Capital Gains Tax, are levied directly on the income and property of individuals and corporations, whereas indirect taxes are levied on individuals or groups who are not intended to bear the burden or incidence but will shift it to others. Indirect taxes are often charged on goods or services, with the burden falling on the eventual payers and users rather than the producer or initial payment. Customs, excise, stamp, and value-added taxes are included. The principal sources of tax collection for the government are CIT, PPT, and VAT, as well as education tax, which was enacted and revised in response to the need for enormous infrastructural development (Egbuhuzor & Tomquin, 2021; Oyedokun, 2022).

PPT, on the other hand, is the Nigerian tax on petroleum extraction profits. Furthermore, education tax represents the Nigerian government's 2 percent of assessable profit (Kaka, 2020). The primary goal of this levy is to fund the necessary physical infrastructure for learning and teaching in the nation's higher education institutions, which includes the healthcare facility (Lateef, Lasisi, Adegboye, Ajepe & Isife, 2022).

Company Income Tax (CIT)
CIT is a business tax. It is available at a 30% rate on the income of any registered corporation that is not engaged in petroleum operations (Asaolu, Olabisi, Akinbode & Alebiosu, 2018). In a closed economy, corporate taxation is relatively simple, but it becomes more complicated when corporations operate in multiple countries (Asaolu, et al., 2018). Although corporation income tax is not the largest contributor to tax revenue in Nigeria, it is one of the most essential taxes collected by the federal government and aids in the development of various crucial sectors in the country. Businesses can access government services such as better road networks, effective and efficient communication, energy and water supply by paying taxes. The government also develops human resources by constructing universities and technological institutes, which help enterprises to run properly and productively. Consequently, the amount of tax paid by these enterprises should be a significant indicator of the contribution they contribute to the economy as they operate (Yahaya & Bakare, 2018).

Petroleum Profit Tax (PPT)
The updated Petroleum Profit Tax Act of 2007 governs the Petroleum Profit Tax. All businesses registered in Nigeria or earning money from oil and gas operations in Nigeria are subject to a 50-85% tax on petroleum income (Oguntoye, 2019). In 2009, the petroleum profit tax imposed a tax rate of 85 percent on exports and 65.75 percent on domestic sales of oil and gas (Yahaya & Bakare, 2018). The petroleum industry is

regarded as the greatest and most important contributor to Nigeria's GDP. Nigeria is Africa's most populous country. The petroleum industry's contribution to the Nigerian economy can be assessed in terms of income. The petroleum industry has contributed significantly to foreign exchange reserves and government revenues. Given that the PPT is the greatest donor to Nigeria's tax revenue, it is reasonable to deduce that it is also one of the most important contributors to the country's infrastructural development (Yahaya & Bakare, 2018). Those nations who are sufficiently endowed with petroleum can rely their economic development on this resource. Furthermore, they highlight the potential benefits of increased economic growth and job creation, increased government revenues to finance poverty reduction, knowledge transfer, infrastructure development, and promotion of related businesses (Oguntoye, 2019).

Value Added Tax (VAT)

The value added tax (VAT) is a kind of consumption tax. It is imposed at each stage of the consumption chain and is borne by the final user of the product or service (Harelimana, 2020; Efuntade, 2020). The incremental value that a producer adds to his raw material purchases before selling the processed goods or services is defined as value added tax (Ogunmakin, Adebayo, & Ojo, 2021). African countries such as Benin Republic, Cote d'Ivoire, Kenya, Madagascar, Mauritius, Senegal, Togo, and Nigeria have implemented VAT. In numerous nations, VAT has become a significant source of government revenue. VAT was adopted in Nigeria, namely in 1993, although full-scale implementation began in 1994 (Okeke, Mbonu, & Amahalu, 2018; Kareem, Arije & Avovome, 2020). Despite a series of revisions to the Act, the government can claim it at a rate of 5% of the value of goods and services, the lowest in the world. VAT is an ideal type of tax that has made major contributions to the development of Nigeria's infrastructure. According to research, VAT is expected to be Nigeria's second long-term source of total federally collected revenue (Chiamogu & Nzewi, 2020).

