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Revenue Generation and Capital Projects Development in Lagos State, Nigeria

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Abstract:
Government capital expenditure is one of the instruments of fiscal policy in achieving macroeconomic objectives, as it improves the provision of capital projects and infrastructural facilities in the economy. Inadequate capital projects have contributed to poor infrastructural facilities in the Nigeria economy. Therefore, the populace is desiring of good infrastructural amenities from the government as well as the potential investors, as poor infrastructural facilities discourages potential investors from investing in the country. Availability and efficient use of revenue generated by the government would help in closing the gaps in the citizens' requirements of providing the infrastructures. This study examined the effect of revenue generation on the capital projects development in Lagos state from 2000-2018.
This study employed ex-post facto research design. Population and sample size comprised entire revenue generated and total capital expenditures incurred for capital projects development in Lagos state from 2000 to 2018. Secondary method of data collection was employed and were sourced from the annual reports prepared by Accountant General of the State with Auditor General's validation and Central Bank of Nigeria Bulletins. It was analyzed using correlation and Ordinary Least Square regression.
The findings revealed that government revenue has a significant effect on the total capital projects development in Lagos state as well as on RCAPEX and ECAPEX. Also, STR in isolation has a significant positive effect on the CAPEX, RCAPEX and ECAPEX. However, OIGR in isolation has an insignificant negative effect on CAPEX and ECAPEX and insignificant positive effect on RCAPEX.
The study concluded that, Lagos state government is yet to economically, effectively and efficiently utilize the revenue generated for capital projects development. The study recommended that state governments should establish a revenue policy that will improve capital projects development rather than using other means of financing the capital projects.

Keywords: *Capital expenditure, capital projects, government revenue, internally generated revenue, state tax. Revenue*

1. Introduction

Public capital expenditure which is one of the instruments of fiscal policy plays a major role in achieving macroeconomic balance in any country. An effective public sector that centers its fiscal policy towards improving capital projects development tends to achieve a sustainable growth, increase in employment and price stability among others. As a result, such countries have to improve its investment in road infrastructure, education, security, health facilities, power sectors and telecommunications. Increase in government expenditure on human capital projects (such as health and education) will leads to increase in labour output as well as national output. In the same vein, public investment on infrastructural facilities (such as road and telecommunication) can as well reduce the cost of production, improve private investment as well as increase the private profitability which in turn has positive multiplier effects on the economic growth and development.

Olorunfemi, Samuel and Kayode (2019) raised an alarming issue that many of the states in Nigeria could not initiate nor execute any capital projects within their jurisdiction independently without the support of the Federal Government, international institutions or residents within the vicinity. The study further revealed that some local administration is very poor in carrying out their social responsibilities to citizens in the provision of road infrastructures. In the same vein, Chinedu and Ezomike (2019) further revealed that in spite of the fact that huge amount of money was voted for capital expenditure on road infrastructures in the country, many Nigerian roads are still in a terrible state which makes it difficult for commuters to use.

Oyedele (2012) was of the opinion that the infrastructural facilities in Nigeria have already deteriorated and, therefore requires urgent repair, rehabilitation or replacement. The study further explained that there are more challenges in democratic governance than military governance in Nigeria when it comes to infrastructural development. This is due to the following reasons which Nigerian government needs to resolve: ability to identify the right project at a particular time and conducting the feasibility and viability studies of the project to be carried out. Other challenges are;

adequate financing, technological know-how for development, maintenance and design, ability of the projects to meet up with the international standard and to be sustainably developed.

Roshan, Lomme, Hima and Santibanez (2016) argued that there is a high demand for quality education in Lagos state because for many years there is high substandard in the secondary school education in the area with poor infrastructures, inadequate learning materials and inadequate professional teachers making the situation worse. This level of substandard quality in the academics being experienced in the state triggered the state governor to launch a project tagged 'LAGOS EKO SECONDARY EDUCATION PROJECT' in 2016 through the support of World Bank. Prior to the launch of this project, the World Bank (2016) identified the following critical challenges being experienced in the education sector in Lagos state: low access to secondary education by the poor people, gender differences in secondary school attendance, low demand for education in skills development, teachers were highly disenfranchised, lack of policy making relating to education, the school curriculum does not correlate with the labour market requirements, inadequate allocation or low government spending on education coupled with limited accountability.

The Eko project on secondary education is essentially a state government project as against the federal government intervention on education. In this case, the State Ministry of Education was saddled with the responsibility of executing the project with the support of education districts, LGEA's, SUBEB and federal agencies with the objective of improving the education level in the state. Lagos state being one of the fastest growing metropolises in the world also reviewed its level of capital projects development and decided to come up with a reform known as 'Improved Public Investment Management (PIM) with the aim of strengthening its' planning and executions on capital expenditures. However, despite the reform the overall rating of the PIM is still seen to be weak. In order to improve on these weaknesses, the legislative arm of the state therefore enacted various bills like; Lagos state Procurement Bill 2010, Lagos state Tenancy Bill 2009, Lagos state Public Finance Management Bill 2010 and Criminal Law of Lagos state Bill 2010 (Treichel & Oyewole 2011). However, the state will still continue to battle with the problems of planning, implementing and monitoring of the various capital projects development which could be as a result of the size of the Lagos state economy and continuous increase in population of the state (Treichel & Oyewole 2011). The following are the ten-point agenda sets in the PIM framework by the Lagos state government for the purpose of achieving the capital projects developments: roads, transportation, power and water supply, environment and physical planning, shelter, health, education, food security, employment and revenue enhancement.

United Nations (2014) carried out a review of its capital projects across the UN system organizations which focused on the various strategic plans in carrying out capital projects and its significant financial contributions to the member states. UN then recommended after its review that to deliver excellent capital projects development, the projects must undertake four successive phases: pre-planning (conceptualization, investing in detailed life-cycle analysis, early risk management, consultations with stakeholders and governance); planning (project management, design development, preparing the contracts, procuring the contracts); executing/implementing (executing, monitoring and controlling) and completing stage (auditing, taking over and commissioning and defects notification period and final completion).

OECD (2016) established a framework for the governance of infrastructure in any country which helps in getting the infrastructure right as high-quality public infrastructure support the economic growth of the country and improve the standard of living while creating employment opportunities to the citizens. OECD opined that infrastructure is mainly a governance challenge and therefore highlighted ten (10) challenges and the policy options: ability to develop a strategic vision for the infrastructures for the populace; how the government officials will overcome the threat to integrity; how the government tends to deliver the infrastructure in order to balance political, sectoral; economic and strategic aspect of the contract to achieve value for money; adequate regulatory framework for the purpose of achieving sustainable and affordable infrastructure over the life of the projects; consideration of the consultation processes which needs to take account of the projects stakeholders; the need to coordinate the infrastructure policy across all levels of the government; ensuring the affordability and value for money of all infrastructural projects; disclosing all relevant data relating to the infrastructural projects to the public in a timely manner; adequate performance of the projects throughout its lifespan and putting in place monitoring instruments and institutions; and public needs for infrastructural projects should be resilient, adaptable to present situations and future circumstances.

Population of the developing countries is approximately 85.4% of the world's population. In order to achieve social and economic sustainable development there is need to improve on their mega construction projects (Zeybek & Kaynak, 2006; as cited by Othman, 2013). The sustainable development was achieved through the provision of infrastructure, industrial, education, cultural, transportation, medical and residential projects which was able to meet the citizens' needs (Othman, 2012; Khan, 2008; as cited by Othman, 2013). However, Othman (2013) identified some challenges that are being encountered in developing countries in achieving sustainable capital projects development and were classified into four categories, namely: engineering challenges, human development challenges, managerial and political challenges and sustainability challenges. He went further to recommend that the governments in the developing nations should develop a strategy that will provide quality education and professional trainings, policy, economy, technology, infrastructure and production, society, demography and culture, healthcare, life expectancy and growth rate of population. All of which are expected to help in overcoming the political and managerial challenges of improving the mega capital projects in developing countries.

