# AN INVESTIGATION OF FACTORS INFLUENCING TAXPAYERS' COMPLIANCE BEHAVIOUR: EVIDENCE FROM NIGERIA

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**Thesis Submitted to the Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

**2012**

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## ABSTRACT

The contribution of income taxes to the total revenue of Nigeria's government remained consistently low and is relatively shrinking due to low tax compliance. However, from all the taxes, individual income tax remains the most unproductive in Nigerian tax system. Although this noncompliance behaviour can also be explained by the existing theory, the explanation will not be comprehensive because some important variables adhere specifically to Nigeria are not addressed in the existing theory. Thus, this study investigates empirically the factors underlying individual taxpayers' compliance behaviour in Nigeria to uncover the causes of noncompliance. In order to gain in-depth understanding of the phenomenon, the study expands the tax compliance model to incorporate perceived tax service quality, public governance quality, ethnic diversity as well as moderating effects of personal financial condition and risk preference. The study was designed using taxpayers' opinion survey method. Multi- stage cluster random sampling technique was applied to select the samples of the study from the population of individual taxpayers residing in the Federal Capital city of Nigeria. The primary data, which were collected through self-administered questionnaire, were treated statistically using multiple regression analysis and other statistical techniques. The results reveal that taxpayers' perception about tax service quality and public governance quality significantly related to the compliance behaviour. In addition, the effect of taxpayers' financial condition strengthened the capacity of the compliance model in predicting taxpayers' behaviour better and significantly moderated the influences of tax system structure, moral reasoning and occupation. By implications, the findings of the study suggests extension to the compliance model to incorporate perceived tax service quality, public governance quality, ethnic diversity and the moderating effect of taxpayers' financial condition for better understanding of tax compliance behaviour. Furthermore, policy should be directed towards strengthening these factors to reawaken the culture of tax compliance among individual taxpayers in Nigeria.



**Keywords:** Tax Compliance Behaviour, Perceived Tax Service Quality, Public Governance Quality, Ethnic Diversity, Individual Income Tax

# ABSTRAK

Sumbangan cukai pendapatan dalam jumlah hasil kerajaan Nigeria adalah semakin berkurangan dan menyusut disebabkan oleh tahap kepatuhan pembayaran cukai yang rendah. Daripada semua jenis cukai di Nigeria, cukai pendapatan individu adalah paling tidak efisyen, tidak produktif dan bermasalah. Walaupun gelagat ketidakpatuhan ini boleh dijelaskan oleh teori sedia ada, namun begitu ianya tidak menyeluruh kerana terdapat pembolehubah-pembolehubah penting yang tidak dimasukkan di dalam teori sedia ada bagi menjelaskan keadaan di Nigeria. Oleh itu, kajian ini mengkaji secara empirikal faktor-faktor yang menyumbang kepada ketidakpatuhan individu pembayar cukai. Di dalam usaha untuk mendapatkan pemahaman yang mendalam, kajian ini mengembangkan model asas kepatuhan cukai dengan mengambilkira tanggapan kualiti perkhidmatan cukai, kualiti tadbir urus, kepelbagaian etnik, termasuk juga kesan pengantara iaitu kedudukan kewangan pembayar cukai dan rujukan risko. Kajian ini menggunakan kaedah tinjauan pandangan pembayar cukai. Teknik persampelan pelbagai tahap kluster secara rawak digunakan bagi memilih sampel daripada populasi pembayar cukai di ibu negara Nigeria. Data primer yang dikutip melalui soal-selidik kemudiannya dianalisis dengan menggunakan regrasi pelbagai dan lain-lain kaedah statistik. Hasil kajian mendapati tanggapan pembayar cukai terhadap kualiti perkhidmatan percukaian dan kualiti tadbir urus adalah berhubungan secara signifikan dengan kepatuhan. Selain itu, kesan pengantara iaitu kedudukan kewangan pembayar cukai menguatkan lagi model kepatuhan cukai di dalam meramal dengan lebih baik tahap kepatuhan dan menjadi pengantara yang signifikan terhadap struktur sistem percukaian, penjelasan moral dan perkerjaan. Secara implikasinya, hasil kajian ini mencadangkan pengembangan model kepatuhan dengan mengambilkira tanggapan kualiti perkhidmatan percukaian, kualiti tadbir urus, kepelbagaian etnik dan kesan pengantara iaitu kedudukan kewangan pembayar cukai bagi memahami dengan lebih baik gelagat kepatuhan cukai. Polisi percukaian juga perlu mengambilkira faktor-faktor ini untuk membangunkan budaya kepatuhan cukai di kalangan individu pembayar cukai di Nigeria.

**Kata kunci:** Tingkahlaku Pematuhan Cukai, Persepsi Kualiti Perkhidmatan Cukai, Kualiti Tadbir Urus Awam, Kepelbagaian Etnik, Cukai Pendapatan Individu

# ACKNOWLEDGEMENT

I give glory to **GOD** for making it possible for me to undertake a course in Ph.D Accounting. In addition, I am indeed indebted to several individuals and organizations for their immense contributions for the successful completion of this programme. First and foremost, my sincere appreciate goes my supervisors: Dr. Zaimah Zainol Ariffin and Professor Dr. Kamil Md Idris for their guidance, encouragement and cooperation throughout my programme. I also express my gratitude to the entire members of staff of College of Business and management of Universiti Utara Malaysia (UUM) for this opportunity and the research grant. I am grateful to all the lecturers who made contributions and comments on my proposal especially Associate professor Nor Aziah Manaf and Dr. Hijattulah Jabbar.

I thank the management and staff of Federal Inland Revenue Service, especially Mallam S.A. Umoru, and S.T. Adelaiye for their support during the fieldwork of this study. I also thank the management of Federal Polytechnic Bauchi for granting me study leave to pursue this programme and my colleagues, especially those in School of Business Studies and the Department of Accountancy in particular for their support. Isidore Ekpe , James Gyang, Anthony Oparah, Obed T. and enormous others are equally acknowledged. I am indeed grateful to my in-laws: Mr & Mrs Kwale and James for their prayer.

Finally, I sincerely appreciate the patience, cooperation, encouragement and support of my beloved wife- Jemimah throughout the programme. I thank other members of Alabede’s family especially, Mrs Esther, Nathaniel, Dada, Brother Segun and Oladiran.

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# LIST OF ABBREVIATION

| Acronym | Meaning |
|---|---|
| CBN | Central Bank of Nigeria |
| CITA | Companies Income Tax Act |
| CITN | Chartered Institute of Taxation of Nigeria |
| ECOWAS | Economic Community of West Africa States |
| FCT | Federal Capital Territory (Abuja) |
| FGN | Federal Government of Nigeria |
| FIRS | Federal Inland Revenue Service |
| FIRSEA | Federal Inland Revenue Service (Establishment) Act |
| FISRB | Federal Inland Revenue Service Board |
| GDP | Gross Domestic Product |
| GNP | Gross National Product |
| IMF | International Monetary Fund |
| ITMA | Income Tax Management Act |
| IRS | Internal Revenue Service of United States |
| JTB | Joint Tax Board |
| NITS | National Institute of Technology Standard (USA) |
| OECD | Organization for Economic Cooperation and Development |
| PAYE | Pay As You Earn |
| PIT | Personal Income Tax |
| PITA | Personal Income Tax Act |
| SIRS | State Internal Revenue Service |
| SIRSB | State Internal Revenue Service Board |
| TPB | Theory of Planned Behaviour |
| TAC | Taxpayers Assistance Centre |
| TRA | Theory of Reasoned Action |
| UN | United Nations |

# Chapter One
# Introduction

## 1.1 Introduction

In Nigeria, as in some other developing countries, tax noncompliance is a serious challenge facing tax administration and hindering tax revenue performance. In relative terms, tax revenue has continued to drop tremendously, for instance, the share of individual tax in the total federal and state revenue[1] was 10.53 % in 1977 but dropped to 5.19 % in 1997 and further to 4.67 % in 2010, despite the fact that the Nigeria's Gross Domestic Product (GDP)[2] grew by 61% between 1997 and 2010 (CBN, 2007 & 2011). The record of Federal Inland Revenue Service (FIRS) indicates the severity of the problem as it revealed that although the tax potential of Nigerian economy in 2008 was ₦ 3.857 trillion[3] only ₦ 2.793 trillion tax was collected; that is, about 72% performance leaving a huge sum of ₦1.064 trillion representing an approximately 28% tax gap. Furthermore, there were 654 tax cases audited resulting in ₦ 92.2billion revenue collection and also 26 tax cases were investigated which yielded ₦ 2.48billion as revenue in 2008 (FIRS, 2009).

