Network for Research and Development in Africa
International Academic Journal of Management and Marketing
ISSN: 2384-5849. Volume 7, Number 3
Pages 38-56 (January, 2023)
DOI: 6732425661733
https://arcnjournals.org

Voluntary Compliance and Tax Revenue: An Empirical Study of Federal Inland Revenue Service

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Abstract: *This study investigated voluntary compliance and tax revenue in Nigeria by means of a causal study design on a population twenty six (26) Federal Inland Revenue Service (FIRS), field offices in south south geographical location of Nigeria. Questionnaire was distributed to three (3) management staff from each of the 26 FIRS field offices in south south Nigeria, given a total of 78 respondents that constitutes the respondents of the study. Data for analysis was collected through primary and secondary sources. Primary data was collected through questionnaire to respondents, while secondary data was collected from FIRS Planning, Research and Statistics Department, Central Bank of Nigeria (CBN) statistical bulletin, articles, magazines and other published studies for the period covering 2007-2019. A total of 78 copies of the questionnaire were produced and distributed, of which 73 copies (93.59%) were successfully retrieved. However, out of the 73 copies that were returned only 67 copies (85.90%) were valid and used for the analysis. The simple linear regression was used for analysis. The results demonstrated that, voluntary tax statistically and significantly has effect on petroleum profit tax, company's income tax and value added tax. The study therefore concludes that, tax audit has positive significant effect on tax revenue in Federal Inland Revenue Service of Nigeria, and recommends that, the Federal Inland Revenue Service should regularly carry out taxpayer's education and enlightenment programs; this will in turn motivate taxpayers and encourage voluntary compliance to boost tax revenue*

Keywords: *Companies income tax, Petroleum profit tax, Vaue added tax, Voluntary compliance.*

.INTRODUCTION

Revenue is the live-wire of any successful undertaking not only for the private sector but much also for the public sector. According to Kiabel (2014), revenue is the income received from all activities engaged in by the receiving entity. It is thus, the entire amount received by the government from sources within and outside the government entity.Government is expected to perform various functions, some of which are the day to day general administration, the maintenance of law and order, and to provide essential services to the people. On the other hand, government is also concerned with the formation and implementation of the socio-economic programs aimed at promoting the welfare of its citizens. However, the government needs funds to be able to discharge its functions to the governed and these functions can only be performed and successfully implemented with resources in the form of revenue. As such, voluntary tax revenue must be collected and used to carry out the day to day activities of government, to maintain national sovereignty and uplift the social and economic status of the citizens.

Voluntary tax compliance is the individual willingness to prepare and file tax returns without any form of involvement from the government. This involves tax payment by the taxpayer without any form of enforcement but by means of positive mutuality of the taxpayer (Gangl et al, 2015). It is the situation whereby the taxpayers respects the tax laws while the tax authorities are seen as service providers by assisting the taxpayers' in compliance with the tax laws. In complying with the tax laws, the taxpayers at times engage in tax avoidance by way of paying a lesser amount of tax liabilities by taking advantages of loopholes in the tax laws.

Voluntary compliance is made possible by the trust and cooperation ensuing between tax authority and taxpayer and it is the willingness of the taxpayer on his own to comply with tax authority's directives and regulations. Also, Voluntary Tax Compliance is a tax system based on taxpayers complying with the tax laws without being compelled by the tax authority to do so. Under this system taxpayers are expected to report their income, calculate their tax liability and file a tax return (Quadri, 2010). Lubian and Zarri (2011) argue that several empirical studies have shown that taxpayers are more honest and may respond voluntarily in the fulfillment of their tax obligation than classic deterrence models inspired by the economics of crime approach would predict. They argued further that citizens may be driven by a positive moral attitude towards taxation thus it may not be appropriate to specify compliance behaviour as a purely economic decision under uncertainty or simply a function of enforcements.

The need for the advancement of tax payers' willingness to pay taxes, so as to starve off tax resistance, led to the emergence of voluntary tax compliance system. According to Ern et al (2010), it was also observed that the government assessment tax system, in some literature referred to as official assessment system or administrative assessment system could not provide evidence of the willingness to pay taxes by the taxpayer. In consideration of these realities, some scholars insist that imposing a tax, in the manner of self-assessment of tax to be paid can increase tax revenue, improve governance by fostering fiscal bargaining, engaging citizens in political process, and encouraging government to be responsive in governance. The quality of governance affects revenue mobilization through its influence on tax compliance, OECD Publishing, (2013).