The system of government being adopted in the country by state government plays a vital role in the revenue base of the states in Nigeria. The states governments derive their revenue from two broad sources viz the external sources and the internal sources. The internal sources are those revenue generated within the geographical boundary of the state (taxes, fines, fees, interest and dividend income) while the external are those derived outside their geographical boundaries (statutory allocation from the Federation Account and statutory allocation from Value Added Tax) through the

sharing formula. Both are being utilize in carrying out capital and recurrent expenditure. However, the state governments in Nigeria are being faced with various challenges in raising more internal revenue which would have played a major role in developing the states and the state can only be developed by considering their level of investment in infrastructural facilities. Revenue sharing formula is not the only challenges being experienced by the state governments, "There are equal challenges being experienced from the non-product nature of funding sources with up to 70 percent coming from oil and other commodity prices which are known to be unstable and such instability is often transmitted first to revenue and thereafter to the rest of economy" (Odey & Oti 2017). Earlier study carried out by Odey, Odigbo and Oti (2016) revealed that the instability being experienced in oil revenue was as a result of the volatility in global oil market which has posed a major concern to Nigerian state governments due to high level of dependency on oil revenue being recorded in the Federation Account.

Thus, the state governments in Nigeria cannot embark or carryout any capital project developments in order to provide adequate infrastructural facilities without considering its effort in improving its revenue generation (internal source). These facts are not exceptional to Lagos state being the most developed state in the country.

1.1. Statement of the Problem

State governments in Nigeria face lot of challenges in relation to options, capacity and opportunities in raising their internally generated revenues (Odey & Oti 2017). As such, it has affected the level of capital projects development in Nigeria states. Cynado and Ezeogidi (2014) argued that one of the problems facing the development of Nigeria is the state of poor infrastructural facilities. Adegbie and Daniel-Adebayo (2017) opined that the inability of the governments to provide adequate infrastructural facilities made the citizens to continually desire for more capital projects in order to better the life of the populace, as the country suffer high level of infrastructural shortages.

Oyedele (2012) opined that the infrastructural development in Nigeria is not what one can be proud of and it is more challenging in the democratic era because of the inability of the populace to have access to the government and get involved in identifying the proper projects, examining the feasibility and viability of the projects before being executed. Ifarajimi and Ola (2017) opined that adequate infrastructural facilities which could improve the economic growth of a country are very low in the developing countries in which Nigeria is not excluded. The study further conclude that the provision of the infrastructural facilities cannot be left in the hand of the private sectors considering the high cost of executing it. As such revenue generated by the government from the citizens through the imposition of taxes, levies, fines and allocations from the central are expected to close this gap.

Onigbinde (2018) argued that despite the fact that Lagos state generates huge revenue, the condition of Lagos roads and drainage systems are still substandard. He further explained that the state is still lagging behind in terms of provision of road, schools and hospital facilities, when compared with the state's generated revenue. Capital projects development in Lagos state has been said to suffer from many challenges (Omoregie & Radford, 2006; Olatunji, 2006; Aibunu, 2008; Kolo & Ibrahim 2010 as cited by Ogundari & Otuyemi 2019), amongst which are; partial completion of the projects, inability to meet up with the contractors requirements, lack of planning for the projects at hand, shortage of skilled labour, poor projects management and various parties conflicts and litigations.

According to Ejoh, Okpa and Ogon (2016) it was concluded that the government revenue, human and technical resources are the major factors for any state to have adequate capital projects development and perhaps government revenue is seen as the engine room due to the fact that human and technical resources are being influenced with effective revenue generation. Many state governments especially Lagos state have put more effort in increasing their internally generated revenue to augment for the assumed low allocation from the Federation Account in order to improve on the capital projects in the state environs (Roshan, *et al.,* 2016). Despite all this move by Lagos state and some other states in the country, the citizens are still complaining bitterly of low infrastructural facilities (lack of good roads and education facilities) which is due to low investment in capital projects by the states (Treichel & Oyewole 2011).

The main issues here now are: is it as a result of poor internally generated revenue effort? or mismanagement of the generated revenue itself that has contributed to poor infrastructural facilities in the states? Do the states adopt a strong fiscal policy measure that will ensure that all the revenue generated are being channeled towards capital projects development despite the low level of IGRs? (Odey & Oti 2017). This study seeks to examine these critically in order to find answers based on the data gathered and analysed. Since it is now a known fact that revenue generation by the government provides financial support for achieving high level capital projects development, there is need to encourage the citizens (paying their taxes and levies as at and when due) and the government (establishing a reform in revenue generation). Sequel to the above stated problems, it has now become paramount to evaluate the revenue generation and capital projects development in Lagos state.

1.2. Objectives of the Study

The main objective of this research was to evaluate the effect of revenue generation on capital projects development in Lagos state.

The specific objectives were to:

- Examine the effect of internally generated revenue on road capital projects in Lagos state.
- Evaluate the effect of internally generated revenue on education projects development in Lagos estate.

1.3. Hypothesis

In line with the research objectives, the following hypotheses were tested in this study:

- $H_0$1: Internally generated revenue has no significant effect on road projects development in Lagos state.

- $H_0$2: Internally generated revenue has no significant effect on education projects development in Lagos state.

2. Empirical Review/Literature review

This area focused on the review of works of other authors with emphasis on government internally generated revenue and capital projects development.

Ekwe, Ihendinihu and Omodero (2018) investigated the impact of internally generated revenue (IGR) on economic development of Nigeria. They stated that the state and local governments are facing a serious problem in generating enough revenue which could be of help in meeting up with expenditure. The research also emphasized that the economic development in Nigeria experiences major setback due to improper use of IGR as a result of high level of corruption, hence the clamour from the citizens. *Ex-post facto* research design was used to specifically examine the impact of Total IGR (TIGR), Federal Government Independent Revenue (FGIR), State IGR (SIGR) and Local IGR (LIGR) on the Real Gross Domestic Product (RGDP) which are the proxy for economic development of the country. The time series data was employed which covered a period from 1981 to 2016 (36 years). The data for the research were gathered from the Central Bank of Nigeria (CBN) Statistical Bulletin. The statistical tool used for the data analysis was the multi-regression and t-test for test of hypotheses. The findings made the researchers to reject the H_0 of the study and revealed that TIGR, SIGR and LIGR have robust and significant positive impact (p-value = 0.000 < 0.05) on RGDP, while FGIR also indicated positive and significant influence on RGDP. They concluded that there was an existence of high correlation between the dependent and independent variables. The study also emphasized that the positive impact of IGR is not out of place but the physical evidence to convince the citizens is apparently lacking and therefore government policies that could eradicate sharp practices in the government system are required. As a result, it was then recommended that government officials with corruption history should not be given any opportunity to manage public funds. However, people with outstanding integrity should be given a room to manage public funds and this could help in achieving the economic development goals.

Edogbanya and Ja'afaru (2013) carried out a study on Revenue Generation and its impact on developmental effort using local councils in Kogi East Senatorial District as a case study. The objective of their research was to critically analyse the extent at which revenue generation had affected the development of the selected local governments in the East Senatorial District of Kogi State. Primary and Secondary methods of data collection were used in order to obtain the needed data, three local governments were sampled out of nine (9) local governments in the East Senatorial District using stratified sampling method for a period of five years (2006-2010). Simple least square regression method was used to analyse the secondary data obtained. Findings from their research showed that there was a significant relationship between revenue generated and developmental effort of the government. It was recommended that the local government should provide more basic amenities to the rural area and this will in turns make the people in that environment give maximum support to the local government by paying their taxes which would lead to the development of the rural area.