As a consequence of tax noncompliance, the studies of Ariyo and Rahmeen (1990) and Ariyo (1997) reported that Nigeria's fiscal deficit is a recurring feature. The available statistical data have revealed that the fiscal deficit of all levels of Government in Nigeria

1. The total federal and states revenue was ₦ 6.441 billion, ₦ 688.114 billion and ₦ 12285.7 billion in 1977, 1997 and 2010, respectively. Of this amount, individual tax accounted for ₦ .6782 billion, ₦ 35.708 billion and ₦ 574.1 billion, respectively (CBN, 2007& 2011).
2. Nigeria's Real GDP increased from ₦ 302.02billion in 1997 to ₦ 775.11billion in 2010(CBN, 2007 & 2011).
3. This tax was the estimate for the federal level only The official name for Nigeria's currency note is the Naira and the coin is Kobo. The Naira was introduced in 1973 to replace the Pound. The Naira is coded as NGN and the sign is ₦. A unit of Naira is subdivided into 100 Kobo. A unit of USD is equivalent to about ₦ 160 while a unit of MYR (Ringgit) is about ₦52 as at 1st January, 2012.

have been growing since 1980. For instance, the budget deficit of Federal Government and State governments increased from ₦ 1.975 billion and ₦ 3.417 billion in 1980 to ₦ 47.379 billion and ₦ 47.403 billion in 2008, respectively (CBN, 2008).

With declining revenue from income tax, the dream of Nigeria to be one of the 20 largest economies in the world, as envisaged in its vision 2020, may be a mirage if the problem of low tax compliance is not addressed, since income tax revenue is vital in the realization of the vision.[4] In order to uncover the causes of this phenomenon, this study attempts to investigate empirically the factors underlying individual taxpayers' behaviour in Nigeria.

## 1.2 Background of the Study

The financial resources with which a government discharges its numerous responsibilities comes in the form of tax revenue and non-tax revenue. Alabede (2001a), Rapu (2006) and Olaofe (2008) identified tax as the principal source of revenue to government in some countries.[5] Eshag (1983), however, argued that the amount of tax revenue generated by government for its expenditure programme depends on, among other things, the willingness of the taxpayers to comply with the tax laws of a country. It is well accepted that some people do not like paying taxes, and because of this reason, it is difficult for tax authorities to impose and collect taxes anywhere and anytime (Alm, Martinez-Vazquez & Schneider, 2003). The failure to follow the provisions of tax laws suggests that a taxpayer may be

4. The country requires huge sum of ₦ 32 trillion for investment to actualize its vision 2020 (Usman, 2010). At the present tax compliance level in Nigeria, such an amount cannot be realized.
5. Income tax was 60.3% and 58.7% of the total tax of the central government of Malaysia and Indonesia, respectively, in 2004 (Bird & Zolt, 2005).

committing an act of noncompliance (Kirchler, 2007). Franzoni (2000) stated that tax noncompliance is the most common and critical of all problems of tax administration.

In the submissions of Chau and Leung (2009), Goradichenko, Martinez-Vanzquez and Peter (2009), McGee (2006) and Tanzi and Shome (1993), tax noncompliance was described as a universal phenomenon, which is present in both developing and developed countries. In developing countries, tax revenue loss, as a result of noncompliance, is proportionally greater than the amount in developed countries because of the presence of the large informal economy, that is, the hard-to-tax sector (Terkper, 2003). The available statistics put the average tax revenue loss in developing countries as high as 35% to 55% of the Gross Domestic Product (GDP) in 2002 (Terkper, 2003). These estimates slightly increased between 14% and 27% over the estimates of between 30% and 40% of GDP in 1993 (Feige, 1998; Plyle, 1998). The main consequence of tax noncompliance is the huge tax revenue loss to governments, and, hence, poor tax revenue performance (Abdulrazaq, 1993; Franzoni, 2000). Cobham (2005) estimated that developing countries lose USD 285 billion per year as tax revenue due to tax noncompliance.

Today, in Nigeria as with some other developing countries, the administration of income tax is characterized by the low compliance level and despite Nigeria's human and natural endowment, as well as economic potentiality, the country has continued to record one of the lowest tax compliance levels in Africa (CITN, 2010). However, Nigeria cannot afford to allow the problem of noncompliance among its taxpayers compromise the chance of becoming one of the top 20 economies in the world in year 2020,[6] since without an improvement in the tax compliance behaviour of Nigerians, it would be impossible for the government to generate the necessary financial resources to support the investment in infrastructure, human capital, health care facilities, provision of security as well as combating poverty and unemployment to position it as a strong economic nation.

The disturbing statistical revelation about tax compliance in Nigeria is an indication of the need for investigation into taxpayers' compliance behaviour in the country. Therefore, solving the problem requires a careful study of both the economic and behavioural factors influencing tax compliance in Nigeria to identify the source of the problem for a possible solution.

### 1.3 Problem Statement

Despite the various tax reforms[7] undertaken by the Nigerian government to increase tax revenue over the years, statistical evidence has proven that the contribution of income taxes to the government's total revenue remained consistently low and is shrinking. However, of all the taxes, personal income tax has remained the most disappointing, nonperforming, unsatisfactory and problematic in the Nigerian tax system (Asada, 2005; Kiabel & Nwokah, 2009; Nzotta, 2007; Odusola, 2006; Sani, 2005). The statistical data indicates that contributions of non-oil income tax to the total revenue of Government in Nigeria dropped

6. Nigeria occupied 44th position in the global economy in 2009 (IMF, 2010).
7. Some tax reforms in Nigeria include Structural Adjustment Programme in 1986, Shehu's Task Force on Tax, 1978; Dr Sylvester's Study Group on Tax, 1999; Economic Empowering Development Strategies, 2002; Professor Dotun's Study Group on Tax, 2002.

from 19.8% in 1999 to 11.7% in 2008 and the tax ratio[8] in 2009 was 11%, the lowest in West Africa and below the 15% recommended[9] for low-income countries (CITN, 2010; IMF, 2005). Specifically, the contribution of individual income tax remained marginal and comparatively low in Nigeria's tax revenue. At the state and local government levels, where the major source of internal revenue is expected to be individual income tax, its contribution to the total revenue of these levels dropped from 20.18 and 7.7% in 1999 to 12.4 and 1.6% in 2008, respectively (CBN, 2008)[10]. Compared to other African countries, Nigeria has been consistently recording the lowest income tax ratio and personal income tax (PIT) ratio. For instance in 2006, Nigeria had 2.5% and 1% , respectively, as income tax and PIT ratio, the second lowest in the group of fifteen countries, with South Africa recording the highest with 14.4 % and 7.7%[11] (Volkerink, 2009). This phenomenon remains unexplained even though one tries to apply the basic and extended model of tax compliance.

Theoretically, the factors identified in the basic model of tax compliance for explaining the compliance behaviour of an individual taxpayer are, therefore, inadequate in understanding the causes of the low tax compliance phenomenon in Nigeria. However, Alm (1999), and Jackson and Millron (1986) argued that the tax noncompliance decision may be affected by factors not considered in the basic model, or may be affected in ways not captured by the

8. Tax ratio is computed as Tax/GDP *100
9. International Monetary Fund (IMF) views a tax ratio of at least 15% as appropriate for a country in the category low- income country while ECOWAS recommended tax ratio of at least of 20% for West African countries. A country with a per capita income of USD 995 or less is low- income and a country with per capita from USD 996 – 3,945 is a lower middle- income country (IMF, 2011). Nigeria with a per capita of USD 3460 is classified as a lower middle- income country.
10. States and local governments in Nigeria finance their annual budgets mainly with grants from the Federation account. The revenue that accrued to the Federation account is primarily from crude oil.
11. Table 2.3, 2.4 & 2.5 in pages 25-27 provide statistics on tax revenue performance in Nigeria and other African countries in detail.

theory and said that other factors may well be relevant in explaining the tax noncompliance behaviour. Despite the various expansions done to the basic model, nothing much is known empirically about the influences of perceived tax service quality, public governance quality[12] or the moderating effect of personal financial condition and risk preference on tax compliance behaviour. The relevance of these factors in understanding tax compliance behaviour, particularly in developing countries, and, especially Nigeria cannot be underestimated (Akpo, 2009; Ariyo, 1997; Bird & Zolt, 2005; Egwaikhide, 2010; Everest-Philip & Sandall, 2009; Odinkonigbo, 2009; Odusola, 2006; OECD, 2005; Wallshutzky, 1984). Moreover, in a country like Nigeria with high ethnic fractionalization, the perception of different ethnic groups regarding tax payment may cause a variation in compliance behaviour in different parts of the country. Nevertheless, the Nigerian tax system has not given adequate consideration to the ethnic and cultural diversity of Nigeria (Osemene, 2004).

Although there are tax audit and investigation departments in almost all the revenue offices at both federal and state levels together with adequate provisions for sanctions against noncompliance under Nigerian tax laws, the problem of tax noncompliance still persists (Alabi, 2001; Nzotta, 2007; Sani, 2005). However, not so much an explanation had been offered empirically for why Nigerian individual taxpayers have continued to resist tax payment. Addressing the problem of low compliance in personal income tax requires identifying and understanding the factors influencing the taxpaying behavior of Nigerians so that the policy can be directed towards influencing these factors positively

12. It seems that there is a correlation between the public governance quality score and income tax revenue performance, for instance, Nigeria had 2.5% as income tax ratio and a good governance score of 49.6 %; South Africa had 14.4 and 69.4% while Uganda had 3.8 and 57.9%, respectively, in 2006 (Volkerink, 2009).

for an improvement in tax compliance. Therefore, this study is set to investigate the problem of low compliance among individual taxpayers and the factors influencing tax compliance behaviour in Nigeria by incorporating perceived tax service quality, public governance quality and ethnic diversity as well as the moderating effect of personal financial condition and risk preference in the tax compliance model.

