

## **Effect of Internally Generated Revenue on Infrastructural Development of South East States of Nigeria**

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### **Abstract**

*The study sorts to find out 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.*

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**Keywords:** IGR, Infrastructure, Revenue, Capital Expenditure

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### **1.0: Introduction**

It is the responsibility of every state government to provide economic political, social, culture and general welfare of its citizens. In other to meet up to these challenges, Government should provide infrastructural development and this will lead to efficient economic growth. Oteh, (2010) asserts that infrastructure is the physical assets and services which are fundamental to growth and development of an economy. Furthermore, this is the reason why infrastructure is considered a facilitator of growth and development process.

Akpan & Nnanseh (2013) summarized that infrastructure is referred to as the oil in the wheel of progress of a nation's economy. This means that no government can talk of growth and development without making a good impact on the provision of infrastructural projects. Infrastructural projects include the following: construction of bridges, road networks, hospitals facilities, building of schools projects, construction of markets, provision of electricity supply, pipe borne water supply etc. Therefore, revenue generation is said to be a corner stone for infrastructural development in today globalized world Udu &Nkanor (2016).

However, it is one thing to place much emphasis on the development of infrastructure and another thing is to generate adequate revenue to finance the infrastructure Akpan and Nnanseh, (2013). Due to high cost of infrastructure, State Government needs a large amount of review to plan and execute infrastructural development at state level. There are two forms of revenue accrued to state government, the externally generated and internally generated revenue (IGR). However, this study will focus more on the effect of internally generated revenue on infrastructural development with special consideration on the South Eastern States of Nigeria. The external source of revenue to the state government include, federal government allocation as enshrined in the 1999 Federal Government Constitution (CBN, 2010), individual / corporate donations, grants and aids etc. During the era of oil boom, Nigerian government depended solely on the oil revenue to solve its financial needs. It is clear that the state governments

depend fully on federal government allocation to finance both its recurrent and capital expenditures. It is no longer obtainable in these modern days.

Considering the severe economic depression in Nigeria due to drop of oil price in the international oil market. Federal allocation accruing to state government has drastically dropped below what it used to be. Oti, Odigbo and Odey (2016) opined that the instability in oil revenue in oil market is one major source of concern for such dependency of state government on revenue accruing to the federation account. Therefore, the State Government should try to find a way of boosting up the internally generated revenue in other to augment the federation allocation. Dang, Bako and Ishaya, (2015) confirmed that in recent times, the mobilization from the federation account is hardly enough to meet the immediate needs of the states. Therefore, it is the responsibility of the state government to look inwards for ways to mobilize more Internal Generated Revenue. In other to facilitate the above statement, the State Governments should upgrade their methods of internal generated revenue collection from manual to digital method of collections. Akpo (2009) confirmed some importance of using internally generated revenue funds in infrastructural development to include the following:- internally generated revenue does not develop hyperinflation, it has no burden of repayment of interest like domestic borrowing and loan, it serves as a nerve center of the social contracts, makes government more responsible and more responsive to the needs of the people, serve as a tool for economic development, helps in planning of savings investment and a powerful fiscal weapon to plan and direct the economy, it serve as a tool for social engineering by providing smooth running of the society. This is because as government gets more and commission more projects, more money is put into circulation, creating more employment and business opportunities that impact positively on the entire social economic growth. Finally, internal generated revenue serves as a tool for infrastructural development. Without adequate revenue, State Governments cannot afford to meet up its expenditures.

Due to the importance of internally generated revenue to nation building, more research works and contributions are required in other to facilitate the economic growth of our nation. Hence the aim of this work is to study the 'Effect of Internally Generated Revenue on Infrastructural Development of South Eastern State using capital expenditure as proxy for infrastructures. The study is anchored on the fiscal Federalism theory.