Ejoh, Ogon and Okpa (2016) carried out an examination on the impact of government revenue and expenditure on the economic development of Cross River state, Nigeria. The objective was to assess how the government revenue (taxation) and government expenditure (spending) had actually impacted on the development of the state. Survey design method was adopted with sample size of 80 respondents using regression model from SPSS to analyse to data gathered. The results then showed that there was a significant relationship between public revenue, public expenditure and economic development. It was recommended that the government should diversify their source of revenue in order to operate a stable revenue base in order to improve on the capital and recurrent expenditure which will further have a multiplier effect on the state's production capacity. This study revealed that for any improvement in the government revenue, this will surely assist government in investing more on the capital projects development and on the long run raise total outputs of the state.

Chang and Chiang (2009) carried out a study to revisit the government Revenue-Expenditure Nexus: Evidence from 15 OECD countries based on the panel data approach from 1992-2006. In order to establish relationships between these two variables, panel unit root and panel co-integration techniques were used while panel error-correction model was used to test the four hypotheses. The outcome supported the fiscal synchronization hypothesis, which implied that decisions on government expenditure and revenue cannot be made in isolation. From this study carried out by these researchers, one can deduce that it will be difficult for researchers to conclude that revenue depends on expenditure or vice versa. But rather consider both variables work together in making fiscal policy decision by increasing the revenue and reduce spending simultaneously during a budget deficit.

Obeng, (2015) carried out a causality test of the Revenue-Expenditure Nexus in Ghana for the period of 1980-2013 in order to examine if it was the revenue that influenced the expenditure or expenditure influenced the revenue by using stationarity test to know the level of stationarity of the two variables. Long-run relationship between the two variables were also examined using Ordinary Least Squares (OLS) method while the short run relationship between the variables were also examined using Vector autoregressive (VAR) framework. Findings showed that there was a strong relationship between revenue and expenditure but inversely related. However, Granger causality test was also performed to know the direction of the casual relationship between the variables and it was then found that government revenue causes government expenditure complying with tax-spend hypothesis. The study then recommended that the government should improve in its revenue generation efforts in order to finance its increasing expenditure.

Ho and Chang (2002) carried out a note on testing "Tax-and-spend, spend-and-tax or fiscal synchronization hypothesis" with a case of China using the time series econometric techniques, making use of real GDP, real government revenues and real government expenditures for a period of twenty-three years (1977-1999). Three stages of tests were carried out on the times series: the first were standard Augmented Dickey-Fuller, KPSS, and Zivot-Andrew

(1992) tests, the second was Johansen's multivariate cointegration test where long-run equilibrium relationship among the three variables were uncovered and finally; Granger causality test in which a feedback between real government revenues and real government expenditures was arrived which was in support of "fiscal synchronization" hypothesis for China which is in agreement with the researchers expectation about the China's fiscal system. It was then suggested that in order to resolve the problem of deficit budget of China the government should be careful in increasing the revenue and reducing expenditure or changing both variables without considering the interdependence between the revenue and expenditures.

Balogun (2017) carried out a study on the causality between government expenditure and government revenue in Nigeria by adopting *ex-post facto* and annual time series data between 1986-2015 which were obtained through the statistical bulletins and annual reports of the Central Bank of Nigeria to assess the two variables. Through the use of co-integration and vector autoregressive techniques alongside Error Correction Model (ECM) and Augmented Dickey fuller analyses, it was found that Nigeria practiced spend-revenue. This implied that government expenditure determines its level of revenue. It was then advised that the government should endeavour to increase its sources of revenue in order to meet up with its economic activities which require huge expenditure in order to avoid deficit budget which will later lead to increase in borrowing.

Omotor (2004) carried out an investigation to examine the trend of expenditure incurred by the Government of Nigeria on education for the period 1977-1998. The data for the study was obtained from the Central Bank of Nigeria (statistical bulletin and annual report and statement of accounts). The study developed an education expenditure model which was tested using the Ordinary Least Squares (OLS) technique with the various data gathered. It was found that the Federal Government revenue is the major determinant of educational expenditure model as it is significant in the model constructed for the study. They also revealed that the era of government was not a major factor that influenced the level of government expenditure on education. It was then recommended that the government should search for additional means of financing education in Nigeria.

Milton (2015) conducted a research to analyse the degree of responsiveness, causality and interrelationships among the education expenditure incurred by the government, taxation and economic growth in Nigeria from 1981 to 2013. Various tests (VEC Granger causality and the VECM) were employed to analyse the data collected. The VEC showed that there was an existence of unidirectional causality among government expenditure on education, taxation and economic growth in Nigeria. Although between 2008/2009 a bi-directional causation was uncovered between the economic recession, government expenditure on education and human capital development which was due to economic recession during the period. The VECM result also showed that the responsiveness of government expenditure on education was significant and exceeded the responsiveness of human capital development, real GDP per capital growth rate and total tax revenue. The study therefore recommended that a well restructured fiscal policy should be implemented by the government on education in order to achieve the macroeconomic goals and objectives.

Ahmed and Salihu (2015) carried out a study to examine how government expenditure (capital and recurrent) influenced the internally generated revenue of local governments in Adamawa state, Nigeria. The study examined the entire twenty-one (21) local governments in Adamawa state as the sample size, in which a panel data was obtained from the audited financial statements of the entire local governments for the period of ten years (2003-2012). A pooled regression was used to analyse the date obtained. Findings from the analysis shows that capital and recurrent expenditures on agriculture, natural resources, roads and education had a significant influence on the internally generated revenue of Adamawa local governments. It was then recommended that government should endeavor to promote prudency, transparency and transparency while embarking on capital and recurrent expenditure for the development of the local areas in the state as this will motivate the citizens to perform their civil responsibilities by paying up their levies and dues to the governments, as the increase in internally generated revenue of the local economies will reduce over-dependency on the statutory allocations from the Federation Account. This study made us to understand that government expenditure influences internally generated revenue of local governments in Adamawa state. The case might not be the same with that of Lagos state which already have a standardized mechanism which has been helping in increasing the internally generated revenue (excluding taxes) but still Lagosians are not happy with the level of government investment in the infrastructural facilities, which triggered this research.

Odey *at al*., (2016) carried out a study to determine the fluxional relationship between Internally Generated Revenue and the cost of collection in Cross river state with a view to proffering cost minimization measures. The objective of the research was to come up with a sustainable model to the states which can optimize the level of their revenue collection internally as the allocation from the Federation Account cannot be over dependent on. The method of data collection was secondary which was obtained from the Cross-river state Board of Internal Revenue, the State Budget Department and Ministry of Finance for eight years (2007-2014). The statistical method used was descriptive to analyze the trend and relationship between Internally Generated Revenue (IGR) and collection cost in Cross river state. The trend analysis was also used to assess the impact of increase in cost of collection on the internally generated revenue in the state. It was then concluded that a framework should be in place to address the issue of compliance level to tax laws, accountability and transparency which will motivate the taxpayers to pay as and when due and reduce the cost of collection. Effort should also be geared towards achieving maximum revenue yield. The cost of collection should be managed so that it could be within statutorily prescribed band in order to ensure sustainable economic growth and development within the premise of the Pareto-efficiency thesis. From their study, it can be deduced that increase in cost of collection will definitely reduce the revenue base of a state which in-turn reduce the level of capital projects that will be carried out by the state governments.