The Federal Inland Revenue Service is the tax organ of the Federal Government in Nigeria with its headquarter in Abuja, zonal offices in the six geo-political zones with additional Lagos region and branch offices in all the states of the federation responsible for administration of federal government taxation. To keep the economy afloat, the Federal Government has, through this revenue collection agency, initiated several measures to increase revenue generation through tax collection. These measures range from changing the prevailing tax practices and improving tax compliance mechanisms by introducing new taxes, levies and tools of compliance. Some have been worthwhile; others have proven to be limited and the rest, flat out ineffective.s

Voluntary tax compliance is the individual willingness to prepare and file tax returns without any form of involvement from the government. This involves tax payment by the taxpayer without any form of enforcement but by means of positive mutuality of the taxpayer (Gangl et al, 2015). It is the situation whereby the taxpayers respects the tax laws while the tax authorities are seen as service providers by assisting the taxpayers' in compliance with the tax laws. In complying with the tax laws, the taxpayers at times engage in tax avoidance by way of paying a lesser amount of tax liabilities by taking advantages of loopholes in the tax laws. Voluntary tax compliance entails the filling and reporting of tax returns, correct self-assessment of tax due and payment of taxes before or on the due date without enforcement (Silvani & Baer, 1997).

Some scholarly inquiries on voluntary tax compliance have accumulated, for example, Olurankinse and Oladeji (2018), investigated self-assessment, e-taxation payment systems and revenue generation in Nigeria Niway and Wondwossen (2017) investigate the determinants of voluntary tax compliance behavior in self-assessment system in Ethiopia, Gberegbe and Umoren (2017) investigated the relationship between the perception of tax fairness and personal income tax compliance in Rivers State, Oladipupo, and Obazee, (2016) investigated the impacts of tax payers' knowledge and penalties on tax compliance amongst small and medium enterprises in Nigeria, Asaolu and Dopemu (2015) assessed the impact of tax reforms on revenue generation in Lagos State of Nigeria,

Generally, the studies cited above did not consider the activities of FIRS in south-south Nigeria as examined in this study. South south Nigeria provides the economic mainstay of the country; oil and gas in addition to other key resources, with potential huge investment opportunities in tourism and agriculture. The region also makes up a significant number of the people in Nigeria's population. The point of departure in this study is therefore to establish the effect of voluntary tax compliance on tax revenue using south south Nigeria as the geographical location of the study.

LITERATURE REVIEW AND HYPOTHESES

Theoretical Underpinning

Economic Theory of Tax Compliance

This theory states that tax defaulters as well as non-compliance should be made to face penalties and sanctions in order to promote future compliance. Economic theory of tax compliance is based on economics of crime models. The models posits that tax compliance is a function of three deterrent unpredictable issues, such as; tax rate, tax audit and probability of detection. Though, foundation for understanding the compliance behaviour has been criticized by non-inclusion of psychological and sociological factors that have the intrinsic motivation of taxpayers' compliance without enforcement (Alm, 1999; Alm et, 1992; Torgler, 2002). In line with the critics of the traditional model of tax compliance (Yitzhaki, 1974) extended the Allingham and Sandmo model by imposing penalty on the tax understatement, as opposed to income underreporting. Hence, the extension of the traditional model by Yitzhaki, did not make the model so robust in explaining why people pay tax even in the absence of penalty and probability of detection (Alm, 1999; Alm, et al., 1992; Slemrod & Sorum, 1985; Torgler, 2002).

Further extension of the traditional model was made by Sour (2004) who included individual morality and group conformity. However, the main issue is that tax rate has still remained an important determinant of tax compliance as highlighted by the theory.

Each of the theories employed in this study relates to the study directly. For instance, the theory of reasoned action (TRA) explains an individual's decision, a voluntary behavior to act in particular way. In this case a voluntary behavior whether to comply with the payment of taxes as and when due or not to comply. Again, the theory of Allingham and Sandmo (1972), also known as the A-S model is a model of tax compliance which focuses on some of the determinants that influence the likelihood of the compliance of tax payers in Nigeria.The A. S. model explores the relationship between risk appetite of the tax payer and the willingness to pay tax. If the taxpayer is not willing to pay and did not eventually pay, the consequences are that enforcement measures will be employed which may attract interest and penalties for non compliance. Similarly, theeconomic theory of tax compliancestates that tax defaulters as well as non-compliance should be made to face penalties and sanctions in order to promote future compliance.

The Concept of Voluntary Tax Compliance

The American Bar Association (1987) defined voluntary compliance as timely filing and reporting of required tax information, the correct self-assessment of taxes due, and the timely payment of those taxes without enforcement. From this definition, it is clear that self-assessment and voluntary tax compliance go hand in hand. The US tax system is built on self-assessment, but revenue auditors from the Internal Revenue Service (IRS) of the US are both expected to investigate the returns filed by taxpayers. These auditors are feared by taxpayers. (Taxation, 2010, volume 166 No 4275, to be found at www.taxation.co.uk). In which case, tax compliance is driven by fear of sanctions.

The need for the advancement of taxpayers' willingness to pay taxes, so as to starve off tax resistance, led to the emergence of voluntary tax compliance system. According to Ern et al (2010), it was also observed that the government assessment tax system, in some literature referred to as official assessment system or administrative assessment system could not provide evidence of the willingness to pay taxes by the taxpayer. In consideration of these realities, some scholars insist that imposing a tax, in the manner of self-assessment of tax to be paid can increase tax revenue, improve governance by fostering fiscal bargaining, engaging citizens in political process, and encouraging government to be responsive in governance. The quality of governance affects revenue mobilization through its influence on tax compliance, OECD Publishing, (2013).