### 1.4 Research Questions

The main research question is what should be the compliance model that can explain the Nigerian tax compliance phenomenon. The specific research questions include:

1. Do quality of tax services, multi-ethnic background and Nigerian public governance quality play a significant role in Nigerian tax compliance behaviour?
2. Do taxpayers' financial condition and risk preference moderate the relationship between tax compliance behaviour and its determinants?

### 1.5 Research Objectives

The main objective of this study is to gain an in-depth understanding of how the current extended model of compliance behaviour explains the tax compliance phenomenon in Nigeria. The specific objectives include:

1. To determine the perception of Nigerians about the quality of tax service and its relationship with their tax compliance behaviour.
2. To determine the perception of Nigerians about public governance quality and its relationship with their tax compliance behaviour.

3. To determine whether the multi-ethnic background of Nigerian taxpayers causes a difference in the compliance behaviour in Nigeria.

4. To determine whether taxpayer's financial condition and risk preference moderate the relationship between the tax compliance behaviour and the determinants individually and jointly.

### 1.6 Significance of the Study

This study bridge the research gaps identified and makes some significant contributions both theoretically and practically in the following areas.

#### 1.6.1 Theoretical Contributions

Over the past few decades, the problem of tax noncompliance has attracted greater attention worldwide especially in the developed countries and this has led to numerous empirical studies into the phenomenon. However, most of the early research studies on the phenomenon viewed the problem from the theoretical perspective of economic deterrence models (Riahi-Belkaou, 2004). Allingham and Sandmo (1972) were among the first to attempt to empirically investigate the factors influencing tax compliance behaviour. Their effort led to the development of a model of tax compliance otherwise known as A-S model based on Becker's (1968) deterrence theory.

However, researchers have provided evidence to prove that deterrence may not entirely be depended upon to understand the phenomenon of tax noncompliance (Feld & Frey, 2003; Slemrod, 2009; Torgler, 2003; Torgler & Schaffner, 2007). Deterrence theory focuses only on economic factors to proffer explanation to tax compliance behaviour and ignores completely social and psychological factors. Following the weaknesses noted in A-S model, scholars developed other models that incorporate social and psychological factors (Fischer, Wartick & Mark 1992; Chan, Troutman & O'Bryan, 2000; Manaf, 2004 etc). However, Alm (1999) has contended that no single model and theory have been able to incorporate the numerous factors influencing tax compliance. Other than that, Kirchler, Muelbacher, Kastlunger and Wahl (2007) suggested that the inconsistency in the research findings concerning the relationship between tax compliance and some of its determinants is an indication that the relationship may be moderated by certain variables.

Taking into account the forgoing weaknesses noted in the previous studies and development in the literature (Allingham & Sandmo, 1972; Chan et al., 2000; Chau and Leung, 2009; Fischer et al., 1992), this study contributes to tax compliance literature by extending the tax compliance model to incorporate influence of quality of tax service and quality of public governance as well as the moderating effects of personal financial condition and risk preference. These factors were incorporated into the model based on the suggestions from the literature (Akpo, 2009; Bird & Zolt, 2005; Egwaikhide, 2010; Everest-Philip & Sandall, 2009; OECD, 2005). Furthermore, unlike previous studies, which included culture in the tax compliance model (Chau & Leung, 2009; Chan et al., 2000; Manaf, 2004), this study measures the impact of ethnic diversity and culture on tax compliance behaviour in a highly ethnic fragmented and polarized society (Nigeria). Therefore, by investigating nine constructs and two moderators, this study provides new evidence in the literature of other factors influencing tax compliance as well as factors exerting moderating effects on tax compliance and some of its determinants.

This empirical work was also informed by a further consideration. By focusing on a developing country, this study answered the call for more studies on tax compliance to bridge the research gap between developing and developed countries (Andreoni, Erard & Feinstein, 1998; Chau &Leung, 2009; Fuest & Riedel, 2009). Therefore, this study provides valuable insight and more evidence on the influences of demographic, social, economic, cultural and political as well as deterrent factors on the compliance behaviour of taxpayers in developing countries, which may help build the scant literature concerning tax compliance in developing countries.

### 1.6.2 Practical Contributions

The study may make a significant contribution to governments of developing countries, tax administrators, public policy makers on the issue of taxation and compliance behaviour. In the first place, this study may help to improve tax administration in a number of ways. The study provides information that may enhance the knowledge and understanding of tax compliance behaviour in developing countries, and help in determining the amount of resources to be allocated in the annual budget on tax audit and investigation for the effective management of the tax noncompliance behaviour in these countries. Second, the study may also serve as a source of useful information to tax authorities concerning the influence of the deterrent factors as well as behavioural factors on tax evasion and other noncompliance behaviour. This information may be useful in strategy formulation on tax noncompliance in developing countries. Third, this study may be of great significance to Nigeria as empirical studies explaining the compliance behaviour of Nigeria's taxpayers are rare. This study, therefore, is useful in providing information about the determinants of compliance behaviour in Nigeria. The information provided about the impact of each determinant of the Nigerian taxpayers' compliance behaviour would be useful in the formulation of the social, economic and political policies of the government and, furthermore, it would enable the government to know the strategic policy to concentrate on in order to shore up the compliance behaviour of Nigerians. Similarly, the information from this research effort may provide a clue on whether or not the present uniform tax policy system operating in Nigeria is suitable for highly ethnic fractionalized societies such as Nigeria.

In addition, and most importantly, in order to avoid malformed decisions, policy makers need an estimate of the magnitude of tax compliance. This study provides estimate of tax compliance, which would be useful for devising appropriate policies to combat tax evasion and thereby increase tax revenue to Nigeria's government particularly at this time of unstable revenue from crude oil as well as the challenges of placing Nigeria among the 20 leading economies in the world by the year 2020. Accordingly, the state and local governments are expected to use such information in formulating viable tax collection strategies to improve their internally generated revenue. Finally, since the data of the study was generated through the method of Taxpayers Opinion Survey (TOS), this empirical effort collected data that may serve as a pool for the Taxpayers Opinion Survey data, which could be useful as a reference study for other researchers who may want to study tax evasion and compliance in Nigeria.

## 1.7 Scope of the Study

Nigeria is a federation made of federal, states and local governments. Each level of government is assigned a tax jurisdiction in Nigeria's constitution. The Federal and State Governments have the right to administer all taxes in Nigeria according to the assigned jurisdiction. The Federal Government has jurisdiction over company income tax, education tax, value added tax, petroleum profit tax, custom duties, and the personal income tax of the Nigerian armed forces (army, police, air force and navy), diplomatic bodies and residents of the federal capital. The State Governments are given constitutional rights over the personal income tax of the residents of their respective states. The personal income tax of the States comes from the employees' emolument and profits from self-employment businesses such as sole trader; partnership etc. This study focuses on the problem of compliance relating to personal income tax.

The choice of personal income tax as the area of research for this study was influenced by the fact that it is the only tax whose collection cuts across Nigeria, as its administration involves the major levels of Nigeria's government, that is, the federal and state government. In addition, it is under personal income tax that the problem of noncompliance is greatest in Nigeria because of the presence of the large informal sector[13] (Asada, 2005; Nzotta, 2007; Kiabel & Nwokah, 2009; Odusola, 2006; Slemrod, 2007). However, in order to have representation from each state of Nigeria, the study concentrated on personal income tax

13. The informal sector consists of unregistered organizations or individuals such as sole trade; partnership etc involving in economic activities that form part of officially calculated GDP. The Nigeria's informal sector was estimated as $ 212.6 billion or 57.9% of her GNP in 2000 (Schneider, 2002).

administrated and collected by the Federal Government from individuals residing in Nigeria's Federal Capital Territory. These individuals are from different states of Nigeria. Therefore, the personal income tax administered by the Federal Government is the most appropriate to enable the study to evaluate the compliance behaviour of taxpayers from every part of Nigeria.

### 1.8 Assumptions of the Study

This study was conducted based on the following assumptions:

1. All the legitimate and non-legitimate taxpayers are assumed to be fully aware of the existence of the tax system in Nigeria. This assumption is necessary because without the awareness of the existence of the tax system, taxpayers will not present themselves to be assessed, and, eventually, make payment in compliance with the provisions of the tax law.
2. Any other factors outside the consideration of this study that may influence tax compliance behaviour are held constant.
3. The interrelationship that may exist among the independent variables of this study is held constant.