Olorungbemi (2015) examined the Revenue Generation and Local Government Administration in Nigeria (1999-2007): with a case study of Ijumu Local Government Area of Kogi state. The objective was to assess the relationship between the internally generated revenue and level of development. In other to achieve this objective primary and secondary data were collected from Ijumu Local Government council of Kogi state for nine (9) years for the examination, making use of descriptive and inferential statistical tools. From the hypothesis on the data gathered, it was found out that there was effective internal control measure in place which could enhance effective utilization of internally generated revenue in the local government. It was then recommended that in order to improve the internally generated revenue, keeping of appropriate accounting records, supply of social and economic service, establishment of people-oriented projects, staff motivations, training and retraining of revenue officers should be encouraged. To this view, capital projects development and effective internal control system could have a multiplier effect on the government revenue generation.

Odey and Oti (2017) carried out an analysis on the relationship between internally generated revenue and capital expenditure utilization in Cross river state, Nigeria from 2007 to 2015. The method of data collection was secondary, gathered from Cross river state Budget Office, Internal Revenue Service and Ministry of Finance for the study. Statistic tool used to analyze the relationship between internally generated revenue and capital expenditure utilization in Cross river state was descriptive statistic. Findings from the study revealed that any increase in government expenditure without corresponding revenue will widen the budget deficit. It was recommended from the findings that the Cross-river state government should increase the size of its internally generated revenue in order to accommodate the capital expenditure of the state. It was also recommended that the state government should diversify its economy and explore especially the non-oil minerals sector of the state economy so as to correct the disparity between revenue and expenditure and reduce the attendant budget deficit. Expenditure reforms analysis should be considered vis-à-vis taxes and all other revenue sources. This will help set targets for revenue mobilization and utilization as well as expenditure spreading over the entire state economy. The Cross-river state government in order to be sustainable in its development strive must develop the internally generated revenue base, promote fiscal prudence in the management of its resources, enhance infrastructures, eschew corruption and unsustainable spending as well as sustain it capital votes. The Cross-river state government should continue to increase its aggregate revenue mostly from internally generated revenue base, since only revenue from internal sources can boost the state income given the dwindling allocations from the Federation Account. The government should go a step further in intensifying efforts at developing other sources of revenue in order to insulate the economy from the volatility associated with oil revenues.

Adenugba and Ogechi (2013) assessed the effect of internal revenue generation on infrastructural development. The research methodology entailed the use of survey research design and purposive sampling method to select respondents from Lagos state Inland Revenue Office. Questionnaires and statistical data were instruments used for the study. Descriptive and inferential statistics were the statistical tool used for the analysis. The descriptive statistics involved the use of simple percentages while the inferential statistics involved the use of Spearman's Rank, which is to show the direction of relationship between variables in the study and to show the scale for the data that is interval. Two hypotheses were formulated and the Spearman's rank correlation analysis was used to test the relationship between internally generated revenue and infrastructural development. The result showed that there was a positive relationship between internally generated revenue and infrastructural development. The study also revealed the various methods of generating internal revenue, which are the enforcement of tax personnel, contribution, and creating awareness to the public. The findings of the study however showed that revenue administration agencies need to be reviewed to generate more revenue in the country. Nwosu and Okafor (2014) studied the disaggregated analysis of government revenue and expenditure in Nigeria, using time series data from 1970 to 2011. Utilizing the co-integration techniques and Vector Auto-Regression (VAR) models, it was revealed that a long run equilibrium dynamic relationship exists between government revenue and expenditure.

Lojanica (2015) investigated the links between government revenue and government expenditure in the Republic of Serbia, in order to indicate the measures that were necessary to reduce the budget deficit in Serbian economy. In the analysis, the monthly data from M1 2003 to M11 2014 were used. As an appropriate method for testing causality, Autoregressive Distributed Lag (ARDL) was used, while the Granger causality had been tested within the Vector Error Correction Model (VECM). The empirical results obtained in the study can be represented as follows: Testing the stationarity through the ADF and KPSS tests, it was found that the government revenues and the government expenditure were not stationary after the second difference. Namely, they were not in the line with the integration I (2). Further analysis had revealed that there was a cointegration between the variables. Also, the analysis had shown that, the long run, there was unidirectional causality moving from government expenditure towards government revenues. This result was in accordance with *spend- revenue* hypothesis. Based on the obtained empirical results, the political implications were that the government expenditures should be reduced on the long run. Specifically, in the case of an increase in government expenditure, government revenue should be increased which implied an increase in tax rates. Such a situation would cause a further deterioration of the macroeconomic environment, bearing in mind all the difficulties of collecting tax revenues in Serbia.

Amujiri, Anyadike, Asogwa, Vincent and Chris (2015) carried out an empirical review on how internally generated revenue (IGR) of South Eastern states of Nigeria could be improved using Abia state as case study. The aim of the study was to source for ways in which the government could enhance the internal revenue generation of Abia state. Survey research design and purposive sampling method were adopted to select respondents from Abia state Internal Revenue office. Descriptive and Inferential Statistics were used to analyse the primary and secondary date gathered for the period (2007-2013). Their analysis revealed that over 70% of the state revenue was from Federation Account while less than 30% was from the internal revenue effort. It was concluded that there were several factors hindering IGR and the system

of generation which needed to be reformed. The recommendation from the study were; more enforcement from tax personnel, creating awareness to the public and review of revenue administration agencies in order to generate more revenue in the state. When the state government put more effort in improving their internal revenue, they will have more funds to be invest in various capital projects.

Kizito and Asimiyu (2014), in their study on the analysis of internally generated revenue and its implications on fiscal viability of state governments in Nigeria carried out between 1999-2011 using descriptive method to analyse the growth rate of IGR in urban and rural states in Nigeria, discovered that the average growth rate in IGR was 20.1% while the growth rate in recurrent and total expenditures was 30% and 34.2%. However, the growth rate in rural states IGR is still higher than that of the urban states. In arriving at the general conclusion, sample of five (5) states out of thirty-six (36) states in Nigeria were used. It was then recommended that more revenue be allocated to the rural states in order to finance capital projects for them to be able to grow their IGR and improve the economic development of the rural states.
Despite all the empirical studies carried out by many researchers to evaluate the relationship of government revenue and expenditure, less attention has been paid to the other components of internally generated revenue like fees, fines, licenses and their effects on the capital expenditure on road and education mostly at the state level in Nigeria. Hence this study is to fill these gaps with particular reference to Lagos state, Nigeria.

2.1. Theoretical Review

This study is built on the analysis of the following theories:

2.1.1. The Fiscal Federalism Theory

This theory was propounded by Musgrave (1959). The theory assumed three major roles which are expected from the public sectors namely: the role of readjusting the market failure being experienced in the country; promoting equitable distribution of income and wealth among the citizens; and ensuring that the economy achieves full employment and price stability. This theory was supported by Samuelson's (1971) who further opined that the role of stabilizing the economy in case of imbalances is saddled with the government by providing the various public goods which cannot be left in the hand of the private sectors. Therefore, governments and their officials were seen as the custodians of public interest who would seek to maximize social welfare based on their benevolence or the need to ensure electoral success in democracies.

Oats (1972) further re-formalized the theory and referred to it as "Decentralization Theorem" which then 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 provided efficient levels of outputs of public goods "for those goods whose special patterns of benefits were encompassed by the geographical scope of their jurisdictions" (Oats, 2004). According to Olson (1969), such situation came to be known as "perfect mapping" or "fiscal equivalence".

Kapacu (2016) criticized this theory when the researcher uncovered some fundamental challenges in the theory of fiscal federalism that the problem of accountability regarding the revenue generated to the central, employment of non-professionals as civil servants, freedom of migrating from one state to another, improper monitoring of the local government activities by the federal government, low level of infrastructural facilities being provided by the local governments might hinder the achievement of the object of fiscal federalism.