### **Statement of the Problems**

Since the era of oil boom, State Governments depended on the huge allocation from the federation account. Considering the present dwindling and deteriorating nature of federation allocation. The problem is how the state governments will find a way of boosting the internally generated revenue to help increase the revenue available for the corresponding government expenditures. Therefore, the main objective of this study is to find out the Effect of Internally Generated Revenue on Infrastructural Development of The South Eastern State of Nigeria.

### **Hypothesis:-**

**H<sub>0</sub>:** Internally generated revenues have no significant effect on infrastructural development.

### **2.0: Conceptual Framework:**

#### **Revenue**

Different authors have defined revenue in their own different perceptions. Nightingale (2002), defined revenue as fund needed for governance in the public sector to finance government activities, adding that these fund is be generated from non – oil sources such as income and other forms of tax, royalties, fines, fees, rates and aids from the federal government and foreign financial institutions and countries.

According to Otunbala (2011), government revenue include the entire fund generated from oil and non – oil sources other than fund raised from issue of debt instrument such as government bonds, stocks, treasury certificates and treasury bills from capital and money market, adding that non-oil source include; income tax reception, charges, royalties, fees, utilities, miscellaneous revenue among others. Udo and Nkeanor (2016) postulated that internally generated revenues are those revenues generated within the state e.g. taxes, motor vehicle licensing, and royalties among other.

Revenue comprises of receipt from taxes as well as those which are not the proceeds of taxation but either the realization from the sale of government properties or other interests and returns from loan and investment earnings.

Two types of revenue accruing to state government are internally generated revenue and externally generated revenue i.e. statutory allocation from state government Osisami (1994) asserts that it is those sources of government finance generated majorly by federal state and local contacts, which keep breeding and decoding the overall none oil revenues.

Internally generated revenue are those revenue that are derived within the state from various sources such as taxes (pay as you earn, direct assessment, capital gain taxes etc. and motor vehicle licenses while the statutory allocation from federation account and value added tax constitute the internal sources Adesoyin A. and Ogechi F.C (2013). However, it is obvious to note that, internally generated revenue is not evenly distributed. The distribution defers from state to state depending on the researches available in the state.

### **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

### **Types of Infrastructure**

**Soft Infrastructure:** This type of Infrastructure is the institution that helps maintain the economy. It requires human capital and helps deliver certain services to the people e.g. health care system, financial institution, governmental system etc.

**Hard Infrastructure:** These types of infrastructures are assets defined by government being essential to financing of the society and economy such as facilities for shelter and heating, telecommunication, public health, agriculture etc.

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.

**Development:-**Development in a sine qua non for modern civilization. In other words government uses the money generated from revenue to fund those projects like construction of roads building of public schools, health care centers construction of bridges etc. Adesoji and Ogechi (2015).

### **2.1: Theoretical Framework:**

The study was anchored on the fiscal federation theory. This theory has its basic foundation laid after by Kenneth Arrow, Richard Musgrave and Paul Sadweh Samuel son's two important papers (1954 -1995) on the theory of public goods. The roles of the public and private sectors Arrow (1976) and public finance Musgrave's (1959) which provided the framework for proper role of state in the economy. 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.

This theory was basically on Keynesian theory which canvases for activist role of state in economic affairs. Economics was of the view that public goods would be far lower the total benefits to society. Therefore, government and her officials regarded as than custodians of public interest who would seek to maximize social welfare based on their benevolence or the need to ensure electoral success in democracies.

Once there exist different levels of government, there is existence of decentralization Theory oats (1972). The theory constitutes the basic foundation for what may be referred to as the First generation theory of fiscal decentralization oats (2004). 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.