### 1.9 Organization of Thesis

This thesis comprises six chapters. The thesis starts the research report with an introduction to the study. The introductory chapter begins with the background of the study, which indicates that although tax noncompliance is a problem in both developed and developing countries, it is more severe in developing countries, which includes Nigeria. Following the background is the problem statement, which presents the research gaps. This chapter also includes research questions, significance of the study, scope of the study as well as assumptions of the study. An overview of the Nigerian personal income tax system is presented in chapter two. The chapter is divided into eight sections starting with the history of the Nigerian personal income tax system, followed by tax assignment in Nigeria. Other sections in the chapter are tax revenue structure and income tax performance in Nigeria; personal income tax system in Nigeria; personal income tax administration; noncompliance and penalties in Nigeria's personal income tax. The third chapter reviews the literature on tax compliance and is divided into twelve sections. It starts with the theories underpinning and supporting the study, followed by the concept of tax compliance and noncompliance. In addition, it includes taxpayers' behaviour; factors influencing tax compliance and noncompliance; relationship between public governance quality, perceived tax service quality and tax compliance; risk preference and financial condition as moderators of tax compliance determinants; and other researchers' conceptual frameworks.

The methodology of the study is the focus of chapter four. The chapter consists of nine sections. The research framework of the study starts the chapter and then the hypotheses of the study are presented. Other sections that follow include research design; operational definition; measurement of variables; data collection and data analysis techniques. Chapter five presents and discusses the results of the study in detail and, for this purpose, the chapter is organized into fourteen sections and several subsections. Chapter six summarizes the research findings, discusses the theoretical and policy implications of the findings, highlights the limitations of the study and makes recommendations for future research.

# Chapter Two
# Overview of Nigerian Personal Income Tax System

## 2.1 Introduction

Nigeria is a federation made up of three levels of government. Each level of government is assigned taxing power in accordance with the expenditure responsibilities given to it by the constitution. The federal government administers and collects an aspect of the personal income tax, petroleum profit tax, companies' income tax, education tax, value added tax, custom duties, etc.; state governments primarily have taxing power over individual income within their respective territories and local governments collect minor levies and user charges in their respective localities. The overview of the Nigerian personal income tax system is presented in this chapter starting with the background of the Nigerian personal income tax system, and a detailed look into the personal income tax administration. The provisions of Nigerian tax laws dealing with noncompliance in personal income tax together with a brief description of the tax assignment and tax revenue structure in Nigeria are also considered.

## 2.2 History of Nigerian Personal Income Tax

Nigeria was established in 1914 through the amalgamation of the Northern Protectorate and the Southern Protectorate. However, Lord Lugard who later became Governor-General of Nigeria imposed a community tax in the North by enacting the first income tax law in Nigeria, that is, the Native Revenue Proclamation No. 2 of 1906 before the amalgamation. The Native Revenue Proclamation of 1906 was replaced with the Native Revenue Ordinance of 1917. Meanwhile there was no single tax law regulating the payment of taxes to any authority in Southern Nigeria. However, the southern native rulers enjoyed tributes from their subjects while governments were deriving the needed revenue from duties imposed on the coastal traders.

The Native Revenue Ordinance of 1917 was amended and extended to the South, first to Abeokuta and Benin City in 1918 and later to Enugu in 1928. This was to ensure that the southerners paid the same tax as their counterparts in the North. The extension of the Native Revenue Ordinance of 1917 to the South was met with stiff resistance. This led to social unrest in some parts of Eastern Nigeria; however, the government persisted and quelled the social unrest.

Following the success of the government in overcoming the social unrest, in 1930, the system of direct taxation was introduced throughout Nigeria. The Native Revenue Ordinance of 1917, as amended in 1918 and 1928, was superseded by the Native Direct Taxation Ordinance and Colony Taxation Ordinance in 1937. This ordinance made it possible for income tax to be imposed on people within and outside Lagos colony. The foundation for modern income tax in Nigeria was laid when various tax ordinances were consolidated into one in 1943 and was enacted as the Income Tax Ordinance No 29 of 1943. In 1948, another income tax law known as the Income Tax Ordinance Cap. 92 was enacted to incorporate the various amendments to the Income Tax Ordinance of 1943.

In 1958, the Federal Board of Inland Revenue (FB1R) was established under the provision of section 3 of the Income Administration Ordinance No. 39 of 1953 to carry out the administration of income tax but only started operation in 1959. The administration of income tax before the establishment of FBIR was the responsibility of a commissioner normally appointed by the Governor-General.

After gaining independence in 1960, Nigeria considered the recommendation of the Raisman Fiscal Commission of 1958 to separate personal income tax and company income tax, as a result, the Income Tax Ordinance of 1948 was repealed to give birth to the Companies Income Tax (CITA) 1961, Income Tax Management Act (ITMA), 1961 and Personal Income Tax (Lagos) Act 1961. ITMA provided for the establishment of the Joint Tax Board (JTB) under section 27, which was charged with the responsibility of ensuring uniform tax administration throughout Nigeria. The Companies Income Tax Act of 1961 was placed under the administration of FBIR.

In 1972, the income tax of members of the armed forces, officers of the Nigerian foreign services, non-residents, Nigerian pensioners and non-resident shareholders was placed under the jurisdiction of the Federal Government through Decree No. 51. A task force on tax administration was set up in 1978, which was headed by Alhaji Shehu Musa (Arogundade, 2005). The task force brought about the introduction of withholding tax on a certain income of individuals.

Two study groups were set up in 1992 on the Nigerian tax system and indirect taxation headed by Prof. Emmanuel Edozien and Dr. Sylvester Ugoh, respectively. The outcome of these studies gave birth to the following:

(a) The establishment of a technical committee for tax administration.

(b) The establishment of the Federal Inland Revenue Service and State Internal Revenue Service.

In 1993, ITMA was repealed and replaced with the Personal Income Tax Act (PITA) 1993. In addition, the Capital Transfer Tax Decree was repealed in 1996. As part of the National Economic Empowering Development Strategies (NEEDS), tax reform commenced in 2002, and, for this purpose, the Study Group on the Nigerian Tax System was constituted by the Federal Government under the chairmanship of Professor Dotun Philip. The Group submitted its findings to the Government in 2003 and its recommendations among others led to the enactment of the Federal Inland Revenue Service (Establishment) Act of 2007, which granted administrative autonomy to the Federal Inland Revenue Service.

**2.3 Tax Revenue Assignment in Nigeria**

Tax assignment is the act of allocating power to each level of governments in a federal system to impose and administer tax. According to Vincent (2001) and Rapu (2006), tax assignment indicates what type of tax should be under the jurisdiction and administration of each level of government in a federal system. The public finance theory has not specified any ideal tax assignment. However, the literature has identified three options of tax assignment, namely:

(a) Assigning of all tax bases to sub-national (state) government only.

(b) Assigning of all tax bases to the central government only.

(c) Assigning of tax bases to each level of government.

The argument for effective distributional and macro-economic management considerations has made the option of assigning all tax bases to the sub-national government the only unfavourable option. However, Rapu (2006) stated that the major advantage of the option is that spending decisions are compatible with the tax decision, thereby encouraging tax competition among the sub-national governments. The second option of assigning all the tax bases to the central government is only consistent with the pursuit of macro-economic objectives and will generate more revenue because of the advantage of economies of scale, however, it will lead to over concentration of tax power. The third option, which is mostly adopted by the federal state, ensures that all levels of government are assigned sources of taxes. However, the main problem of the third option is the issue of the overlapping of tax bases, which results in multi-taxes that could increase the burden of the taxpayers (Rapu, 2006).

In Nigeria, taxes are assigned to all three levels of government. The taxing power to each level of government is derived from the provision of the 1999 Constitution of Nigeria. The Constitution assigns to the Federal Government the power to legislate and collect revenue from company income tax, custom and excise, education tax, custom levies/sub-charges, value added tax, aspects of personal income tax and other independent revenue. The state governments have jurisdiction over personal income tax except for the personal income tax of the personnel of the armed forces and residents of Abuja Federal Capital Territory (FCT). The Constitution also assigns to the state governments the proceeds of the federal tax on motor vehicle licences and other power to levy and retain proceeds on some minor taxes, such as stamp duty, business registration fees, etc. The major taxing power given to local governments by the Constitution, in addition to other minor taxes, is property tax. Table 2.1 shows the tax jurisdiction of all levels of government in Nigeria.

**Table 2.1**
**Tax Jurisdiction of All Levels of Government in Nigeria**

| Federal Government | State Government | Local Government |
|---|---|---|
| Companies Income Tax | Personal income tax (individuals in state) | Tenement rate |
| Petroleum Profit Tax | Capital gains tax (individual only) | Shop and kiosk rate |
| Value Added Tax | Stamp duties (individuals) | Liquor licence fees |
| Education Tax (companies only) | Road taxes e.g. vehicle licence | Slaughter slab fees |
| Capital Gains Tax (corporate bodies & Abuja residents) | Betting & gaming taxes | Marriage, birth & death registration fees |
| Stamp Duty (corporate bodies) | Business premises & registration levy | Street name registration (not state capital) fee |
| Withholding tax (companies) | Development levy | Market/motor park fees (not state owned markets ) |
| Personal income tax (personnel of armed forces, police external affairs ministry& residents of Abuja ) | Street name registration fees (state capital) | Domestic animal licence |
| Mining rents and royalties | Right of occupancy fees (state capital only) | Bicycle, trucks, canoe, wheelbarrow & cart fees |
| Customs duties (import & export duties) | Market fees (fixed by state government) | Right of occupancy fees (not in state capital) |
| Excise duties | Miscellaneous revenue (e.g. rent on property) | Cattle tax |
| Miscellaneous revenue (farming from oil site, etc.) | | Merriment fees |
| | | Radio & TV licence fees<br>Vehicle parking fees<br>Public convenience, & refuse disposal fees<br>Burial ground & religious places permit fees<br>Signboard permit fees |

*Note*: Adapted from "Taxation assignment and revenue sharing in Nigeria: Challenges and options," by S.C Rapu, 2006, .*Economic and Financial Review,* 44(1), p.21. Copyright 2006 by Central Bank of Nigeria.