2.1.2. Benefit Received Theory

This theory was propounded by Wicksell (1896) and Lindahl (1919) assumption that there is a relationship between the government and the individual tax payers. As the government is saddled with the responsibility of providing certain public goods and services to the citizens, the citizens need to perform their civil responsibility by paying their taxes in order to enhance the internally generated revenue of the state which the government in turn apply in meeting its primary objectives. In other words, benefit principle explained that everyone who benefits from the services of the government be identified and be made to pay taxes. In support of the theory, Appah and Ebiringa (2012) stated that there is existence of an exchange relationship between individual taxpayers and the government. Also, (Lindahl, 1919; as cited by Weinzierl, 2016) each taxpayer has the liberty to choose her own level of consumption, work effort and public goods which they deem can be accommodated with their budget constraints. However, the theory is being criticized by Nozick (1974) that it lacks utilitarian framework.

2.1.3. Tax-and-Spend Hypothesis

This theory was propounded by Friedman (1978) with the assumption that government will first generate revenue through the imposition of taxes before government can incur any expenditure. Saka, Kareem and Babalola (2015) added in support of the theory that it is only through the increase in government revenue that deficit budget can be reduced. The theory is of the stands that government revenue influences government expenditures. According to Friedman (1978), it was propounded that an increase in tax revenue will lead to increase in government expenditure which will then result to the inability of the government to reduce their deficit budget. The researchers also, encouraged the support of tax-spend as it has the tendency of avoiding budget deficit by establishing a policy that will improve government revenue.

Buchannan and Wagner (1978) criticized the theory in other way round and opined that decrease in government revenues will lead to increase in government expenditure as the citizens will demand for more capital projects in the country. This theory is more important to this study as the objective of the research is to evaluate how the revenue

generated by Lagos state government has been able to influence its expenditures on capital projects development within the state.

2.1.4. Spend-and-Tax Hypothesis

This theory was propounded by Peacock and Wiseman (1961) with the assumption that a temporary increase in government expenditure will lead to higher revenue being generated by the government on permanent term which is referred to as a displacement effect (Saka, *et al.,* 2015). The theory was supported by Roberts (1978).

The findings of Yinusa and Adedokun (2017) criticized this theory as it was revealed that the government revenue determines the level of government spending. This theory is less relevant to this study as this study does not expect the spending of the government to influence the government revenue for the state. However, further test will be carried out on this assumption if our expectation fails.

2.1.5. Fiscal Synchronization Hypothesis

This theory was propounded by Musgrave (1966). The assumption of this theory is that government revenue and government expenditure decisions are jointly made. The theory was supported by Meltzer and Richard (1981). Chang and Chiang (2009) carried out a study by examining the relationship between the government revenue and expenditure in 15 OECD countries using panel unit root, panel co-integration and panel Granger causality test techniques from 1992-2006. The study suggests that policy of the government towards improving the infrastructural development will impact on the growth of the economy.

2.2. Theoretical Framework

This study was underpinned by the theory of Tax-Spend which was postulated by Friedman (1978), because the theory made us to understand that government revenue influences the government expenditure towards carrying out capital projects development in the state. In the study of United States, (Blackley, 1986; Ram, 1988; and Hoover and Shefrin, 1992; as cited by Chang & Chiang, 2009) evidence to support the tax-and-spend hypothesis. Also, in the study of OECD (Joulfaian and Mookerjee, 1990; and Owoye, 1995; cited by Chang & Chiang, 2009) support for the tax-spend hypothesis was found which were all contrary to the study of Balogun (2017) in Nigeria in which it was found that the country practices spend-revenue.

The study ascertained the main determinant between these two major variables (government revenue and government capital expenditures towards capital projects) for Lagos state. As a result, the study considered the tax-and-spend hypothesis as it examined the extent at which the state government revenue had influenced the investment of capital projects development in Lagos state by providing infrastructural facilities to the public. However, fiscal federalism theory was negated as it only considered provision of public goods by the government, ignoring the source of financing it. Benefit received theory was abandoned as it lacks utilitarian framework while providing public goods. Fiscal synchronization and spend-tax hypothesis might not be realistic in an economy on the long run.

3. Methodology

3.1. Research Design

This study adopted *ex-post facto* research design as it made used of secondary data to assess the revenue generation and capital projects development in Lagos state. A time series design was used for this study while relevant data were obtained from the Annual Report of Lagos state government through the office of the Accountant General of the State. Annual report obtained provided us with the details internally generated revenue (IGR) received as well as capital expenditure incurred by Lagos state to carry out capital projects development for the purpose of the analysis. This design has been employed by many researchers (Odey, *et al.,* 2016; Olugbemi, 2015; Agu & Basil, 2017; Ekpo, 2016; and Gaal; 2017) in their studies which served as bases for this study.

3.2. Population of the Study

This research was based on Lagos state of Nigeria, and in that case the population was the entire revenue accruable to the state in accordance to the constitution of the Federal Republic of Nigeria and all capital expenditure incurred on capital projects. This study evaluated the effect of Revenue Generation on Capital Projects Developments in Lagos state from 2000-2018.

3.3. Sample Size and Sampling Technique

The sampling technique adopted is total remuneration, as the study considered all the capital expenditures incurred by Lagos state government on capital projects development and all the internally generated revenues accruable to Lagos state government for the period of 2000 to 2018.

3.4. Method of Data Collection

The study employed secondary data to assess the impact of the revenue generated on capital projects. Therefore, the secondary data for the study was obtained from the office of the Accountant General of the State and Central Bank of Nigeria Statistical Bulletin from year 2000 to year 2018. The secondary method of data collection was employed for this study due to the fact that, many researchers (Edogbanya & Ja'afaru, 2013; Olorungbemi, 2015; Odey, *et al.,* 2017; Lojanica,

2019; Asaolu, 2015) who have conducted related study relied on the secondary data obtained and based their findings and conclusion on the analyses of the secondary data obtained.

3.5. Validity and Reliability of Instruments

The data from the financial statements collected have been certified by the Audited General for the State which helped the study to place high level of reliance on the financial statements obtained. Also, the State House of Assembly has attested to the audited report submitted to the House after the Auditor's review.

3.6. Methods of Data Analysis

This study examined the effect of revenue generation and capital projects development in Lagos state for the periods 2000 to 2018. The dependent variable is total capital expenditure (CAPEX) with capital expenditure on roads infrastructure (RCAPEX) and education infrastructure (DCAPEX) as its proxies while the independent variable is the total Internally Generated Revenue with State Tax Revenue (STR) and Other Internally Generated Revenue (OIGR) (this relates to IGRs with the exclusion of state tax revenue and it includes: levies, fees, fines and investment incomes) as proxies. To accomplish this, time series data was gathered and analysed with the following tools and test; (as utilized by the following researchers in their study: Ahmed 2015; Adegbie & Daniel-Adebayo, 2017; and Okonkwo & Afolayan, 2019);

3.6.1. Descriptive Analysis

This was performed in order to express the data gathered in graphical and numerical representation. The numerical representation described the mean, maximum, minimum, and the probability of Jarque-Berra statistics for the secondary data gathered. In that case, if the p-value of Jarque-Berra statistics is higher than the acceptable level of significance of 5%, it implies that the series is normally distributed (Oti, *et al.,* 2016; and Olorungbemi 2015).