Perhaps, the definition of voluntary tax compliance given by Simon James and Clinton Alley (2004), that is, the willingness of individuals and other taxable entities to act in accordance within the spirit as well as the letters of tax law and administration without the application of enforcement activity reinforce the need for a balance between taxpayer enablement and strict enforcement action. However, there is the need for tax authorities to strike a balance between taxpayer enablement and tax enforcement rather than rely on harsher enforcement actions.

The Concept of Tax Revenue

The primary goal of any tax authority is to raise revenue from the private sector and transfer it to the public sector for use in promoting government programs.Tax revenue is money earned by the State from taxation. It is the main income for the state to fund public expenditure and other costs, tangibly expressing the common efforts of the community. Tax revenue is used for financing the costs of public goods, a special group of goods whose consumption by one person does not decrease the consumption by others and, at the same time, for which it is costly or impossible to prevent consumption (e.g. street lightening). The composition of tax revenue is the sum of the revenues of different kind of taxes, depending on what is taxed: the revenue of physical and juridical persons ("direct taxes"), wealth and assets as real estates and houses, the domestic economic transactions ("indirect taxes" - e.g. VAT), the international trade, typically through import duties. Taxes are mandatory payments, ruled by laws. Tax revenue is collected from the whole society with differentiated intensity, inspired by considerations of justice, efficiency and effectiveness (Valentino, 2003). This study adopts petroleum profit tax, company income tax and value added tax as measures of tax revenue.

Petroleum Profit Tax Revenue

Petroleum profit tax is one of the sources of government revenue in Nigeria and continues increase in petroleum profit will provide more revenue and enable government to embark on more projects for the development of the economy, thereby enhancing the quality of life of her citizenry. Petroleum profit tax involves the charging of tax on the incomes accruing from petroleum operations (Nwezeaku, 2005). Kiable and Nwikpasi, (2009), Opines that, the focus of Petroleum Profits Tax in Nigeria is the upstream sector of the petroleum industry which deals with oil prospecting, mining and production.

Similarly, according to Odusola (2006), petroleum profit tax is a tax applicable to upstream operations in the oil industry. Petroleum profit tax payments are made either in cash or in kind, depending on the operating contract of the company. Oremade (2006), indicated that for petroleum profit tax purposes, crude oil sales is valued at the prices actually realized by the oil producing industries in the world oil market. On the other hand, this value has to be compared with the value at the posted price and if the posted price is higher, tax is then based on the posted price. Sales of crude oil for local refining and sales of gas are valued for petroleum profit tax purposes at the actual amount realized on sale. According Ofe et al (2008), the administration of PPTA is under the care and management of the Federal Board of Inland Revenue. The Petroleum Profit Tax is regulated by the Petroleum Profit Tax Act of 1959 as amended by the Petroleum Profit Tax Act of 2007. Where an industry is involved in petroleum operation and marketing of petroleum product, the trading results from the petroleum operations would be subject to Petroleum Profits Tax while the results from the marketing activities will be taxed under the Companies Income Tax Act.

Companies Income Tax Revenue

The administration of companies' income tax under the companies income tax amendment act is vested with the Federal Inland Revenue Service. The FIRS is the agency of government charged with the powers of assessing, collecting and accounting for companies' income tax in Nigeria (Kiabel & Nwikpasi, 2009). Company income tax is a tool to achieve economic development in Nigeria, income tax is accepted not only as a means of raising the required public revenue, but also as an essential fiscal instrument for managing the economy (Burgess, 2003). In Nigeria, companies' tax rate is 30% of chargeable profit. Small business rate of 20% is applicable to companies with turnover of ₦1, 000,000 and below for the first five (5) years of assessment and must be either in the business of manufacturing or agricultural production or mining of solid minerals or wholly export trade (Kiabel et al, 2009).

Every company is registered to engage in business with a view to making profit. Also, government provide essential services and facilities enjoyed by corporations ranging from construction of better road networks, efficient and effective telecommunication system, provision of electricity, security, water supply among others (Adegbite, 2015). Company Income Tax is imposed on the income of all companies operating in the country except those specifically exempted under the company income tax Act. It is therefore imperative for corporate organizations to support government financially through payment of certain percentage of profit as tax to the government (Fagbemi et al., 2010).

Value Added Tax Revenue

Value added tax was introduced in Nigeria in 1993 by the Value Added Tax Decree No, 102 of 1993. Value added tax is a consumption tax and therefore indirectly levied on taxable goods and services. It replaced the sales tax which was operated under Decree No 7 of 1986 in Nigeria and designed to have a wider coverage. Value added tax is a spending tax and is borne by the final consumer of VATable goods and services,(Kiabel & Nwikpasi, 2009). VAT covers all VATable goods and services as listed in schedules 1 and 2 of Decree No 102 of 1993 as amended from time to time. The list of goods and services exempted from value added tax as listed in schedule 3 of VAT Decree are also applied as amended from time to time. Jones (2003) describes value added tax as a tax levied at each stage supplies changes hands. In the case of manufactured items, this could be at the primary producer, manufacturer, wholesaler and retailer stages. It is ultimately borne by the consumer who being registered for VAT purpose is unable to reclaim it.