## **2.2: Empirical Framework**

Akpan & Nnaseh (2013) studied the effect of Internally Generated Revenue (IGR) and infrastructural development in Akwa Ibom State. Ex–post Facto research design was adopted in the study. The data were analyzed with simple percentage statistics while simple regression was used in testing the hypothesis. Findings show that internal generated revenue contributes significantly and positively to provision of water, electricity and roads and more skewed to road than electricity and water. The study was able to conclude that IGR has made positive but uneven contributions to the development of infrastructures in the state as some aspect of infrastructures like road was found to receive more boosts from IGR than others. Similarly, Ogechi & Adenugba (2013) analyzed the effect of Internal Revenue Generation on Infrastructural Development in Lagos State. Descriptive and inferential statistics were used for the analysis. Descriptive involved the use of simple percentages while the inferential involved the use of spearman’s Rank to determine the direction of relationship between variable. Findings from the study showed that there exists a positive relationship between internally generated revenue and infrastructural development. The study also revealed various methods of generating internal revenue like enforcement of tax personnel, creating awareness to the public etc. The study also reconnects that revenue administration agencies need to be reviewed be able to generate more revenues.

Udu & Nkanor (2016) evaluate the effect of electronic internally generated revenue on infrastructural development of Ebonyi State .Ex- post facto research design was used. The

study covered the year 2011-2014 and regression and person correlation of SPSS version 17.0 was used for the analysis. Finding from the study revealed that there exist no significant degree of relationship set between the electronic internal generated revenue and infrastructural development within the year of study.

Akabom-Ita (2013) studied the revenue and social Assets creation on local government area of Cross River State from 1997-2011. Data was analyzed by the use of regression analysis. It was revealed that there is a positive relationship between revenue base and the creation of social assets. The study showed the government neglect of internal revenue generation and its improvement. The study concluded that lack of commitment and poor revenue base are caused by neglect of revenue generation and is the cause of inability of local government to discharge their grass root functions. Edogbanya, (2013) examined the Revenue generative and its impact on Government Developmental effort of selected local council in Kogi senatorial district. Secondary data were used. Finding from the study was that government revenue positively correlate with infrastructural development. The study also established that there is significant relationship between allocation from the excess crude oil account and government development effort. It was recommended that government should put necessary modern technological machineries in places as this will boost its internal revenue generation and subsequent provision of adequate social amenities.

Omolero, Ekwe and Ihedinihu (2018), investigated the impact of the Internally Generated Revenue on Economic Development in Nigeria. The study adopted Ex- post Facto research design. The study used TIGR, FGIR, SIGR and LIGR as independent variable, and RGDP as Dependent variable. Multi regression and T- test was used for the analysis. Findings revealed that TIGR, SIGR and LIGR have robust and insignificant positive impact on RGDP while FGIR indicated positive and significant influence on RGDP. Therefore, concluded that the positive impact of IGR is not out of place but the physical evidence is apparently lacking.

Morlu C.N and Nkoro (2012).examined the impact of tax revenue on the economic growth in Nigeria from 1980 to 2007 secondary data were used for the analysis and the data were analyzed using the three stage least square estimate on technique. Findings showed that tax revenue stimulates economic growth through infrastructural development. The study also revealed that tax has no independent effect on growth through infrastructural development and foreign direct investment but allowing the infrastructural development and foreign direct investment to positively respond to increase in outputs.

Asimiyu & Kizito (2014) examined the growth rate of state governments Internally Generated Revenue (IGR) in Nigeria from 1999 – 2011. The study also studied the comprism between the growth rate of IGR in urban and rural states and the ability of IGR to face state government approach findings revealed that the growth rate of IGR was is very low and this growth rate of IGR is higher in rural states than in urban states. It also revealed that growth rate of state government recurrent and total expenditures were longer than the growth rate of IGR. Furthermore it was discovered that the IGR of urban states finance a greater proportion of their recurrent and total expenditures than the IGR and capital expenditures.

Onuugo, Amuyiri, Asogwa and Anyadike assessed the various ways of enhancing internal revenue generation. The researcher used survey research design and purposive sampling method. Descriptive and internal statistics were used in the study for the analysis. Findings revealed that there several factors including IGR and the system of generation used to be reformed. The study also revealed that the various ways of generating IGR.