3.6.2. Correlation Analysis

This analysed the relationship between the revenue generated and the capital expenditure incurred on the capital projects development in Lagos state from 2000 to 2018 as employed in the study of Edogbanya & Ja'afaru, 2013; and Omodero, *et al.,* 2018)

3.6.3. Unit Root Tests

This is also referred to a unit root process or a difference stationary process. It was used to test for the stationarity in the time series. A time series is characterized with stationarity if a change in time does not lead to a change in the shape of the distribution. If a time series has a unit root, it shows a systematic pattern that is unpredictable. There are many tests that exist to examine this. However, Augmented Dickey-Fuller (ADF) test was used all through for the test in this study because it handles bigger and more complex models and also has a downside of fairly high Type I error rate (Stephanie 2016). When the data collected shows a constant mean, variance and covariance, we concluded that it is stationary. However, when the test shows non-stationary series, it was converted to stationary series for proper decision making (Chang & Chiang, 2009; and Ojide & Ogbodo, 2014)

3.6.4. Granger Causality Test

This test enabled the study to identify the direction of causal relationship among the variables employed for this study. As such, the study adopted pairwise Granger causality test (Engle and Granger, 1987; Granger, 1969; Granger, 1988; Granger and Newbold, 1974; as cited by Balogun, 2017).

3.6.5. Diagnostic Test

Linearity was conducted using Ramsey Regression Equation Specification Error Test (RESET) in order to ascertain the reliability of the parameter estimates before drawing conclusions/policy inference from the regression models.

3.6.6. Regression Analysis

The coefficients of the regression analysis helped to determine the type of relationship between the dependent variable and the independent variable alongside its proxies. The study adopted Ordinary Least Square (OLS) method to estimate the models. The adoption of the OLS was due to the insignificant result shown by the Granger causality test conducted between the revenue generated and capital expenditure on capital projects by the state.

3.7. Model Specification

This study employed two groups of variables: dependent and independent variables, in which the dependent variable is the capital project development with capital expenditure on Roads infrastructure (RCAPEX) and Education infrastructure (ECAPEX) as its proxies. The independent variable is the State Government Internally Generated Revenue with the proxies as State Tax Revenue (STA) and Other Internally Generated Revenue (OIGR).

Econometrics Model

The econometric model for the regression analysis of the secondary data obtained is presented below as follows:

Specific Model:

$RCAPEX_t = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$…….Model 1

$D(ECAPEX) = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$….. Model 2

$D(CAPEX) = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$……Main Model

Where ε_t = The Error Term in the current period.
β_0 = constant
β_1- β_2 = model coefficients
CAPEX = Total Capital Expenditure
RCAPEX= Road Capital Expenditure
ECAPEX = Education Capital Expenditure
STR = State Tax Revenue
OIGR = Other Internally Generated Revenue

4. Analysis of Results

This section deals with the presentation, analysis and interpretation of data obtained as well as discussion of findings. In other words, the section deals with the detailed econometric analysis of the effect of government revenue on the capital projects development in Lagos state.

4.1. Descriptive Statistics

This section provides detail analysis of the data with the aim to describe their attributes. This is done in too folds, namely: graphical and numerical representation. The graphical representation on figure 1 shows the trend of each of the revenue generated and capital expenditures incurred by Lagos State from 2000 to 2018 while table 1 reflect the numerical representation of the revenue generated and capital expenditures incurred by Lagos State from 2000 to 2018. The result from the plotted graph shows that both the revenue generated and the capital expenditures incurred fluctuated over the years. This is evident with the sharp rise in the revenue generated from year 2008 with the equivalent tremendous rise in capital expenditure. However, in 2010 the revenue dropped which impacted on the capital expenditure incurred on capital projects in 2011. The result from table 4.1 shows that there are many variations in the values of capital expenditure and revenue generated over the years, this is being evident from the minimum and maximum values. The skewness of the CAPEX shows negative result, indicating that CAPEX was skewed left meaning the left tail is long relative to the right tail for the periods. On the other hand, the skewness of ECAPEX, RCAPEX, OIGR and STR are positive, indicating that the variables were skewed to the right which means that the right tail is long relative to the left tail. In relation to Kurtosis, all the variables under study were below the threshold of 3 which result to a platykurtic (indicate small outliers in the distribution). Also, the probability of the Jarque Barra statistics shows that both variables were normally distributed.

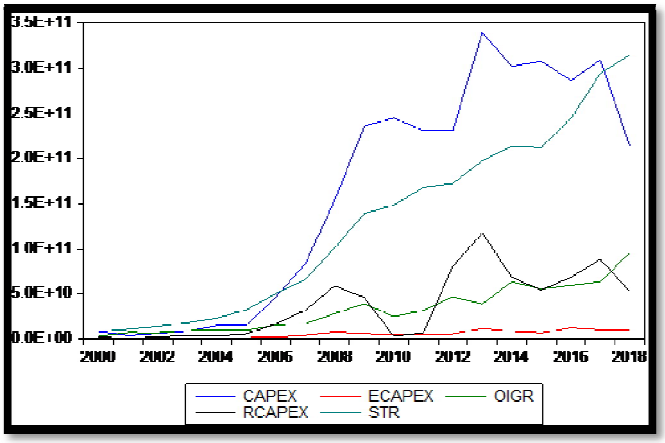

Figure 1: Trends of CAPEX, ECAPEX, OIGR, RCAPEX and STR
Source: Researcher's Study, 2020

	CAPEX	RCAPEX	ECAPEX	STR	OIGR
Mean	1.60	3.75	5.20	1.28	3.30
Median	2.14	3.19	5.37	1.39	2.84
Maximum	3.40	1.18	1.25	3.15	9.58
Minimum	3.92	1.03	0.01	8.43	3.18
Std. Dev.	1.28	3.61	4.16	1.01	2.56
Skewness	-0.09	0.58	0.28	0.31	0.78
Kurtosis	1.35	2.21	1.86	1.84	2.85
Jarque-Bera	2.17	1.55	1.28	1.36	1.93
Probability	0.34	0.46	0.53	0.51	0.38
Sum	3.04	7.12	9.88	2.43	6.27
Sum Sq. Dev.	2.93	2.35	3.11	1.83	1.18
Observations	19	19	19	19	19

Table 1: Summary of Descriptive Statistics
Source: Researcher's Study, 2020

4.2. Correlation

This section measures the type of relationship that subsist between the dependent variables and the independent variable. From the result in table 2, it was uncovered that there is a strong relationship between the dependent variables (CAPEX, RCAPEX and ECAPEX) and the independent variables (OIGR and STR).

	CAPEX	RCAPEX	ECAPEX
STR	0.90	0.74	0.91
OIGR	0.79	0.70	0.85

Table 2: Correlation Results
Source: Researcher's Study, 2020

4.3. Unit Root Test

The unit root test on all the variables was carried out using the augmented Dickey-Fuller (ADF) test and the result is presented on table 3, the result shows that the series were stationary at different level of integration. Thus, the result shows that the series were stationary at different level of integration. Thus, the regression model is estimated in the subsequent section, as one of the key assumptions of the ordinary Least Square Regression (OLS) is normality of the series which the unit root test (ADF) of the variables has taken care of. The OLS was also adopted due to the insignificant outcome of granger causality tests conducted in the next section.

S/N	Variables	Level		1st Diff		Order
		ADF	CF@5%	ADF	CF@5%	
1.	CAPEX	1.55	2.90	3.9	2.9	1ST
2.	RCAPEX	3.00	2.91			LEVEL
3.	ECAPEX	1.97	2.90	6.76	2.90	1ST
4.	STR	0.48	2.90	3.87	2.90	1ST
5.	OIGR	1.69	2.90	5.82	2.90	1ST

Table 3: Summary of Augmented Dickey Fuller Test Result
Source: Researcher's Study, 2020

4.4. Granger Causality Test

Table 4 below expresses the directional causality between the revenue generation and capital projects development in Lagos state at 5% significance level ($p<0.05$) at lag two. The results show that there is uni-directional relationship between STR and RCAPEX, OIGR and RCAPEX and OIGR and ECAPEX. However, non-directional relationship exists between STR and CAPEX, STR and ECAPEX and OIGR and CAPEX. The result made us to understand that state government internally generated revenue granger causes the road projects development in the state.