Over the year, the available statistical data show that there have been different degrees of decentralization of taxes in Nigeria. Between 1948 and 1967, because of decentralization of taxes, which have high revenue yield, such as excise, and export duties, more revenue was available to the regional governments to cover their expenditure. The internally generated revenue of regional governments increased from 15.9% to 41% between the fiscal years of 1948/49 and 1966/67 (see Table 2.2). From 1967 fiscal year, there was a decline in the share of internally generated revenue of the state and local government income from 12.3% in 1967/68 to 0.8 in 1980/1983. The share of the tax revenue accruing to the Federal Government increased from 87.7% to 99.3% for the same period. Table 2.2 shows the degree of tax decentralization between 1948 and 2004.

**Table 2.2**
**Degree of Tax Decentralization in Nigeria**

| Commission | Year | Federal Govt. | Region/ State Govt. | Local Govt. |
|---|---|---|---|---|
| Phillipson | 1948/49 - 1951/52 | 84.1% | 15.9% | na* |
| Hicks – phillipson | 1952/53 - 1953/54 | 72.5% | 27.5% | na |
| Chicks | 1954/55 - 1958/59 | 57.1% | 42.9% | na |
| Raisman | 1959/60 - 1963/64 | 62.0% | 38.0% | na |
| Binns | 1964/65 - 1966/67 | 59.0% | 41.0% | na |
| Military Govt. | 1967/68 - 1979/80 | 87.7% | 12.3% | na |
| Civilian Govt. | 1980 - 1983 | 99.3% | 0.8% | na |
| Military Govt. | 1984 - 1999 | 94.5% | 5.1% | 0.4% |
| Civilian Govt. | 2000 - 2004 | 96.1% | 3.4% | 0.5% |

*na= not available in Table 2.2.
*Note*: Adapted from “Taxation assignment and revenue sharing in Nigeria: Challenges and options,” by S.C Rapu, 2006, .*Economic and Financial Review,* 44(1), p.15. Copyright 2006 by Central Bank of Nigeria.

## 2.4 Tax Revenue Structure and Income Tax Performance in Nigeria

Public finance theory states that a relationship exists between tax structure and the level of economic growth and development. Musgrave (1969) argued that the level of economic development has a very strong impact on a country’s tax base.

Nigeria's tax system is made of three components, namely: Nigeria's tax laws, tax policy and tax administration. The objectives of the Nigerian tax system, as provided in the National Tax Policy, are as follows:

(a) The overriding objective of the Nigerian Tax System is to achieve economic growth and development for Nigeria.

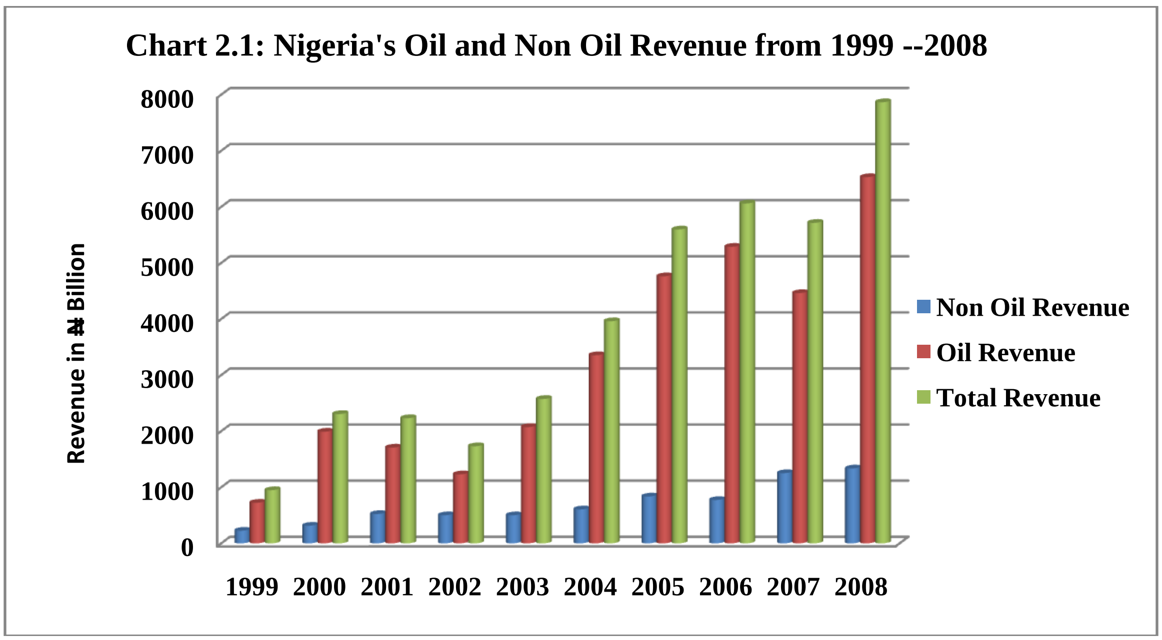
(b) The Nigerian Tax System should be able to generate sufficient financial resources for government to provide basic public goods and services, for example, education, healthcare, infrastructure, security, etc.

(c) The Nigerian Tax System should be used as a tool for economic management to help the country in minimizing the negative impact of volatile booming and recessions in its economy and also to help complement the efforts of monetary policy in order to achieve economic stability in the country.

(d) The Nigerian Tax System must be fair and concerned with pursuing both horizontal and vertical equity among Nigerian taxpayers. The tax on the horizontal equity system should endeavour, as far as possible, not to discriminate against any individual or corporate body in Nigeria in its tax policies and/or administration of the policies. With reference to vertical equity, which is aimed at addressing the issue of fairness among different income categories, the Nigeria Tax System should recognize the ability of the taxpayers to bear the tax burden on the basis of the principle of the ability to pay.

(e) The Nigerian Tax System should be able to correct market failures in cases where it is considered to be the most efficient device to use. The system is to address the market failure resulting from externalities and natural monopolies.

The tax revenue accruing to Nigeria's Government is demarcated into oil revenue and non-oil revenue. There have not been many changes in Nigeria's tax structure since 1960 to date, however, the revenue from the oil sector still accounts for high a proportion of the total revenue. The sources of oil revenue include crude oil/gas exports; petroleum profit tax and royalties; domestic crude oil sales and other oil revenue. The non-oil revenue sources include companies' income tax; customs and excise; value added tax; tax on petroleum products; personal income tax; and education tax. Chart 2.1 shows the revenue of the Nigerian government from the oil and non- oil sector from 1999 to 2008.




*Note*: Data for the chart derived from "*Annual report and statement of account,*" by Central Bank of Nigeria, 2008, Abuja: Central Bank of Nigeria.

According to Odusola (2006), the revenue base of Nigeria before the 1970s was dominated by agricultural tax and at this period, there were marketing boards charged with the responsibility for collecting the tax. However, the revenue collection suddenly changed in favour of oil revenue as the receipt from the oil sector increased from 26.9% in 1970 to

81.1% in 1980 reflecting the oil boom of 1973/74 and 1979/80. The trend of revenue collection has remained in favour of the oil sector since then. The main sources of revenue to the government are oil revenue sources. These sources accounted for 70% to 80% of the total revenue of the government. However, a revenue structure that is largely dominated by one source may experience some fiscal problems. Adebisi (2004), Ariyo (1997), and Odusola (2006) pointed out the danger of relying on a single source for generating revenue for public expenditure. According to Odusola (2006), the problem of heavy reliance on oil revenue is that the economy is subject to the shock and variation of the world's crude oil market.

The contribution of income tax to the total revenue of all levels of government in Nigeria is marginal. On average, from 1999 to 2008, non-oil tax contributed about 15% to the total revenue of the Federal Government. The lowest contribution came from income tax with about 4%. The taxes on individuals' income,[14] which is supposed to be the major source of tax revenue to states and local governments in Nigeria also contributed an insignificant proportion of the total revenue of the state and local governments, for instance, taxes on individuals' income contributed, on average, about 8% and 4%, respectively, for the state and local governments.[15] Table 2.3 shows the non-oil tax of all the levels of government in Nigeria 1999 to 2008.