VAT was implemented in Nigeria in 1991, but went into effect on January 1, 1994, as required by the VAT Decree 1993. VAT is a type of indirect taxes based on people's overall consumption (Oseni, 2017). Value added tax is the difference between the rise in the value of products or services during the manufacturing or delivery process, and it is a tax on the value added rather than the overall value of goods or services sold (Okeke, Mbonu & Amahalu, 2018). Value added is computed by deducting from the value of goods or services the cost of other goods or services utilised in the process of producing the goods or providing services (Osho, Omotayo & Ayorinde, 2018). The IMF defines VAT as a "indirect tax imposed on each sale beginning from the start of production to the distribution cycle that adds up to the customer," which implies that each seller in the distribution chain embraces VAT from the time of purchase to the time of sale, which means the VAT is added to the sales price (Bala, 2020).

Education Tax (ET)

The education tax decree No. 7 of 1993 requires enterprises registered in Nigeria to pay 2% of their assessable income as education tax, to be distributed in the ratio of 50:40:10 to higher, primary, and secondary education, respectively (Muhammad & Bakwai, 2015; Ajumise & Ezekiel, 2020). Universities, polytechnics, and colleges of education get the remaining portion of higher education financing in a 2:1:1 ratio. In 1995, the government established the education tax fund, requiring businesses with more than 100 employees to contribute 2% of their pretax earnings to the fund (Ukpong, Nseabasi & Uneh, 2019). Primary education receives 40%, secondary education 10%, and higher education 50% of these monies (Ukpong, Nseabasi & Uneh, 2019). The education tax is assessed alongside the corporate income tax. Non-compliant parties must pay 5% plus interest at the commercial rate (Oladele, Ndalu, & Akani, 2021). Act No. 40 of (22nd Dec.) 1998 altered the operation of the Education Tax Fund (ETF) in response to the widely acknowledged drop in educational standards and the severe deterioration of infrastructure and other facilities at all levels of the Nigerian educational system (Asaolu, Olabisi, Akinbode & Alebiosu, 2018). The ETF ensures that education tax funds are used to improve the quality of education in Nigeria by funding educational facilities and infrastructure development, promoting creative and innovative approaches to educational learning and services, stimulating, supporting, and enhancing improvement activities in educational foundation areas such as teacher education, teaching practice, and library development, and championing new literacy-enhancers.

Infrastructural Development

Infrastructure is commonly viewed as the basic and necessary services that must exist for development to occur. Infrastructure can also be viewed as the physical structures required for the functioning of society (Thom, 2018). These particular elements serve as a catalyst for development and the betterment of citizens' wellbeing. There are two sorts of infrastructures: "Hard" Infrastructure and "Soft" Infrastructure (Thom, 2018). The term "hard" infrastructure refers to the large physical networks required for the operation of a modern industrial nation, whereas "soft" infrastructure refers to all of the institutions required to maintain a country's economic, health, cultural, and social standards, including the financial system, education system, health care system, government system, law enforcement, and emergency services (Thom, 2018). Infrastructure development can be viewed holistically as continuous per capita income growth rates.

The presence of physical, social, and economic infrastructures can support and expedite infrastructural development. It involves enhancing the quality of

infrastructure components such as roads, power, ICT, water, and sanitation (Thom, 2018). Infrastructure has been used as a catch-all phrase for numerous endeavours. The development of a country's infrastructure is critical to the development of its industries and economy as a whole. Power, roads, telephones, trains, irrigation, water supply and sanitation, ports and airports, storage facilities, and oil and gas pipelines are all examples of infrastructure. Infrastructure is viewed as critical to enabling inclusive and long-term economic prosperity. As a result, a large amount of policy emphasis has been focused on infrastructure development in order to improve the growth, productivity, and quality of life of developing-country inhabitants (Thom, 2018).