	CAPEX	RCAPEX	ECAPEX
STR	0.6478	0.0062**	0.0531
	0.4920	0.3788	0.0958
OIGR	0.1808	0.0213**	0.0298**
	0.7154	0.3506	0.0979

Table 4: Summary of the Granger Causality test
Source: Researcher's Study, 2020

4.5. Test of Hypotheses

4.5.1. Test of Hypothesis one (H_{01})

- Research Objective 1: Examine the effect of internally generated revenue on road capital projects development in Lagos state.
- Research Hypothesis 1 (H_{01}): 1: Internally generated revenue has no significant effect on road projects development in Lagos state.

Variable	Model One			
	Coefficient	Std Error	t-Stat.	Prob
C	2.04	5.16	3.95	0.00
D(STR)	3.97	0.86	4.61	0.00
D(OIGR)	0.80	0.90	0.90	0.37
R^2	0.24			
Adj. R^2	0.23			
S.E of Reg	3.18			
F-Statistic	11.76			
Prob.(F-Stat)	0.00			
Obs. After adjustment	75			
Post Estimation Tests				
Durbin-Watson	0.25			

Table 5: Regression Table

Model one:
$RCAPEX_t = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$
$RCAPEX_t = 2.04 + 3.97D(STR)_t + 0.80D(OIGR)_t + \varepsilon_t$

4.5.1.1. Interpretation and Discussion of Findings

Table 5 shows the regression analysis for the effect of internally generated revenue measured at the difference of state tax revenue D(STR) and the difference of other internally generated revenue D(OIGR) on capital projects development measured by the road capital expenditure (RCAPEX) and the post estimation test. From the result of the post estimation test, the result of the Durbin Watson statistics shows 0.26, which evidenced the existence of positive autocorrelation in the series. As such, regressing the model at their different level of stationarity has taken care of this econometric problem. The adjusted R-squared result of the model indicates that changes in RCAPEX in Lagos state is being influenced by 23% of the combined independent variables (internally generated revenue), while the remaining 77% are caused by other factor(s) not included in this model. With the coefficient of determination of 25% implies that the regression model has a very weak explanatory influence. Also, with the probability of the F-statistic of 0.00, this shows that the regression result is significant as it is less than 0.05 level of significance employed for this study. The regression estimate shows that the STR and OIGR have positive effect on road capital projects development in Lagos state for the period under study. From their t-statistics result, it could be seen that STR (pv=0.00) implies that STR has significant effect on RCAPEX while OIGR (pv=0.37) has no significant effect on RCAPEX at 5% level of significance.

- **Decision:** From the result of the regression analysis, pob(F-statistic) of 0.00 is less than the 0.05 level of significance adopted for the study. Therefore, we reject the null hypothesis and conclude that the internally generated revenue has significant effect on road capital projects development in Lagos state. The result of this finding is in support of the work of Edogbanya and Ja'afaru (2013) that STR has a significant positive effect on the road capital projects development in Lagos state. However, the result contradicts the result of the study carried out by Adegbie and Daniel-Adebayo (2017), who found out that the tax revenue, has insignificant positive effect on infrastructural facilities in Nigeria.

4.5.2. Test of Hypothesis Two (H_{02})

- Research Objective 2: Examine the effect of internally generated revenue on education capital projects development in Lagos state.
- Research Hypothesis 1 (H_{02}): 1: Internally generated revenue has no significant effect on education projects development in Lagos state.

Variable	Model One			
	Coefficient	Std Error	t-Stat.	Prob
C	14	1.4	0.01	0.99
D(STR)	0.05	0.02	2.21	0.03
D(OIGR)	-0.05	0.02	-2.25	0.03
R^2	0.10			
Adj. R^2	0.08			
S.E of Reg	8.65			
F-Statistic	4.41			
Prob.(F-Stat)	0.02			
Obs. After adjustment	75			
Post Estimation Tests				
Durbin-Watson	1.01			

Table 6: Regression Table

Model two:
$D(ECAPEX)_t = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$
$D(ECAPEX)_t = 14 + 0.05D(STR)_t - 0.05D(OIGR)_t + \varepsilon_t$

4.5.2.1. Interpretation and Discussion of Findings

Table 6 shows the regression analysis for the effect of internally generated revenue measured at the difference of state tax revenue D(STR) and the difference of other internally generated revenue D(OIGR) on capital projects development measured by the difference of education capital expenditure D(ECAPEX) and the post estimation test. From the result of the post estimation test, the result of the Durbin Watson statistics shows 1.01, which evidenced the existence of positive autocorrelation in the series. As such, regressing the model at their different level of stationarity has taken care of this econometric problem. The adjusted R-squared result of the model indicates that changes in ECAPEX in Lagos state is being influenced by 8% of the combined independent variables (internally generated revenue), while the remaining 92% are caused by other factor(s) not included in this model. With the coefficient of determination of 11% implies that the regression model has a very weak explanatory influence. Also, with the probability of the F-statistic of 0.02, this shows that the regression result is significant as it is less than 0.05 level of significance employed for this study. The regression estimate shows that the STR has positive effect while OIGR has negative effect on education capital projects development

in Lagos state for the period under study. From their t-statistics result, it could be seen that with STR (pv=0.03) and OIGR (pv=0.03) implies that both STR and OIGR has significant effect on ECAPEX. The result revealed that OIGR has not been properly channeled toward educational sector development.

- **Decision:** From the result of the regression analysis, pob(F-statistic) of 0.02 is less than the 0.05 level of significance adopted for the study. Therefore, we reject the null hypothesis and conclude that the internally generated revenue has significant effect on education capital projects development in Lagos state. The result of this hypothesis agreed with the study of Adenuga and Ogechi (2013) that increase in internally generated revenue through state tax revenue will have a significant positive effect on the infrastructural development. Also, the finding of Ahmed (2015); Omotor (2004); and Milton (2015) that revenue has significant effect on education but the level of influence of revenue generated by Lagos state is lower than the recommendation of 26% by UNESCO in other to achieve educational development.

4.5.3. Main Model Analysis

Variable	Model One			
	Coefficient	Std Error	t-Stat.	Prob
C	-1.3	1.57	-0.83	0.41
D(STR)	1.74	0.26	6.66	0.00
D(OIGR)	-2.64	0.27	-9.69	0.00
R^2	0.63			
Adj. R^2	0.62			
S.E of Reg	9.68			
F-Statistic	61.89			
Prob.(F-Stat)	0.00			
Obs. After adjustment	75			
Post Estimation Tests				
Durbin-Watson	0.46			

Table 7: Regression Table

Main model:

$D(CAPEX)_t = \beta_0 + \beta_1 D(STR)_t + \beta_2 D(OIGR)_t + \varepsilon_t$

$D(CAPEX)_t = -1.3 + 1.74D(STR)_t - 2.64D(OIGR)_t + \varepsilon_t$

4.5.3.1. Interpretation and Discussion of Findings

Table 7 shows the regression analysis for the effect of internally generated revenue measured at the difference of state tax revenue D(STR) and the difference of other internally generated revenue D(OIGR) on capital projects development measured by the difference of the total capital expenditure incurred for capital projects development in Lagos state D(CAPEX) and the post estimation test. From the result of the post estimation test, the result of the Durbin Watson statistics shows 0.46, which evidenced the existence of positive autocorrelation in the series. As such, regressing the model at their different level of stationarity has taken care of this econometric problem. The adjusted R-squared result of the main model indicates that changes in CAPEX in Lagos state is being influenced by 62% of the combined independent variables (internally generated revenue), while the remaining 48% are caused by other factor(s) not included in this model. With the coefficient of determination of 62% implies that the regression model has a strong explanatory influence. Also, with the probability of the F-statistic of 0.00, this shows that the regression result is significant as it is less than 0.05 level of significance employed for this study. The regression estimate shows that the STR has positive effect while OIGR has negative effect on capital projects development in Lagos state for the period under study. From their t-statistics result, it could be seen that with STR (pv=0.00) and OIGR (pv=0.00) implies that both STR and OIGR has significant effect on CAPEX. The result revealed that OIGR has not been properly channeled toward capital projects development in Lagos state.