14. Section 108 of Personal Income Tax Act 1993, cap. P8 LFN 2004 defines individual to include a corporation sole, and a body of individuals but excluding a company, partnership, community, family, trustee or executor or body constituted as trustees or executors.
15. Refer to Appendix 1 for the graphical presentations of the contribution of income tax to total revenue of each level of Nigeria's government as well as the aggregate for the country.

**Table 2.3**
**Nigerian Government's Income Tax Performance (₦'Billion)**

| Year | Federal Tax* | Federal Total Revenue | Federal Tax as % of Total | State Tax** | State Total Revenue | State Tax as % of Total | Local Government Tax** | Local Government Total Revenue | Local Government Tax as % of Total |
|---|---|---|---|---|---|---|---|---|---|
| 1999 | 46.2 | 949.2 | 4.9 | 34.1 | 169.0 | 20.2 | 4.7 | 60.8 | 7.7 |
| 2000 | 51.1 | 1,906.2 | 3.1 | 37.8 | 359.1 | 10.5 | 7.2 | 151.5 | 4.7 |
| 2001 | 68.7 | 2,231.6 | 2.7 | 59.4 | 573.5 | 10.3 | 6.0 | 171.5 | 3.5 |
| 2002 | 89.1 | 1,731.8 | 5.1 | 89.6 | 669.8 | 13.3 | 10.4 | 172.1 | 6.1 |
| 2003 | 114.8 | 2,575.1 | 4.5 | 118.8 | 855.0 | 13.9 | 20.2 | 370.2 | 5.5 |
| 2004 | 113.0 | 3,960.8 | 2.9 | 134.2 | 1,113.9 | 12.1 | 22.4 | 468.3 | 4.8 |
| 2005 | 140.3 | 5,597.5 | 2.5 | 126.5 | 1,255.7 | 10.1 | 24.0 | 597.2 | 4.0 |
| 2006 | 244.9 | 6,061.0 | 4.0 | 125.2 | 1,543.8 | 8.1 | 23.2 | 674.3 | 3.4 |
| 2007 | 327.0 | 5,715.6 | 5.7 | 305.7 | 2,065.4 | 14.4 | 21.3 | 832.0 | 2.6 |
| 2008 | 416.0 | 7,866.6 | 5.3 | 353.0 | 2,852.1 | 12.4 | 22.7 | 1,387.8 | 1.6 |

* Companies income tax
** Individual income taxes
*Note*: Adapted from "*Annual report and statement of account,"* by Central Bank of Nigeria, 2006 & 2008, Abuja: Central Bank of Nigeria.

The productivity of Nigeria's tax revenue measured as the ratio of tax to GDP indicated unimpressive performance. Nigeria's tax ratio was 9.4% in 2001 but dropped to 5.9% in 2008. This ratio was below the recommended 15% for low-income countries like Nigeria (Cobham, 2005). Of all the taxes in the Nigerian tax system, the personal income tax ratio continuously remained unsatisfactory, for instance, it was 1.6% in 2003 but declined to 1.4% in 2008. Table 2.4 shows Nigeria's tax to GDP ratios from 1999 to 2008.

**Table 2.4**
**Nigeria's Tax to Gross Domestic Product Ratio (%)**

| Year | Total Tax Revenue | Total Income Tax | Personal Income Tax |
|---|---|---|---|
| 1999 | 7.3 | 2.7 | 1.2 |
| 2000 | 6.4 | 2.1 | 1.0 |
| 2001 | 9.4 | 2.8 | 1.4 |
| 2002 | 5.5 | 2.0 | 1.1 |
| 2003 | 6.9 | 3.0 | 1.6 |
| 2004 | 6.6 | 2.6 | 1.3 |
| 2005 | 5.8 | 2.4 | 1.2 |
| 2006 | 5.0 | 2.5 | 1.0 |
| 2007 | 5.4 | 3.2 | 1.5 |
| 2008 | 5.9 | 3.1 | 1.4 |

*Note*: Adapted from "*Annual report and statement of account,"* by Central Bank of Nigeria, 2006 & 2008, Abuja: Central Bank of Nigeria.

When compared to other developing countries, especially those in Africa, Nigeria had the lowest tax ratio of 5% in 2006 while Namibia at 30.1% had the highest. Nigeria also had the second lowest income tax ratio of 2.5% before Angola with 2.4%; South Africa had the highest income tax ratio of 14.1%. Nigeria's personal income tax ratio of 1% in 2006 was also the second lowest among African countries before Burkina Faso, which had 0.2 %, (details of Nigeria's tax ratio and that of other African countries are presented in Table 2.5). Based on the unimpressive performance of the personal income tax in Nigeria, Asada (2005) concluded that of all taxes in the country's tax system, personal income tax remained the most disappointing, unsatisfactory and problematic tax, and required radical solution.

**Table 2.5**
**Nigeria's and Other African Countries' Tax Ratios for 2006 (%)**

| Country | Total Tax/GDP Ratio | Income Tax/GDP Ratio | Personal Income Tax/GDP Ratio |
|---|---|---|---|
| Angola | 6.3 | 2.4 | na* |
| Botswana | 16.4 | 5.4 | na |
| Burkina Faso | 11.8 | 2.9 | 0.2 |
| Ghana | 19.6 | 5.5 | 2.9 |
| Kenya | 16.6 | 7.1 | 3.0 |
| Malawi | 21.7 | 9.1 | na |
| Mali | 14.9 | 2.7 | na |
| Mozambique | 12.1 | 3.3 | na |
| Namibia | 30.1 | 11.4 | 7.4 |
| **Nigeria** | **5.0** | **2.5** | **1.0** |
| Senegal | 19.2 | 4.6 | na |
| South Africa | 25.6 | 14.4 | 7.7 |
| Tanzania | 12.9 | 3.7 | na |
| Uganda | 12.2 | 3.8 | na |
| Zambia | 16.1 | 8.2 | 6.4 |

* na = not available
*Note:* Adapted from "*Tax policy in Sub-saharan Africa: A survey of issues for a number of countries*", by B. Volkerink, 2009, Working paper, .p22-23, Centre for Taxation and Public Governance, Utrecht University.

## 2.5 Personal Income Tax System in Nigeria

Personal income tax was the first tax to be introduced in Nigeria. It started as a community tax in Northern Nigeria in 1906. The administration and collection of personal income tax is entrusted to the Federal Inland Revenue Service, State Internal Revenue Service and the Local Government Revenue Committee by law imposing the tax.

### 2.5.1 Nigerian Personal Income Tax Law

The legitimacy of imposing taxes in Nigeria, including taxes on individuals, is derived from the Constitution of the Federal Republic of Nigeria, 1999. The power to make laws for the imposition of taxes is expressly given to the National Assembly[16] at the centre under item 58 and 59[17] of the Exclusive Legislative List[18] as well as item 7[19] and 9[20] in the Concurrent Legislative List. The collection and administration of some specified taxes, which include personal income tax, are left to the state governments under the Concurrent Legislative List. The House of Assembly at the state level is empowered to make laws to levy taxes and rates on individuals within the jurisdiction of the local government under the Residual List.

Therefore, the law to regulate and impose tax on the income of individuals in Nigeria is a product of the Exclusive List as an enactment of the National Assembly. The first law on personal income tax in Nigeria was the Native Revenue Ordinance of 1906. However, the Income Tax Management Act (ITMA) of 1961 laid the foundation for modern personal income tax administration in Nigeria (Odusola, 2006).

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16.The National Assembly is the legislative branch of the government at the national level and is in charge of law making for Nigeria's federation. The National Assembly is bi-cameral legislature consisting of an upper house, called the Senate, with 109 members, and a lower house referred to as the House of Representatives with 360 members. The House of Assembly, a unicameral legislature makes law at the state level.

17. Item 58 and 59 of Exclusive List provide the National Assembly with power to make law for the imposition of "Stamp duties" and "Taxation of incomes, profits and capital gain, except as otherwise prescribed by this constitution", respectively.

18. The Exclusive Legislative List contains matters, which are reserved only for the Federal Government to legislate. The Concurrent Legislative List is made up of matters on which both the Federal Government and state government can make law. Both Lists are included in the Second Schedule of the Constitution of the Federal Republic of Nigeria, 1999.The Residual List contains matters not covered in the Exclusive List and the Concurrent List that the state House of Assembly can legislate.

19. Item 7 of Concurrent Legislative List provides that

> "In the exercise of its power to impose any tax or duty on: (a) Capital gains, incomes or profits or person other than companies; and (b) documents or transaction by way of stamp duties, the National Assembly may, subject to such condition as it may prescribe, provide that the collection of any such tax or duty or the administration of the law imposing it shall be carried out by the Government of a state or other authority of a state"

20. Item 9 of Concurrent Legislative List states that "A House of Assembly may, subject to such conditions as it may prescribe, make provisions for collection of any tax, fee or rate for administration of the law providing for such collection by a local government council"

The Income Tax Management Act (ITMA) of 1961 was promulgated a year after independence, because of the need to have uniform personal income tax administration throughout Nigeria. This Act introduced some changes in the administration of personal income tax in Nigeria. For instance, under the Act, income from employment was assessed under the PAYE System (Pay As You Earn).