With the absence of these infrastructure and services, progress will be nearly impossible. Traffic congestion, irregular electricity supply, inaccessible roads and networks, inadequate telecommunications services, and inadequate drinking water are all characteristics of Nigeria's present infrastructure (Maccarthy & Jibrin, 2022). According to certain writers discussing Nigerian highways, the density of these roads is the lowest in Africa (Thom, 2018). In addition, they claim that 31% of roads are paved, compared to 50% in middle-income countries. In the present development policy perspective, there has been a recent emphasis on infrastructure development (Thom, 2018). To do this, governments will require a significant infusion of revenue, which can be collected through taxation. Infrastructure is a collection of social amenities such as transportation and communication that are built to promote society's overall well-being. As a result, infrastructure development is the combination of facilities and social services undertaken to improve a nation's quality of life.

Healthcare Infrastructure

Integrates all facilities established for the treatment of a disease and other human ailments with a high degree of timeliness, efficiency, and safety. Improving the public care system and society is a genuine means of improving human dignity and well-being[1]. Researchers disagree as to whether health causes economic growth or economic growth causes health improvement (Lateef, Lasisi, Adegboye, Ajepe & Isife, 2022). Other research have focused on whether increased government health-care spending contributes to economic growth. All of these considerations show that long-term government revenue sources, such as taxation, can have an impact on a good public health system.

Theoretical Framework

This study is anchored on Optimal Theory of Taxation. This theory has three main proponents: Ramsey (1927), who proposes linear commodity taxes to boost revenues and redistribute, Pigou (1920), who advocates linear commodity taxation to account for externalities, and Mirrlees (1971), who advocates nonlinear income taxation (Lateef, Lasisi, Adegboye,

Ajepe & Isife, 2022). The theory employs a normative tax analysis method based on traditional welfare economics tools. According to the theory, a tax system should be able to collect taxes in a way that is fair to individuals, removes blockage and meddling in economic decisions, and does not impose undue costs on taxpayers or tax administrators. The goal of optimum taxation theory is to maximize the social welfare of individuals in society. The social planner is frequently viewed as a utilitarian with a social welfare function based on the individual utilities of society members in optimal taxation. According to the argument, the government is the social planner and is responsible for developing a reasonable tax system to generate money and benefit taxpayers. The primary goal is to choose a tax system that maximizes the welfare of society's citizens. In layman's terms, the government's social planner is in charge of supplying (Lateef, Lasisi, Adegboye, Ajepe & Isife, 2022).

The goal of this theory is to maximize the social welfare of individuals in society. The social designer is naturally treated as a functional in optimal taxation, with a social welfare function based on the values of individuals in society. According to OPT, the government is the social developer, and it is responsible for establishing a good tax system for both revenue generation and the well-being of taxpayers. The fundamental goal is to select a tax system that improves citizens' well-being. However, government are saddled with provision of varieties of infrastructural facilities such as road construction and other indispensable facilities to fulfilling life through tax revenue (Adegbite & Shehu, 2022).

Optimal taxation theory considers how taxes can be stretched to give the best outcomes in terms of social welfare (Hellerstein, 1997). It features two models, the Ramsey rule and the Laffer curve model (Effiong & Nwanagu, 2020).

The Ramsey model produces the functions which argued that the excess burden of taxation will be minimized by setting the ratio of taxation inversely proportional to price elasticity of demand for tangible and intangible electronic products (Effiong & Nwanagu, 2020). This model implies that governments try to reduce the excess burden (efficiently loss) of taxing within the constraints of a particular revenue requirement. According to Ramsey rule, the "optimal" taxation rate is the rate that minimizes the excess burden of taxation while still generating the requisite revenue from tangible and intangible electronic company. The Laffer curve, designed by economist Arthur Laffer, posits that the government will try to earn as much money as possible while disregarding the efficiency losses imposed by taxing. Only constitutional limitations and additional legislation can curb the government's drive for more revenue. The Laffer curve addresses the inverse relationship between taxation and physical and

intangible electronic products, as well as the influence on tax revenues. The analysis demonstrates that a higher tax rate is not always the most effective rate; in electronic commerce transactions, a lower tax rate may produce more tax revenue than a higher tax rate (Effiong & Attah, 2016).