### 3.0: Methodology:

Ex post facto design was employed in this study.

#### Sources of Data:

Secondary Data were used. The data used was extracted from the budget estimates of each of the five south Eastern States comprising of Imo, Abia, Ebonyi, Enugu and Anambra state from the period 2013-2017.

#### Model Specification:

The linear models of multiple regressions were used in analyzing the computed data. The functional models employed in the analysis include:

$$COI = \beta_0 + \beta_1 IGR + U \dots\dots 1$$

Where

COI = Cost of Infrastructures (Dependent Variable)

IGR =Internal Generated Revenue (Independent Variable)

$\beta_0$  = constant

$\beta_1$  =coefficient of the independent variables

U = error term

The researcher employed descriptive statistics, correlation and linear multiple regression for data analysis and data interpretation.

#### Data Presentation and Analysis

**Table 4.0:** Pooled Data for the Selected States

YEAR	IGR NGN (000)	COST INFRASTRUCTURE
2013	121210371.18	1251203711.18
2014	12376291754	12371194895.08
2015	5646404338	21289386233.91
2016	23778941890	42173312600.00
2017	21379652845	49285379000.00
2013	8327140070	10203802864
2014	10965490835	9298487182
2015	19168129700	54939980211
2016	20310435000	62006395756
2017	25987709960	70737854635
2013	87279844000	63615980000
2014	8000000000	44876549572
2015	12000000000	38809150000
2016	7578075948	62396750000
2017	27806075588	56889980833
2013	13982979039	7227393943
2014	22756817783	73155392345
2015	24506759972	80283560051
2016	22756817785	5427039139.96
2017	139541547282	134650221789
2013	9134556805	8731599912.43
2014	30919942000	10454312316.18
2015	53998334686	14793120188.6
2016	62098085224	14793120188.6
2017	68299706293	58925681943

Source: Author's Compilation

**Statistical Analysis of the Internally Generated Revenue and Cost of Infrastructure**

**Table 4.2:** Showing Descriptive Statistics Showing mean, Median, Maximum, Minimum, Standard Deviation, Skewness, Kurtosis and Jarque-Bera Values for IGR and Infrastructural Development for the state

	COI	IGR
Mean	4.03E+10	2.95E+10
Median	4.22E+10	2.14E+10
Maximum	1.35E+11	1.40E+11
Minimum	1.25E+09	1.21E+08
Std. Dev.	3.23E+10	3.13E+10
Skewness	0.883498	2.126829
Kurtosis	3.797516	7.426682
Jarque-Bera	3.914900	39.25950
Probability	0.141218	0.000000
Sum	1.01E+12	7.39E+11
Sum Sq. Dev.	2.50E+22	2.35E+22
Observations	25	25

**SOURCE:** *Researchers computation using Eview.*

The summarized descriptive statistics of the explained and explanatory variables as presented in Table 4.3 below for the period 2013 to 2017, revealed the following observations. First, the Cost of Infrastructure is reported to have a mean (median) value of 4.03E+10 (4.22E+10) and standard deviation of 3.23E+10.

The maximum values of these series are 1.35E+11 for Cost of infrastructure and 1.40E+11 for the internally generated revenue. The minimum values are 1.25E+09 for cost of infrastructure and 1.21E+08 for internally generated revenue. This shows that the cost of infrastructure have grown in size from 1.35 billion to 1.40 billion over the period under consideration across the states. Equally the internally generated revenue also increased.

**Table 4.3: Correlation Analysis Results**

	COI	IGR
COI	1	0.5818970586170314
IGR	0.5818970586170314	1

Table above indicates, as an outcome of correlation analysis using the collected secondary data that a strong positive and significant relationship exist between operating Cost of infrastructure and Internally Generated venue for the states in south east zone.