In evaluating ITMA, Odusola (2006) submitted that the application of ITMA varied from one Nigerian state to another thereby causing the burden of multiple taxes on personal income. Noting this problem, the Federal Government set up two study groups in 1991 to review personal income tax and other taxes. The recommendation of these study groups resulted in ITMA 1961 being repealed and replaced with the Personal Income Tax Act No 104 of 1993 (PITA). In 2004, PITA, 1993 was consolidated with various amendments to promulgate the Personal Income Tax Act 1993, Cap P8 LFN 2004, which is the current personal income tax law in Nigeria. PITA, Cap P8 LFN 2004 is made up of 13 parts, 109 sections and 8 schedules. The following are the parts of PITA, 2004:

(a) Part 1: Imposition of tax and income charges: This contains provisions for imposition of personal income tax in Nigeria and identifies individuals and income chargeable to tax.

(b) Part 2: Ascertainment of income: This part provides for the expenses of individuals, which are allowed and disallowed in arriving at individual tax liability.

(c) Part 3: Ascertainment of assessable income: The rules for assessing the income of individuals for tax are specified in this part.

(d) Part 4 Ascertainment of total income: This part shows how the income of individuals to be subject to tax is arrived at.

(e) Part 5: Rate of tax and double taxation: The rate of individual income tax and relief in respect of double taxation is stated in part 5.

(f) Part 6: Chargeable person and tax returns: This part contains the procedures for filing returns on personal income tax and also identifies persons chargeable to the tax.

(g) Part 7: Assessment: This addresses issues relating to the assessment of personal income tax.

(h) Part 8: Appeal against assessment: This states the conditions and procedures for appeal against personal income tax assessment by the taxpayer.

(i) Part 9: Collection, recovery and repayment of tax: This makes provision for the collection and repayment of personal income tax.

(j) Part 10: Administration: The organisations of government charged with the responsibility for the administration of personal income tax in Nigeria are stated in part 10.

(k) Part 11: Offences and penalties: The provisions relating to offences and penalties under personal income tax are mentioned in part 11.

(l) Part 12: Power of tax collectors: This part states the responsibilities and power of tax collectors under personal income tax administration.

### 2.5.2 Personal Income Taxable in Nigeria

Personal income tax in Nigeria covers the income of the individual, corporation sole and body of individuals, (example partnership). The individuals, corporation sole and body of individuals that are assessable under personal income tax include the following:

(a) An employee in both the private and public sector in respect of income obtained from employment.

(b) A sole trader, for the income derived from trading.

(c) A proprietor, for the income obtained from trade, business, profession or vocation

(d) A partner, for income from the share of the profit from the partnership's trade, business, profession or vocation.

(e) An executor(s), for income in respect of the estate of a deceased person.

(f) A trustee(s) for the income from any settlements or trusts or estate.

(g) A beneficiary, for the proportion of income derived from a settlement.

(h) An annuitant, for income in respect of annuities[21].

The following incomes of individuals are chargeable to tax in Nigeria:

(a) Any gain or profit made by an individual or body of individuals who engage in trade, business, profession or vocation.

21. Section 2, Personal Income Tax Act No 104 of 1993 Cap P8 LFN (PITA) 2004

(b) Emolument from employment including salary, wage, fees, allowance as well as compensation, bonus, premium, benefit or perquisites.

(c) Any gain or profit including any rent or premium from the property of an individual, which is used or occupied by any other person.

(d) Income of individual from investment in the form of dividend, interest and discount.

(e) Any amount received by the individual as pension, charge or annuity.

(f) Any other unspecified profit, gain or other payment received by individuals.[22]

However, certain income or individuals are exempted from paying income tax in Nigeria.[23] Examples of such income or individuals or body of individuals are the official emolument of the president, governor, vice president and deputy governor. Others include: income of local government, government institutions, ecclesiastical, charitable, educational institutions, pension given to armed forces injured in war, any gratuities paid to employees in private or public sector, income of registered trade union, etc.

**2.5.3 Personal Income Tax Assessment and Collection**

There are two types of assessment for individuals' income from trade or business: self-assessment and government assessment. Individual taxpayers are free to choose either of the two assessments to file their tax return.[24] Every taxable individual is expected to file tax

22. Section 3(1), PITA 2004
23.Third Schedule, PITA 2004
24. Section 44, PITA 2004

returns to the relevant tax authority within 90 days from the commencement of every year of assessment ( that is January).[25] The return is expected to contain information, such as the income of the taxpayer from all sources and particulars are required for allowances, relief, deductions, etc. Individual with an income from employment, which is ₦ 30,000 or less need not a file tax return.[26] Where the information contained in the return is not satisfactory to the tax authority, it is given power to ask for more information.[27]

The tax authority proceeds with assessing the taxpayer upon the receipt of the return.[28] However, for individuals who failed to file a return at the appropriate time or did not file at all, the assessable income of such individual can be determined using the "Best of its Judgment".[29]

In addition to normal assessment, the law gives the tax authority power to raise fresh assessment or re-assess an individual at the amount that he ought to have been charged where it discovers that such an individual has not been properly assessed or has not been assessed at all. However, this power is to be exercised within six years from the initial assessment.[30] Upon the completion of the assessment, notice is sent to the taxpayer informing him of the assessable income, total chargeable income, where to pay the tax and his right to object to the assessment.[31] Where the taxpayer does not have any

25. Section 41(3), PITA 2004
26. Section 43, PITA 2004
27. Section 45, PITA 2004
28. Section 54(2), PITA 2004
29. Section 54 (3), PITA 2004
30. Section 55(1), PITA 2004
31. Section 57, PITA 2004

objection to the assessment, he is expected to settle the tax within two months from the date of notice. However, the taxpayer can object to the assessment in writing to the authority within 30 days from notice. Where the taxpayer and authority do not reach an agreement over the assessment, the taxpayer can appeal to an independent body of tax expert called Body of Appeal Commissioner within 30 days from the date the tax authority issued him the notice of refusal to amend assessment based on his early objection.[32] The verdict of the Commissioners may provide another opportunity for the aggrieved party (that is either the taxpayer or tax authority) to appeal against the decision to the high court.[33] Another appeal may be made against the decision of the high court to the court of appeal, then to the supreme court which is the top court in Nigeria.[34] The decision of the Supreme Court is final and binding in respect to the tax appeal.

For the purpose of tax collection, individual taxpayers are categorized under direct assessment and indirect assessment otherwise known as PAYE. Individuals under direct assessment are to pay their taxes not under appeal or objection within two months after notice of assessment has been given[35] while the collection of tax on assessments that are subject to appeal or objection will remain in abeyance until the objection or appeal is settled and must be paid after one month.[36]

The individuals under PAYE are employees working for either the private or public sectors. They pay tax on their emolument on a monthly basis. Employers of labour are to deduct

32. Section 58, PITA 2004
33. Section 65(2), PITA 2004
34. Section 65(11), PITA 2004
35. Section 68(1), PITA 2004
36. Section 68(3), PITA 2004

taxes from salaries or wages payable to their workers at the end of each month in line with the tax table provided by the tax office and shall account for the deducted amount in the manner that may be prescribed by the relevant tax authority.[37]

### 2.5.4 Personal Income Tax Allowances and Relief

Certain allowances granted to individuals in employment are tax free under Nigerian personal income tax law[38]. In addition, before the income of individuals subject to tax is arrived at, some allowances and relief are also granted. For instance, individuals with income from trade, business, profession or vocation apart from the operating expenses, [39] may claim capital allowances in respect of assets used in their trade or business and they are entitled to the following capital allowances:

(a) Initial Allowance: This allowance is granted in the first year of incurring expenditure to acquire assets for business purposes by an individual. The rate at which the allowance is granted depends on the type of the asset.

(b) Annual Allowance: This allowance is given every year on assets used by the individual in his business operation for generating income subject to tax.

(c) Other allowances granted include balancing charge and balancing allowance.[40] Table 2.6 shows the current capital allowance rates.

37. Section 81, PITA 2004
38. The following allowances of employees are tax free under Section 3(1) (b) PITA 2004:
(a) Rent subsidy or rent allowance paid to employment not exceeding ₦150,000 per annum.
(b) Meal subsidy as meal allowance maximum of ₦5,000 per annum.
(c) Utility allowance of amount not exceeding ₦10,000 per annum.
(d) Leave grant, subject to a maximum of 10 % of annual basic salary.
39. Section 20 & 21, PITA 2004
40. Fifth schedule PITA 2004

**Table 2.6**
**Capital Allowance Rates (%) from 1996 Onwards**

| Qualifying Capital Expenditure | Initial Allowance | Annual Allowance |
|---|---|---|
| Building | 15 | 10 |
| Mining | 95 | na* |
| **Plant and Machinery:** | | |
| Agricultural production | 95 | na |
| Other | 50 | 25 |
| **Motor vehicles:** | | |
| Public transportation | 95 | na |
| Other | 50 | 25 |
| Furniture and fittings | 25 | 20 |
| Plantation equipment | 95 | na |
| Housing estate | 50 | 25 |
| Ranching and plantation | 30 | 50 |
| Research and development | 95 | na |

* na = not available
*Note:* Adapted from "*Introduction to Nigerian taxation,"* by J. O. Alabede, 2001b, Kano: Debisco Press and Publishing Ltd, p. 249 & 250.