Given that taxes are the primary source of revenue by which the government finances its activities, such as infrastructure development in the health sector, the theory is relevant to this study because it explains that a tax system should be able to raise taxes in a way that treats people fairly, reduces obstruction and interference in economic decisions, and does not impose undue costs on taxpayers or tax administrators.

METHODOLOGY

This study adopted *ex post facto* research design was used for this study. This is because secondary sources were used to compile the study's data (Oyedokun, 2020). The study used secondary sources of data from pertinent federal government organizations, including CBN Statistical Bulletin and Federal Inland Revenue Services (FIRS). The population consisted of tax revenue collected from CIT, PPT, EDT, and VAT sources from 2013 to 2021. All tax income collected between 2013 and 2021 makes up the sample size due to the fact that most data's most recent update (like FIRS) was in 2021. Data on the government expenditure on health infrastructure were obtained from the CBN Statistical Bulletin while data on tax revenue were obtained from the Federal Inland Revenue Services (FIRS). Secondary data was used for the research, and it examined the Annual Statistical Bulletin of the Federal Inland Revenue Service and CBN Statistical Bulletin in order to acquire information regarding tax revenue remittance (2013-2021). The data from this study was analysed making use of both descriptive and inferential statistics including techniques from the Statistical Package for the Social Sciences (SPSS) version 23 such as multiple linear regression.

Model Specification

For this study, the dependent variable for this study is the development of the health care infrastructure, and the independent variables are company income tax, petroleum profit tax, education tax, and value added tax.

$HC_t = α_0 + β1CIT_t + β2PPT_t + β3EDT_t + β4VAT_t + β5INF_t – ε_t$
Where: HC=Healthcare Infrastructural Development
CIT_t=Company Income Tax in year t
PPT_t=Petroleum Profit Tax in year t
EDT_t=Education Tax in year t
VAT_t=Value added Tax in year t
INF_t=Inflation rate in year t
Ei_t=error term of firm in year t
A0=is the intercept
B1-β3 = coefficient of independent variables

Results and Presentation of Data

Presentation of Data

Table 1: Descriptive Analysis of Variables

-	Observasion	Minimum	Maximum	Mean	Std. Deviation
HCD's	9	250.062	547.00	353.5	.07444
CIT	9	933.54	1,747.99	1280.32	.07827
PPT	9	1,157.81	2,666.37	1,910.6	.15222
EDT	9	130.12	279.36	203.73	.11019
VAT	9	767.33	1,531.17	1119.5	.10941
INF	9	8.05	16.95	12.382	3.463

Source: Researcher's Computation (2024)

Table 1 shows the descriptive analysis of the variables. Specifically, maximum, minimum, mean and standard deviation are extracted and analysed. From the Table, nine (9) observation was used. This is because as at the time of this report, year 2021 was the last year reported and updated on the secondary data sources (FIRS, CBN annual bulletin). It was observed that Nigerian government spending on health care infrastructure an average of 353.5 billion naira with the maximum expenditure of 547 billion naira in 2021 and 250.062 billion naira in year 2016 respectively for the period under study (2013-2021). The amount collected taxes generated on average is 1,91.1 Billion naira (PPT) for period under study (2013-2021), 128.03 billion naira (CIT), 112 billion naira for VAT and 203.73 billion naira (EDT) for the period under study (2013-2021). The average level of inflation rate for the period under study (2013-2021) is approximately 12.4% which is relatively high. The standard deviation observed from the table show a slightly degree of dispersion among the variables under study. From the Table, Petroleum Profit Tax (PPT) was the highest tax revenue. This implies that most of the tax revenue within period under study was Petroleum Profit Tax (PPT)

Presentation of Hypotheses:

H_01: Company Income Tax (CIT) has no significant impact on infrastructural development of the health sector.