**Test of Hypotheses**

**Restatement of Hypothesis**

**Ho:** Internally collected revenue has no significant effect on infrastructural development of south east states

**Table 4.4: Regression Results and Interpretations of Internally generated revenue and cost of infrastructure**

Dependent Variable: COI  
Method: Panel Least Squares  
Date: 09/22/18 Time: 12:21  
Sample: 2013 2017  
Periods included: 5  
Cross-sections included: 5  
Total panel (balanced) observations: 25

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IGR	0.600506	0.175000	3.431463	0.0023
C	2.26E+10	7.45E+09	3.034097	0.0059
R-squared	0.338604	Mean dependent var		4.03E+10
Adjusted R-squared	0.309848	S.D. dependent var		3.23E+10
S.E. of regression	2.68E+10	Akaike info criterion		50.93816
Sum squared resid	1.65E+22	Schwarz criterion		51.03567
Log likelihood	-634.7270	Hannan-Quinn criter.		50.96521
F-statistic	11.77494	Durbin-Watson stat		1.334598
Prob(F-statistic)	0.002278			

$$\text{IGR} = 2.26\text{E}+10 + 0.600506 + e$$

The estimated coefficient for Internally Generated Revenue is positive for Cost of Infrastructure, indicating that there exist a significant relationship between Internally Generated Revenue and Cost of Infrastructure of the states considered. The result is in order with economic theory. The result is also statistical significant at 5per cent level of significance. These indicate that a one naira change in IGR will increase the Cost of Infrastructure in the South East States.

### Co-efficient of Determination (R)

#### Model Summary

Table showed that **R Square, Coefficient of determination**, i.e., the squared value of the multiple correlation coefficient value to be 0.338604 meaning that, approximately 34% of the variance in the dependent variable Cost of Infrastructure was explained by the model of Internally Generated Revenue. (In simple term, it shows that 34% changes in the dependent variable Cost of Infrastructure is caused by changes in the independent variable of Internally Generated Revenue). It therefore means that the remaining 66per cent is caused by other variables not found in the equation but indicated by the error term

#### Adjusted R<sup>2</sup>

The adjusted R<sup>2</sup> value of 0.309848 means that the model is about 31 per cent goodness fit.

#### Computation of F and T-statistic

**ANOVA Table:** from the ANOVA table which used the computed F-value to test the acceptability of the model from statistical perspective, the decision criterion was stated below as follows:



$F_{\text{calculated}} > F_{\text{table value}}$

Reject the null hypotheses

$F_{\text{tabulated}} > F_{\text{calculate}}$

Accept the null hypotheses

## Result

The F-Statistic was 11.77494 at 0.002278 significance level with degree of freedom 5%. The t-calculated showed that internally generated revenue has a positive and significant effect on Cost of Infrastructure. This result was strengthened at  $p^*$  of  $0.05 < 3.431463$  and  $0.0023$  confirming that internally generated revenue could significantly affect the Cost of Infrastructure.

The researcher accepted  $H_i$  which states that internally collected revenue has a significant effect on infrastructural development of South Eastern States.

## 5.0: Summary of findings, conclusions and Recommendations.

The estimated coefficient for internally Generated Revenue is positive to the cost of infrastructure. This shows that there exist significant relationship between internally Generated Revenue and cost of infrastructure in the five South Eastern States of Nigeria.

The result of the findings show that internally collected revenue has significant effect on infrastructural development of South Eastern States. This implies that the internally generated revenue has improvement on the infrastructural development. Now that Nigeria no longer depend on statutory allocation to meet up to her expenditures. It is necessary that IGR should be up graded.

Base on the findings the researcher recommends that the government of the South Eastern States of Nigeria should try and create more revenue source in other to increase their IGR.

Government should encourage the collection of IGR through the application of modern equipment's and electronics means.

Government should also find a means of closing up the loopholes and discourage frauds among the revenue collectors and the tax payers.

Finally government should provide incentives and allowances in other to motivate and ginger the revenue collectors.

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