The above definitions of VAT by Jones (2003), suggest that there are intermediaries through which goods must pass before they reach the final consumer. Each time goods are passed from one stage to the other, intermediary value is added to it and this value that is being taxed and borne by the final consumer.

Adesola (2000) described value added tax as a consumer tax and its' charged before selling the good. He said, value added tax is often defined as the sum of wages and profit. VAT has become a veritable source of revenue in many developing countries in Sub-Saharan Africa; it has been introduced in several countries (Whenkroff, 2003). Its adoption in Nigeria can be traced to the report of the committee set up by the Federal government in 1991 to review the entire tax system with a view to expanding the financial base for revenue generation.

At the moment, there are seventeen categories of goods and twenty-four categories of services that attract VAT. The goods and services exempted by the decree are purely those that bother on people welfare and whose requirements necessary for improving human development. These include medical and pharmaceutical products, basic food items, educational materials, agricultural services and equipment, etc. However, there is much confusion over which goods or services should be in the exemption list.

Empirical Review

Olurankinse and Oladeji (2018) investigated self-assessment, e-taxation payment systems and revenue generation in Nigeria.The respondents were drawn from 30 tax executives from 30 quoted companies in Rivers State of Nigeria. A cross-sectional survey of the quasi-experimental research design was adopted. Both Pearson's product moment correlation coefficient statistical tool and the regression analysis were used to test the hypotheses by the application of SPSS version 20.0. Results indicate a positive and significant relationship between self-assessment and e-taxation payment systems and Revenue generation.

Olaoye and Awe (2018) examined taxpayers' identification number on revenue generation in Ekiti State covering the period 2006 to 2015. OLS was used to analyze the data gathered from secondary source, collated from the office of Ekiti state Accountant general, over the period of 10 years. The result revealed that full adoption of taxpayers' identification number has a positive significant relationship with internal generated revenue of the state.

Niway and Wondwossen (2017) investigate the determinants of voluntary tax compliance behavior in self-assessment system in Ethiopia. The researchers argued that taxpayer's voluntary compliance with the tax system is influenced by economic, institutional, social, individual and demographic variables. The researchers employed a crosssectional survey method of research design, using the target population of five cities of Southern Nation, Nationalities and Peoples` Regional State (SNNPRS), Ethiopia. A sample of 377 Category "A" taxpayers were randomly taken from the selected cities. Both primary and secondary data were collected. In order to analyze and present the results of this study, Pearson correlation matrix and logistic regression model were employed. Their result revealed that tax knowledge, simplicity of tax returns and administration, perception on fairness and equity, perception on government spending, probability of auditing, and the influence of referral group were determinant factors that influence voluntary compliance behavior of tax payers in self assessment system.

Gberegbe and Umoren (2017) investigated the relationship between the perception of tax fairness and personal income tax compliance in Rivers State. Out of 7865 registered SMEs taxpayers, 380 formed the sample for this study. They employed Spearman Correlation Coefficient and Multiple Regression Analysis as the estimation techniques. The results show that distributive fairness, procedural fairness, retributive fairness and the perception of tax fairness have positive significant influence on personal income tax compliance in Rivers State.

Oladipupo, and Obazee, (2016) investigated the impacts of tax payers' knowledge and penalties on tax compliance amongst small and medium enterprises in Nigeria using a survey research design. The data obtained from questionnaire were analyzed with Ordinary Least Square regression method. The results showed that tax knowledge had a positive significant impact on tax compliance while tax penalty had insignificant positive impact on tax compliance.

Jemaiyo and Mutai (2016) analyzed the determinants of tax compliance and their influence on the level of tax compliance in the real estate sector, Eldoret town-Kenya. Data collection was through questionnaire and analyzed with chi-square. This study found that tax compliance cost, tax knowledge, tax penalties and tax audit had significant effect on level of tax compliance. High tax compliance costs were a contributing factor that reduced tax compliance among real estate investors. It was thus recommended that tax compliance cost should be as minimal as possible to encourage payment of income tax.

Olowookere and Fasina (2013) examined taxpayers' education as a key strategy in achieving voluntary compliance in Lagos State, Nigeria. Their study focuses on the impact of taxpayerseducation program on tax compliance behavior. Olowookere and Fasina (2013), adopts a survey research method which is quasi-experimental form of design in nature which they did by employing simple random sampling technique. The study used a sample of 250 Taxpayers in Lagos State with the aid of taxpayer compliance appraisal (TCA) questionnaire developed by the scholar following the lead of Fisher, Wartick and Mark (1992) which was used as the adopted research instruments for data collection in the study.