- **Decision:** From the result of the regression analysis, pob(F-statistic) of 0.00 is less than the 0.05 level of significance adopted for the study. Therefore, we reject the null hypothesis and conclude that the internally generated revenue has significant effect on capital projects development in Lagos state. This decision is consistent with the findings of Ekwe, Ihendinihu and Omodero (2018) that State internally generated revenue has a significant positive impact on the gross domestic product (GDP) in which capital expenditure is also its component. The result of this model is also in tandem with the study of Doherty, Kirigia, Okoli, Chuma, Ezuma, Ichoku, Hanson and Mclntyre (2018) that the state tax revenue has a significant positive effect on the capital projects development. The result of this model contradicts the result of the study carried out by Oliver, Edeh and Chuckwuani (2017), who found out that the tax revenue has insignificant positive effect on infrastructural facilities in Nigeria.

5. Conclusion and Recommendations

5.1. Conclusion

This study has examined the effect of government generated revenue on capital projects development in Lagos state for the period of 2000-2018. It becomes very clear from the results analyzed that the internally generated revenue has contributed in small measure to the execution of capital projects development in Lagos state. In the same vein, it was revealed that the government revenue has a significant effect on the capital projects development as well as its proxies (RCAPEX) and (ECAPEX). However, in isolation STR has significant positive effects on the capital projects development and its proxies in Lagos State. While OIGR only has a significant negative effect on CAPEX and ECAPEX and insignificant positive effect on RCAPEX. These outcomes further support the pain that the taxpayers are experiencing on the provision of infrastructural facilities by the state's government despite efforts by the state to generate more revenue but the citizens never felt this impact on the capital projects. As such, there is need for the state government to establish a strong revenue policy that will help to meet the need of the citizens in the area of capital projects development.

The study concluded that, Lagos state government is yet to economically, effectively and efficiently utilize the revenue generated for capital projects development in the state for the period under study that will transform to the concept of value-for-tax.

5.2. Recommendations

Based on the findings and conclusions of this study, the following recommendations are made:

- The state governments should establish a revenue policy that will enhance road capital projects development rather than using other means of financing the capital projects as they will be more expensive than using the revenue generated that does not attract interest payment.
- An anti-graft agency should be established in each state of the federation (to be name; State Government Revenue Generation Crime Commission), which is to be solely saddled with the responsibility of monitoring irregularities in the utilization of the state revenue.
- Lagos state government should ensure that education in the state is made free at both primary, secondary and tertiary level if the level of illiteracy is to be improved in the state. As such, more allocation should be given to education sector in order to meet up with the 26% of the budget as recommended by UNESCO. In the same vein, an avenue through which the citizens can measure the Value-for-Tax (VFT) paid should be put in place, in order to motivate the taxpayers in paying their taxes as and when due which can then be used to improve on the likes of education, health and transportation infrastructures in the state.
- Proper monitoring of the capital project contracts being issued by the state government should be in place by the appropriate agency in charge for the state, in order to ensure that the citizens obtain Value-for-Tax (VFT) paid.
- The government should as well ensure that political influences on the management of its capital expenditures should be avoided in order to ensure that the expenses are channeled to more productive capital projects.

5.3. Suggestions for Future Research

This study examined the effect of revenue generation on the capital projects development in Lagos state. Specifically, it focused on the internally generated revenue of the state which is being categorized into state tax revenue and other internally generated revenue and total capital expenditures, road capital expenditure and education capital expenditure, in Lagos state. It is suggested that studies should be extended to other states in the country, other categories of capital projects should be investigated, the effects of other means of financing capital projects like public debts and statutory allocations to the state from federation account funds should be examined and as well as utilizing other techniques of gathering data like questionnaire.

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Appendix

	Dependent Variable = Capital Projects Development			**Independent Variable = State Government Revenue**		
YEAR	Total Capital Expenditure N'biliion (Y)	Road capital expenditure N'billion (y_1)	Education capital expenditure N'billion (y_2)	TOTAL REVENUE N'billion (X)	STATE TAXES REVENUE N'billion (x_3)	OTHER IGR N'billion (x_4)
2000	8,093,145,588.90	2,325,626,382.58	755,620,887.57	11,606,898,398.60	8,426,570,662.51	3,180,327,736.09
2001	3,917,820,973.22	1,030,669,514.43	356,140,247.59	17,884,847,047.10	10,905,310,382.29	6,979,536,664.81
2002	6,067,196,751.68	2,327,448,211.47	371,535,566.22	20,776,495,180.33	13,990,701,916.19	6,785,793,264.14
2003	8,518,359,540.03	3,994,154,384.82	84,395,526.54	27,537,346,511.06	18,180,571,151.77	9,356,775,359.29
2004	14,924,242,443.29	3,404,253,835.56	124,794,876.50	33,998,242,523.75	23,293,486,786.02	10,704,755,737.73
2005	15,959,709,186.04	5,527,067,459.60	1,575,807,980.43	42,283,061,598.19	32,499,617,049.11	9,783,444,549.08
2006	46,473,007,378.00	16,766,970,011.47	2,131,797,724.70	65,651,347,856.29	50,170,018,617.56	15,481,329,238.73
2007	83,658,342,906.12	31,880,664,973.79	4,297,174,211.60	83,019,617,043.92	65,975,400,817.51	17,044,216,226.41
2008	153,983,242,380.23	58,718,712,832.00	7,489,890,930.84	129,563,177,150.12	101,177,984,604.22	28,385,192,545.90
2009	235,722,812,887.87	45,896,097,790.98	5,933,804,146.06	178,464,758,761.40	139,141,615,253.03	39,323,143,508.37
2010	245,171,199,008.70	3,136,043,584.84	4,591,311,769.19	173,447,725,478.21	148,445,170,551.38	25,002,554,926.83
2011	230,839,089,426.88	6,702,241,038.36	5,365,110,424.90	199,948,592,939.22	168,132,040,042.00	31,816,552,897.22
2012	230,713,285,112.69	80,615,894,806.44	5,668,854,664.48	219,202,228,818.35	172,435,321,846.11	46,766,906,972.24
2013	339,742,436,130.04	117,562,132,385.36	11,824,202,869.87	236,563,652,752.36	197,734,609,780.98	38,829,042,971.38
2014	302,191,160,880.54	68,248,183,847.19	8,277,407,065.66	277,120,372,505.99	213,686,900,080.17	63,433,472,425.82
2015	308,040,212,979.95	54,348,274,322.69	6,591,191,908.19	267,581,924,759.23	212,203,325,708.29	55,378,599,050.94
2016	286,478,401,519.11	68,498,119,403.84	12,499,343,415.07	304,203,476,000.00	244,688,733,000.00	59,514,743,000.00
2017	309,334,887,268.00	88,289,571,844.00	10,414,031,585.00	357,655,525,000.00	294,228,541,000.00	63,426,984,000.00
2018	213,765,021,732.00	52,423,919,552.00	10,415,379,700.00	410,816,920,000.00	315,058,303,000.00	95,758,617,000.00
	3,043,593,574,093.29	711,696,046,181.42	98,767,795,500.41	3,057,326,210,324.12	2,430,374,222,249.14	626,951,988,074.98

Table 8: Revenue Generated and Capital Expenditure Incurred
Source: Lagos State Government Annual Audited Financial Statements