Table 2: Correlations

Correlations		HCD	CIT	INF	VAT	PPT	EDT
HCD	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	9					
CIT	Pearson Correlation	.702*	1				
	Sig. (2-tailed)	.035					
	N	9	9				
INF	Pearson Correlation	-.577	.288	1			
	Sig. (2-tailed)	.104	.452				
	N	9	9	9			
VAT	Pearson Correlation	.638*	.773*	.570	1		
	Sig. (2-tailed)	.004	.014	.109			
	N	9	9	9	9		
PPT	Pearson Correlation	.873*	.121	-.489	.012	1	
	Sig. (2-tailed)	.046	.757	.181	.976		
	N	9	9	9	9	9	
EDT	Pearson Correlation	.166	.050	-.558	.117	.493	1
	Sig. (2-tailed)	.669	.899	.118	.764	.177	
	N	9	9	9	9	9	9

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher's Computation (2024)

Table 2 shows the Pearson correlation coefficient to analyze the research question developed for this study. The coefficient signs determine the direction of the relationship between the variables which could be either negative or positive. From the Table, expenditure on Health Infrastructural Development has positive relationship with company income tax. Using default 5%, the p-value or Sig. value is 0.035 which is less than the p-value and significant at the $p<0.05$ level (2-tailed). The sample correlation is 0.702 (company income tax correlates with expenditure on Health Infrastructural Development at 0.702) which is a high and a positive relationship. This implies that as a unit rise in company income tax will lead to an increase in expenditure on Health Infrastructural Development and vice versa by 0.702. This suggest that the higher the revenue collections from company income tax, the higher the Expenditure on Health Infrastructural Development and vice versa. This shows that Company Income Tax (CIT) have a significant positive influence of on infrastructure development of the health sector in Nigeria. This answered the study's first research question

H₀2: Petroleum Profit Tax (PPT) has no significant impact on infrastructural development of the health sector

Additionally, Table 2 shows a significant positive relationship between the expenditure on health infrastructure development and the petroleum profit tax (PPT) (P=.046.The p-value, or Sig. value, is 0.046, which is less than the p-value and significant at the $p<0.05$ level (2-tailed), using the default significance level of 5%. The sample correlation, which is high and favorable, is 0.873 (petroleum profit tax (PPT) correlates with expenditure on health infrastructural development

at 0.873). According to this, a unit increase in business petroleum profit tax (PPT) will also result in a 0.873 increase in spending on health infrastructure development. This suggests that expenditures on health infrastructure development increase in direct proportion to petroleum profit tax (PPT) revenue collections, and vice versa. This shows that Petroleum Profit Tax (PPT) have also significant impact on infrastructure development of the health sector in Nigeria, thus, answering the research second question.

H₀3: Value Added Tax (VAT) has no significant impact on infrastructural Development of the According to Table 2, the relationship between expenditure on health infrastructure development and value added tax (VAT) is positive. The p-value, or Sig. value, is.004 at the default significance threshold of 5%, which is smaller than the p-value and significant at the $p<0.05$ level (2-tailed). Value Added Tax expenditures connect with spending on health infrastructure development with a sample correlation of 0.638. This suggests that an increase in Value Added Tax (VAT) of one unit will result in an increase of 0.638 in expenditure on health infrastructure development. This suggests that expenditure on health infrastructure development will increase in direct proportion to Value Added Tax (VAT) income collections, and vice versa. This shows that Value Added Tax (VAT) have a significant positive impact on infrastructure development of the health sector in Nigeria, which answered the research third objective.