Based on the review of literature, the following conceptual frame work was developed:

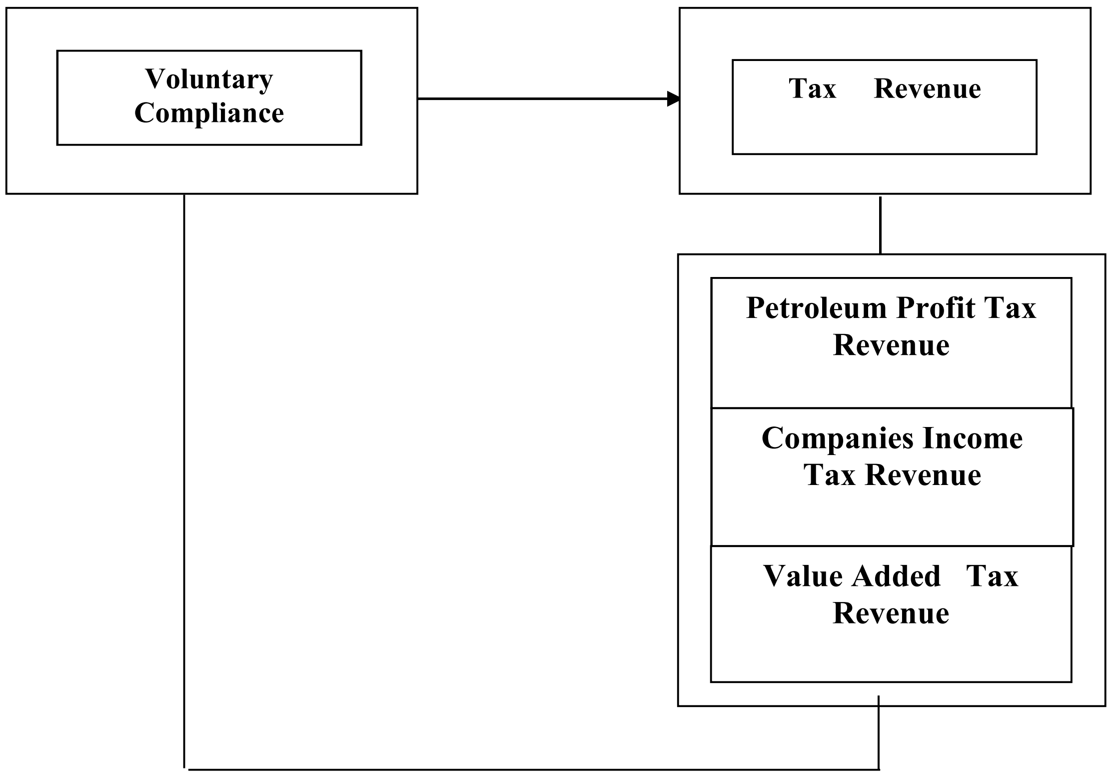

Figure 1: Conceptual Framework of the Effect of Voluntary Complance on Tax Revenue.

Source: Designed by the Reasearchers (2023).

Research Hypotheses

In line with the objectives of this study, the following hypotheses formulated in the null form were tested;

Ho_1: There is no significant effect of voluntary compliance on petroleum profit tax revenue in Federal Inland Revenue Service of Nigeria.

Ho_2: There is no significant effect of voluntary compliance on companies' income tax revenue in Federal Inland Revenue Service of Nigeria.

Ho_3: There is no significant effect of voluntary compliance on value added tax revenue in Federal Inland Revenue Service of Nigeria.

RESEARCH METHODOLOGY

This study adopted a causal study design and the population of the study is twenty six (26) Federal Inland Revenue Service (FIRS), field offices in south south geographical location of Nigeria. (FIRS 2020). For sample size, the study took a census since the population was small. Census is a statistical method that studies all the units or members of a population. Questionnaire was distributed to three (3) management staff from each of the 26 FIRS field offices in south south Nigeria, given a total of 78 respondents that constitutes the respondents of the study. Data for analysis was collected through primary and secondary sources. Primary data was collected through questionnaire to respondents from the twenty six (26) Federal Inland Revenue Service field offices in South South Nigeria while secondary data was collected from FIRS Planning, Research and Statistics Department, Central Bank of Nigeria (CBN) statistical bulletin, articles, magazines and other published studies for the period covering 2007-2019. A total of seventy eight (78) copies of questionnaire were distributed to management staff of the twenty six (26) field offices of FIRS in South SouthNigeria. The total number of questionnaire distributed was based on the sample of twenty six (26) field offices. Questions in the questionnaire were given the options of 5 point likert scale of rating (Strongly Agree), (Agree), (Undecided), (Disagree) and (Strongly Disagree).

The study adopted both descriptive and inferential statistics to analyze the primary and secondary data obtained for this study. Descriptive statistics of mean, standard deviation, bar chart and frequency distribution were used to analyze the data. Inferential statistics of linear regression was used to test the hypotheses in the study. Specifically, simple linear regression was used to ascertain the effects of the dimensions of tax compliance on the measures of petroleum tax revenue. The analysis of the primary and secondary data where performed with the aid of statistical package for social sciences (SPSS) version 22.0.

Models Specification

The model to be used to examine the hypotheses of the study is expressed as follows:

$PPT = B\,0 + B\,1\,VC + \varepsilon$ 1.1

$CIT = B\,0 + B\,1\,VC + \varepsilon$ 1.2

$VAT = B\,0 + B\,1\,VC + \varepsilon$ 1.3

Where;

PPT = Petroleum Profit Tax

CIT = Companies' Income Tax

VAT = Value Added Tax

VC = Voluntary Compliance

RESULTS

A total of 78 copies of the questionnaire i.e. 100% were produced and distributed by the researcher to the target respondents in the organization. Out of the 78 copies produced and administered, 73 copies i.e. 93.59% were successfully retrieved that means 5 copies (6.41%) were not retrieved by the researcher. However, out of the 73 copies that were returned, 6 copies were not properly filled, rendering them invalid. Hence, only 67 copies of 85.90% were valid and used for the analysis. Using 85.90% of questionnaire for analysis is within the acceptable region.

Analysis of the effect of Voluntary Compliance on Petroleum Profit Tax

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812[a]	.659	.628	458762.429

a. Predictors: (Constant), Voluntary Compliance

Source: Field Survey, 2023.

As shown from the SPSS output on Table 1, the regression coefficient (R) is 0.812; which means that voluntary compliance has a very strong, positive impact on petroleum profit tax. Again, the coefficient of determination (R^2) is 0.659 and R^2 adjusted is 0.628; indicating that approximately 63% of the changes in the dependent variable (petroleum profit) tax are accounted for by the independent variable(voluntary compliance) while the remaining 37% are due to externalities.

Table 2: ANOVA of Voluntary Compliance on Petroleum Profit Tax

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4471835820880.421	1	4471835820880.421	21.248	.001[b]
	Residual	2315092625038.349	11	210462965912.577		
	Total	6786928445918.770	12			

a. Dependent Variable: Petroleum Profit Tax

b. Predictors: (Constant), Voluntary Compliance

Source: Field Survey, 2023.

Again, the ANOVA Table i.e. Table 2 shows that voluntary compliance statistically significantly predicts the outcome variable, petroleum profit tax at $F(1, 11) = 21.248$, $p < 0.05$, $R^2 = 0.659$. This means the regression model is a good fit for the data. That is, voluntary compliance statistically significantly predicts petroleum profit tax.

Table 3: Coefficients of Voluntary Compliance on Petroleum Profit Tax

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2886361.545	885693.442		3.259	.008
	Voluntary Compliance	301859.092	65486.108	.812	4.610	.001

a. Dependent Variable: Petroleum Profit Tax

Source: Field Survey, 2023.

From Table 3, the unstandardized coefficients indicate how much the dependent variable petroleum profit tax varies with the independent variable voluntary compliance. As shown on the Table, the intercept B_0 is 2886361.545, indicating the predicted value of petroleum profit tax without the contributions of voluntary compliance. i.e. when voluntary compliance is equal to zero. However, the slope B_1 is 301859.092, indicating that 1 unit increase in voluntary compliance will bring about 301859.092 units increase in petroleum profit tax. Furthermore, the standard error of the estimate (ε) is 65486.108 which is the actual contribution of voluntary compliance in petroleum profit tax. More so, the Beta value in the Standardized Coefficients is 0.812 which further confirms the regression coefficient in the model summary.

Hypothesis One

Ho_1: There is no significant effect of voluntary compliance on petroleum profit tax in Federal Inland Revenue Service of Nigeria.

Since the probability value is $0.001 < 0.05$ which means voluntary compliance statistically significantly predicts petroleum profit tax. In view of these results we reject the null hypothesis which states that there is no significant effect of voluntary compliance on petroleum profit tax, and accept the alternate hypothesis. These findings has helped to answer research question one. From Table 4.13 the regression model can be developed thus;

$$PPT = B_0 + B_1VC + \varepsilon$$

$$= 2886361.545 + 301859.092VC + 65486.108$$

Analysis of the effect of Voluntary Compliance on Companies Income Tax

Table 4: Model Summary of Voluntary Compliance on Companies Income Tax

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.883[a]	.780	.760	195664.800
a. Predictors: (Constant), Voluntary Compliance				

Source: Field Survey, 2023.

As shown from the SPSS output on Table 4, the regression coefficient (R) is 0.883; which means that voluntary compliance has a very strong, positive impact on companies' income tax. Again, the coefficient of determination (R^2) is 0.780 and R^2 adjusted is 0.760; indicating that 76% of the changes in the dependent variable (companies' income tax) are accounted for by the independent variable (voluntary compliance), while the remaining 24% are due to externalities.