H₀4: Education Tax (ET) has no significant impact on infrastructural development of the health sector

Similarly, from Table 2, the expenditure on health infrastructure development shows a non-significant positive association with education tax (EDT) (P=.669), which is higher than the p-value and thus not significant at the p<0.05 level (2-tailed). The tax on education and spending for health infrastructure development are unrelated. This demonstrates that the Nigerian health sector's infrastructure development is not significantly impacted by the education tax (EDT).

Diagnostic Test

Table 3: Diagnostic Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.823[a]	.677	.140	96.77828	.677	1.260	5	3	.452	2.151

a. Predictors: (Constant), PPT, VAT, EDT, CIT, INF
b. Dependent Variable: HCD_Dependent

Source: Researcher's Computation (2024)

In the study's regression technique, the autocorrelation of residual value was tested using the Durbin Watson (DW) statistic. Durbin Watson (DW), which always has a value between 0 and 4, was employed in this investigation. The absence of autocorrelation between the independent variables, as shown by the DW analysis result of 2.151 on Table 3, indicates that the independent variables utilized in the study were adequately able to predict the dependent variable.

Table 4: Coefficients of Multiple Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	1024.005	547.771		1.869	.158		
	CIT	.327	.241	.347	1.356	.026	.286	3.501
	PPT	.227	.077	.051	.124	.041	.632	1.582
	EDT	.602	1.307	.269	.460	.410	.316	3.163
	VAT	.206	.217	.443	.490	.033	.131	7.610
	INF	.011	0.03	.264	.918	.426	.178	5.630

a. Dependent Variable: HCD_Dependent

Source: Researcher's Computation (2024)

From Table 4, A test for multicollinearity was used to determine if each variable in a multiple regression model could be accurately predicted linearly from the others. As a result, the coefficient demonstrates the variables' multicollinearity. The table shows the VIF values for EDT, CIT, INF, VAT, and PPT that are larger than 1 and less than 10 as well as the tolerance scores (3.163, 3.501, 5.630, 7.610, and 1.582, respectively). This demonstrates that the data are not multicollinear.

Table 5: Model Regression

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59025.997	5	11805.199	1.260	.0452[b]
	Residual	28098.105	3	9366.035		
	Total	87124.102	8			

a. Dependent Variable: HCD_Dependent
b. Predictors: (Constant), PPT, VAT, EDT, CIT, INF

Source: Researcher's Computation (2024)

The joint impact of the Petroleum Profit Tax (PPT), Value Added Tax (VAT), Education Tax (EDT), Company Income Tax (CIT), and Inflation (INF) on the infrastructure development of the health sector in Nigeria is shown in Table 5 along with the model summary and coefficients of multiple regression analysis. The table demonstrates the significance of the ANOVA value (F = 1.260, P<0.05), indicating that the regression model adequately fits the data. According to the model summary, the criterion (dependent variable) and the predictor variables have an extremely strong correlation (coefficient of determination, or R value, of .823). The value in this instance is .823, which is favorable.

The R2 value of .667 indicates that the predictor variables (Petroleum Profit Tax (PPT), Value Added Tax (VAT), Education Tax (EDT), Company Income Tax (CIT), and Inflation (INF)) can account for 66.7% of the variation in the infrastructural development of the health sector in Nigeria (dependent variable). Other factors that were not taken into account in the study may be responsible for the remaining 33.3%. According to the adjusted R2 value, which provides a more accurate depiction of the data, only the independent variables that should be retained in the model can account for 66.7% of the variation in the infrastructural development of Nigeria's health sector. This therefore means that the remaining 33.3% could be a result of other predictors included or added to the model, but impacts positively or negatively on the Expenditure on Health Infrastructural Development.