Table 5: ANOVA of Voluntary Compliance on Companies Income Tax

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1496944442262.192	1	1496944442262.192	39.100	.000[b]
	Residual	421131854534.577	11	38284714048.598		
	Total	1918076296796.769	12			

a. Dependent Variable: Companies' Income Tax
b. Predictors: (Constant), Voluntary Compliance
Source: Field Survey, 2022.

Again, the ANOVA Table i.e. Table 5 shows that voluntary compliance statistically significantly predicts the outcome variable, companies' income tax at $F(1, 11) = 39.100$, $p < 0.05$, $R^2 = 0.780$. This means the regression model is a good fit for the data. That is, voluntary compliance statistically significantly predicts companies' income tax.

Table 6: Coefficients of Voluntary Compliance on Companies Income Tax

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1472271.636	377753.320		3.897	.002
	Voluntary Compliance	174648.226	27930.200	.883	6.253	.000

a. Dependent Variable: Companies' Income Tax
Source: Field Survey, 2023.

From Table 6 the unstandardized coefficients indicate how much the dependent variable companies' income tax varies with the independent variable voluntary compliance. As shown on the Table, the intercept B_0 is 1472271.636, indicating the predicted value of companies' income tax without the contributions of voluntary compliance. i.e. when voluntary compliance is equal to zero. However, the slope B_1 is 174648.226, indicating that 1 unit increase in voluntary compliance will bring about 174648.226 units increase in companies' income tax. Furthermore, the standard error of the estimate (ε) is 27930.200 which is the actual contribution of voluntary compliance in companies' income tax. More so, the Beta value in the Standardized Coefficients is 0.883 which further confirms the regression coefficient in the model summary.

Hypothesis Two

Ho_2: There is no significant effect of voluntary compliance on companies' income taxin Federal Inland Revenue Service of Nigeria.

The probability value is 0.000 < 0.05 which means voluntary compliance statistically significantly predicts companies' income tax. In view of these results we reject the null hypothesis which states that there is no significant effect of voluntary compliance on companies' income tax, and accept the alternate hypothesis. This finding has helped to answer research question two. From Table 4.16 the regression model is developed thus;

$$CIT = B_0 + B_1VC + \varepsilon$$
$$= 1472271.636 + 174648.226VC + 27930.200$$

Analysis on effect of Voluntary Compliance on Value Added Tax

Table 7: Model Summary of Voluntary Compliance on Value Added Tax

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901[a]	.812	.794	131832.009

a. Predictors: (Constant), Voluntary Compliance

Source: Field Survey, 2023.

As shown from the SPSS output on Table 7, the regression coefficient (R) is 0.901; which means that voluntary compliance has a very strong, positive impact on value added tax. Again, the coefficient of determination (R^2) is 0.812 and R^2 adjusted is 0.794; indicating that approximately 80% of the changes in the dependent variable (value added tax) are accounted for by the independent variable (voluntary compliance), while the remaining 20% are due to externalities.

Table 8: ANOVA of Voluntary Compliance on Value Added Tax

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	823638400941.732	1	823638400941.732	47.391	.000[b]
	Residual	191176463807.191	11	17379678527.926		
	Total	1014814864748.923	12			

a. Dependent Variable: Value Added Tax

b. Predictors: (Constant), Voluntary Compliance

Source: Field Survey, 2023.

Again, the ANOVA Table i.e. Table 4 shows that voluntary compliance statistically significantly predicts the outcome variable, value added tax at $F(1, 11) = 47.391$, $p < 0.05$, $R^2 = 0.812$. This means the regression model is a good fit for the data. That is, voluntary compliance statistically significantly predicts value added tax.

Table 9: Coefficients of Voluntary Compliance on Value Added Tax

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	988612.909	254516.801		3.884	.003
	Voluntary Compliance	129547.677	18818.379	.901	6.884	.000

a. Dependent Variable: Value Added Tax
Source: Field Survey, 2023.

From Table 9, the unstandardized coefficients indicate how much the dependent variable; value added tax varies with the independent variable voluntary compliance. As shown on the Table, the intercept B_0 is 988612.909, indicating the predicted value of value added tax without the contributions of voluntary compliance, i.e. when voluntary compliance is equal to zero. However, the slope B_1 is 129547.677, indicating that 1 unit increase in voluntary compliance will bring about 129547.677 units increase in value added tax. Furthermore, the standard error of the estimate (ε) is 18818.379 which is the actual contribution of voluntary compliance in value added tax. More so, the Beta value in the Standardized Coefficients is 0.901 which further confirms the regression coefficient in the model summary.

Hypothesis Three

Ho_3: There is no significant effect of voluntary compliance on value added tax in Federal Inland Revenue Service of Nigeria.

The probability value is 0.000 < 0.05 which means voluntary compliance statistically significantly predicts value added tax. In view of these results we reject the null hypothesis which states that there is no significant effect of voluntary compliance on value added tax, and accept the alternate hypothesis. This finding has helped to answer research question three. From Table 4.19 the regression model is developed thus;

VAT = $B_0 + B_1VC + \varepsilon$

= 988612.909 + 129547.677VC + 18818.379

DISCUSSSION OF FINDINGS

Results of the analysis showed that the strength and direction of the effect of voluntary compliance on petroleum profit tax is 0.812, indicating that there is a very strong and positive effect between the variables. The effect is significant at 0.05 (*P*= 0.001 < 0.05) which means voluntary compliance statistically significantly influences petroleum profit tax. The coefficient of determination R^2 is 0.659 and R^2 adjusted is 0.628; showing that approximately 63% of the changes in petroleum profit tax are accounted for by voluntarycompliance.More so, the analysis showed that the strength and direction of the effect of voluntary compliance on company's income tax is 0.883, indicating a very strong and positive impact between the variables. Furthermore, the effect is significant at 0.05 (P= 0.000 < 0.05) which means voluntary compliance statistically significantly influence company's income tax. The coefficient of determination R^2 is 0.780 and R^2 adjusted is 0.760; showing that approximately 76% of the changes in company's income tax are accounted for by voluntary compliance. Again, results of the analysis revealed that the strength and direction of the effect of voluntary compliance on value added tax is 0.901, indicating that there is a very strong and positive effect between the variables. The effect is significant at 0.05 (P= 0.000 < 0.05) which means voluntary compliance statistically significantly has effect on value added tax. The coefficient of determination R^2 is 0.812 and R^2 adjusted is 0.794; indicating that approximately 80% of the changes in value added tax are accounted for by voluntary compliance. Therefore, we rejected null hypotheses one, two and three (Ho_1, Ho_2 and Ho_3) and accepted the alternate hypotheses.

These findings are consistent with the findings of other studies previously carried out by scholars. For instance, Oluyombo and Olayinka (2018), examined the effects of tax compliance on the growth of government revenue in Nigeria with emphasis on federally collected non-oil revenue. The basic objective of the study was to examine the how tax compliance influences the growth of government revenue in Nigeria. The findings revealed that tax compliance have significant effect on boosting tax revenue generation and that tax default can cause significant variation in government revenue. The need for the advancement of taxpayer's willingness to pay taxes, so as to starve off tax resistance, led to the emergence of voluntary compliance system. Similarly, Uchechukwu and Ohaka (2017) empirically investigated tax compliance strategy and tax revenue yield in Rivers State, Nigeria covering (2007-2016). The major objective was to carry out an empirical study to unravel the latent efficacy of voluntary compliance and tax enforcement strategies on tax revenue yield of Rivers state government. The study found significant relationship between tax compliance strategy and tax revenue yield. The plan of action to achieve compliance with tax laws without cohesion and enforcement is vital in improving the revenue of tax authority. Strategically meeting taxpayers' needs through the provision of essential amenities, transparency and accountability etc. can induce voluntary compliance.

The study of Appah and Ogbonna (2014) also revealed a strong correlation between self assessment and compliance rate which significantly influenced revenue generation in Nigeria. According to Ern et al (2010), it was observed that the government assessment tax system could not provide evidence of the willingness to pay taxes by the taxpayer. In consideration of these realities, some scholars insist that imposing a tax, in the manner of self-assessment of tax to be paid can increase tax revenue, improve governance by fostering fiscal bargaining, engaging citizens in political process, and encouraging government to be responsive in governance. Furthermore, According to Adegbite, (2015) every company is registered to engage in business with a view to making profit. Also, government provides essential services and infrastructural facilities enjoyed by corporations. It therefore follows that there is a symbiotic relationship between the government and corporate organizations where the provision of goods and services by corporate organizations requires some facilities that can majorly be taken care of by the government. Also, government needs funds to provide and sustain good business environment for business outfits to thrive. It is therefore imperative for corporate organizations to support government financially through payment of certain percentage of profit as tax to the government (Fagbemi, Uadiale & Noah, 2010). Again, the findings of the study of Onodugo (2013) revealed that value added tax has significantly contributed to resource mobilization and capital formation in Nigeria. Going by these findings, it can be deduced in line with the theory of reasoned action which explains an individual behavior, a voluntary willingness to engage in a particular act based on certain expectation. The effect of voluntary compliance on revenue generation is so significant and government must put all necessary machinery in place to motivate citizens to comply.

CONCLUSIONS AND RECOMMENDATION

The study examined the effect of voluntary compliance on tax revenue in Nigeria, with evidence from Federal Inland Revenue Service for the periods 2007-2019. Specifically, to ascertain the extent to which voluntary compliance, affects tax revenue. From the analyses, it was found that, there are varied degrees of positive and statistically significant effects of voluntary compliance and the measures; indicating that the changes in petroleum profit tax, companies' income tax and value added tax respectively are accounted for by voluntary compliance. Thus; the study concludes that voluntary compliance has positive significant effect on tax revenue in Federal Inland Revenue Service of Nigeria, and recommends that the Federal Inland Revenue Service should regularly carry out taxpayer's education and enlightenment programs; this will in turn motivate taxpayers and encourage voluntary compliance to boost tax revenue.

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