From the regression results from Table 4 above, at 5% level, the Company Income Tax is favorably significant (p-value=0.026), while the Education Tax is positively significant (p-value=0.021). The coefficient has a value of 0.327. This suggests that the expenditure on healthcare infrastructure development will increase by 0.327 for every 0.328 increase in corporate income tax. This demonstrated that CIT money has a substantial impact on the development of the health care infrastructure in Nigeria. Petroleum Profit Tax is positively significant at the 5% level (p-value=0.041), continuing the same trend. Because of the petroleum profit tax's 0.227 coefficient, an increase in the petroleum profit tax will result in an increase in spending on healthcare infrastructure development, and vice versa. This result implies that PPT has positive significant relationship with Health care infrastructure Development in Nigeria.

Education Tax result is also positively insignificant at 5% confidence level (p-value=0.41). Even though it is not significant, the positive coefficient value (0.602) indicates that changes in the education tax will have an impact on how much money Nigeria spends on developing its healthcare infrastructure. However, the influence of this variable on the growth of the healthcare infrastructure is not particularly great. Value Added Tax is also favorably significant at the 5% level of significance (p-value = 0.033). The Value Added Tax's revenue has a substantial impact on the development of Nigeria's health care infrastructure, as evidenced by the coefficient of 0.306, which predicts that raising the VAT will boost expenditure on that sector of the economy.

Table 4 also reveals that the beta coefficient (β) and t- values for CIT (Beta = .347; t = 1.356; Significance = .026), PPT (Beta = .051; t = .124; Significance = .041), VAT (Beta = .443; t = .490; Significance = .033) are relatively significant at P<0.05. However, EDT (Beta = .269; t = -.460; Significance = .410) is not significant at P<0.05. These findings show that CIT, PPT, and VAT were required in the model since they provided an explanation for the variation in Nigeria's expenditure on the development of its healthcare infrastructure. Therefore, CIT, PPT, and VAT had a significant impact on the construction of the country's health care infrastructure.

The table shows that all of the variables (CIT, PPT, EDT, and VAT) have a positive relationship with Health care Infrastructure Development in Nigeria, regardless of whether there is a positive or negative relationship between the significant predictors and the dependent variable (Health care Infrastructure Development in Nigeria). These findings show that as they expanded, Nigeria's expenditure for the development of its healthcare infrastructure increased as well.

DISCUSSION OF FINDINGS

The descriptive analysis revealed that the Nigerian government spent an average of 353.5 billion naira over the study period. For the research period (2013–2021), the average revenue from taxes collected was 191.1 billion naira (PPT), 128.03 billion naira (CIT), 112 billion naira (VAT), and 203.73 billion naira (EDT). The average annual inflation rate for the study period (2013–2021) is roughly 12.4%, which is a relatively high.

Results from hypothesis one indicated a positive relationship between expenditure on health infrastructure development and company income tax, which is significant at the p0.05 level (2-tailed) at a p-value of 0.032. This result is consistent with research that found a positive correlation between company income tax and expenditures for the development of health infrastructure at a 5% level (Mustapha, Olalekan, Damilola, Ayobami & Ngozi, 2022). This research findings is partially consistent with another work which also reported that company income tax influences positively and significantly on economic growth with an estimating value of 55.79390 (p=0.2580>0.05) (Edewusi & Ajayi, 2019). Similarly, this result is corroborated partially in a study on the effect of tax revenue on infrastructural development in Nigeria. It reported that *company income tax has a significant and positive effect on capital expenditure (B2=0.602013; p-value = 0.0000 0.05) (*Muojekwu & Udeh, 2023).

The results of hypothesis two likewise shown a significant positive relationship between expenditure on health infrastructure development and petroleum profit tax (PPT) (P=.0046), which is less significant than the p-value and significant at the p<0.05 level (2-tailed). Petroleum profit tax (PPT) and expenditure on health infrastructure development had a sample correlation of 0.873 (0.702). This finding conflicts with a study's conclusion that there is no relationship between Nigeria's health infrastructure development and the petroleum profit tax (PPT) (Mustapha, Olalekan, Damilola, Ayobami & Ngozi, 2022). This result is also opposed a

findings that revealed that Petroleum Profit Tax (oil tax revenue) has a positive but no significant relationship with Nigeria Economic Growth (Ayeni & Omodero, 2022). The result corroborates the findings in a study that showed that *Petroleum profit tax has a significant and positive effect on capital expenditure of Nigeria (B= 0.481341; p-value = 0.0060 < 0.05) (*Muojekwu & Udeh, 2023).

Findings from hypothesis three showed that expenditure on Health Infrastructural Development has positive relationship with Value Added Tax (VAT). At a 0.05 (2-tailed) significance level, the relationship is significant. Value Added Tax and Health Infrastructure Development expenditure correlate by 0.638. This research partially supports a study that found that, at a VAT rate of 5%, infrastructural development in Nigeria is positively impacted and statistically significant (Okoror, Uwaleke, Mainoma, Oyedokun, 2019).

Results from hypothesis four demonstrated a non-significant positive relationship between education tax (EDT) and investment on health infrastructure development ($P=.669$). The results of hypothesis five (Ho5) showed that the beta coefficient () and t-values for CIT (Beta =.347; t = 1.356; Significance =.026), PPT (Beta =.051; t =.124; Significance =.041), and VAT (Beta =.443; t =.490; Significance =.033) are relatively significant at P0.05. EDT, however, have a positive relationship but it is not significant at $p<0.05$ (Beta =.269; t = -.460; Significance =.410). The amount of infrastructure development anticipated of any government is determined by tax revenue, which is why this conclusion largely corroborates a prior empirical study that found a relationship between tax revenue and infrastructural development in Osun State (Ajiteru, Adaranijo & Bakare, 2018). The findings of this study are also in line with research demonstrating that PPT and VAT had a significant impact on the country's health care sector's infrastructure growth (Mustapha, Olalekan, Damilola, Ayobami & Ngozi, 2022). Another study, which partially corroborates the results of this research, revealed that tax income had a substantial impact on the total infrastructure expectation gap in Sub-Saharan Africa (Adj.R2 = 0.51, W (4, 263) = 63.01, p .05) (Daniel-Adebayo, Akintoye, Adegbie & Ajayi-Owoeye, 2022). This result is consistent with a prior empirical study that found that the Nigerian economy was significantly impacted by corporation income tax (CIT), petroleum profit tax (PPT), and tertiary education tax (TAT) (Uwaifo & Obaretin, 2022).

CONCLUSION AND RECOMMENDATION

This study concludes that the only three taxes that have a significant impact on the development of Nigeria's healthcare infrastructure are the petroleum profit tax (PPT), company income tax (CIT), and value-added tax (VAT), while education tax do not

significantly influence the development of this infrastructure.

This study offers the following recommendation:
- To promote the contribution of these taxes to transparently spending the funds generated on health care development in a way that will strengthen the nations' health facilities, effective, efficient, and transparent structures of collection should be encouraged.
- The results of this study on corporate income tax showed that corporate income tax has a good and considerable impact on the growth of Nigeria's healthcare infrastructure. Therefore, it is recommended that sufficient company income tax revenue be generated and that the funds be spent on health infrastructure in an ethical manner.
- The results of this study on the petroleum profit tax also showed that the expansion of Nigeria's healthcare infrastructure is positively and significantly influenced by the petroleum profit tax. Thus, the study recommends sufficient funds be raised by a tax on petroleum profits in order to maintain and enhance the country's health care system.
- In a similar vein, the findings of this study on value added tax (VAT) showed that VAT has a favorable and considerable impact on the growth of Nigeria's healthcare infrastructure. Therefore, it is also recommended that value added tax (VAT) be used to generate sufficient and transparent revenue.
- Education Tax (EDT) does not have a positive and significant influence on healthcare infrastructure development. It is recommended that Education Tax (EDT) should be fine-tuned and channelled towards Health care infrastructural development in Nigeria.

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