In addition to capital allowances, personal relief is given to all qualifying individuals whether under PAYE or direct assessment. Such relief includes personal allowance, children's allowance (maximum of 4 children), dependent relative allowance (maximum of two relatives) and disability allowance, (Table 2.7 shows the current personal relief and allowance).[41]

41. Section 33, PITA 2004

**Table 2.7**
**Personal Allowance for Nigerian Individual Taxpayers from 1998 Onwards**

| Relief/ Allowances | Rate |
|---|---|
| Personal relief | ₦ 5,000 plus 20% of earned income |
| Alimony allowance | ₦ 3,000 for individual taxpayer whose marriage is dissolved by court |
| Dependent allowance | ₦ 2,000 each dependent relative and for maximum of two. The dependent relative must be incapacitated by old age or infirmity and with annual income not exceeding ₦1,000. |
| Children education allowance | ₦ 2,500 per child of an individual and maximum of four children |
| Disabled person allowance | ₦ 3,000 or 20% of earned income for disabled person who uses special equipment or engages assistant in the course of his paid job. |
| Insurance allowance | Actual amount paid for insurance premium by taxpayer for his life or his spouse. |

*Note:* Adapted from "*Introduction to Nigerian taxation,"* by J. O. Alabede, 2001b, Kano: Debisco Press and Publishing Ltd, p. 249 & 250.

Personal income tax in Nigeria is operated as a progressive tax and this is reflected in the rates of the tax. The rate was as high as 55% in 1981 but decreased to 30 % in 1993 and further to 25 % in 1996.There is minimum tax of 0.5% on income of ₦ 30,000 or less.[42] Table 2.8 shows the rates of personal income tax from 1996.

42. Section 37, PITA 2004

**Table 2.8**
**Nigerian Personal Income Tax Rates (%)**

| Taxable Income | | Tax Year | Rate |
|---|---|---|---|
| First | ₦ 10,000 | | 5 |
| Second | ₦ 10,000 | | 10 |
| Next | ₦ 20,000 | 1996 -- 1997 | 15 |
| Next | ₦ 20,000 | | 20 |
| Over | ₦ 60,000 | | 25 |
| First | ₦ 20,000 | | 5 |
| Second | ₦ 20,000 | | 10 |
| Next | ₦ 40,000 | 1998 -- 2000 | 15 |
| Next | ₦ 40,000 | | 20 |
| Over | ₦ 120,000 | | 25 |
| First | ₦ 30,000 | | 5 |
| Second | ₦ 30,000 | | 10 |
| Next | ₦ 60,000 | 2001-- date | 15 |
| Next | ₦ 60,000 | | 20 |
| Above | ₦ 160,000 | | 25 |

*Note:* Adapted from "*Introduction to Nigerian taxation,"* by J. O. Alabede, 2001b, Kano: Debisco Press and Publishing Ltd, p. 249&250

## 2.6 Administration of the Personal Income Tax in Nigeria

The administration of tax in Nigeria is carried out by tax authorities[43] at all levels of government according to the tax jurisdiction of each level.

### 2.6.1 Tax administration at Federal level

At the federal level, the organisation in charge of tax administration is the FIRS.[44] The FIRS is the operative organisation of the Federal Board of Inland Revenue (FBIR). The Board was originally established under section 3 of the Income Tax Administration Ordinance No 39 of 1953 and it came into operation on 1st January 1959.

43. Section 108 of PITA defines tax authorities as the Federal Board of Inland Revenue, State Board of Internal Revenue and Local Government Revenue Committee
44. Refer to Appendix 2 for the list of FIRS offices in charge of personal income tax for the various parts of Nigeria.

The Federal Inland Revenue Service as the operating organisation of FBIR was established in 1993, following the recommendation of the study group on the Nigerian tax system and administration. The FIRS was granted administrative autonomy in 2007 with the legal backing of the Federal Inland Revenue Service (Establishment) Act No 13 of 2007 (FIRSEA). The FIRS was set up to control and administer the personal income tax of the individuals prescribed under section 2 of PITA, 2004, and, in addition, it is in charge of the administration and collection of the following taxes in Nigeria:

(a) Company income tax

(b) Petroleum profit tax

(c) Capital gains tax in respect of companies

(d) Value added tax

(e) Stamp duties, and other independent revenue of the Federal government.[45]

#### 2.6.1.1 Federal Inland Revenue Service Board

The FIRS Board is now established under section 5 of Federal Inland Revenue Service (Establishment) Act No 13 of 2007. The Board comprises the Executive Chairman of FIRS, who is appointed by the president of the Republic of Nigeria with confirmation of the senate and eight other members representing various interests in the Nigeria nation.[46]

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45. In collecting these taxes, FIRS administers the following laws provided under the First Schedule of FIRSEA 2007:
- Companies Income Tax Act Cap. 60 LFN 1990
- Petroleum Profit Tax Act Cap. 354 LFN 1990
- Capital Gains Tax Cap. 42 LFN 1990
- Value Added Tax Act 1993 No. 102, 1993
- Stamp Duty Cap. 411 LFN 1990
- Taxes and Levies (Approved List of Collection) Act No. 21, 1998

46. Section 3(2), FIRSEA 2007

The Board is basically responsible for providing the general policy guidelines relating to the functions of the FIRS, and manages and superintends the policies of FIRS on matters pertaining to the administration of revenue assessment, collection and accounting system. It also reviews and approves the strategic plans of FIRS and employs and determines the terms and conditions of service as well as takes disciplinary measures on any employees of FIRS.[47]

Technical Committee was established for FIRSB in 1993 as the outcome of the recommendation of the study group on Nigerian tax system. The Committee is made up of the Executive Chairman of FIRS who also serves as chairman of the Committee and other technocrats who have experience in taxation.[48] The main function of the Committee is to consider all tax matter that require technical expertise and make recommendation to the Board. [49]

#### 2.6.1.2 Administrative Structure of the Federal Inland Revenue Service

In the administrative structure of the FIRS, power and responsibilities are assigned to units and individuals. The powers and responsibilities of the personnel are depicted in the organogram[50] of FIRS and at the top of the chart is the office of the Executive Chairman under the authority of the Executive Chairman/ Chief Executive Officer. This office also accommodates the office of the Secretary of the Joint Tax Board (JTB) and the Secretary of the FIRS Board. Authority flows from the office of the Executive Chairman through the following major group offices: Tax Operation Group, Support Service Group, Corporate

47. Section 7(1) , FIRSEA 2007
48. Section 9, FIRSEA 2007
49. Section 10, FIRSEA 2007
50. The organizational chart of FIRS is presented in Appendix 3

Development Group, Compliance and Enforcement Group, and Chairman's office Group. Each of these groups is further divided into major units and sub-units for smooth flows of authority for efficient administration.

### 2.6.2 Tax Administration at State Level

Administration of tax at the state level is the responsibility of the State Board of Internal Revenue[51] (SBIR) supported by the JTB.

#### 2.6.2.1 State Board of Internal Revenue

The State Board of Internal Revenue (SBIR) is responsible for the administration of the tax at the state level. The operational arm is established for SBIR under section 87 (1) of the Personal Income Tax Act LFN 2004. The operational arm of the Board is the State Internal Revenue Service (SIRS). The SBIR is made up of the executive head of State Internal Revenue Service as the chairman, who is appointed by the governor and six other members representing various interest groups.[52]

The SBIR has the main responsibilities of ensuring the effectiveness and optimum collection of all taxes and penalties due to the state government and do everything necessary for the purpose of assessment and collection of the tax and account for all amounts so collected in a

51. Refer to Appendix 2 for list of SIRS in Nigeria.
52. Section 87(2), PITA 2004

manner as directed by the commissioner in charge of finance. It also makes recommendations to the Joint Tax Board in respect of tax policy, tax treaties, etc, and controls the management of the SIRS on matters of policy.[53]

In addition to the operational arm, section 89 of Personal Income Tax Act P8 LFN, 2004 established the Technical Committee for SBIR. The Committee comprises the chairman of the SBIR as the chairman of the Committee and other technocrats.[54] The Committee mainly considers all matters that require professional and technical expertise and make recommendations to the SBIR.[55]

**2.6.2.2 Joint Tax Board**

Joint Tax Board (JTB) is the board that unifies the states and Federal Government on matters relating to taxation. The JTB was first established under section 27 of ITMA but now is under section of 86 of PITA. The Board is made up of the Executive Chairman of FIRS, who serves as the chairman and a member each from the 36 states of the federation. The Secretary of the JTB is appointed by the Federal Civil Service Commission.[56]

The Board exercises the power and discharges duties conferred on it by express provisions of PITA and any other power and duties arising under PITA, which may be agreed by the government of each state to be exercised by the Board. In addition, it advises the Federal Government on the taxation arrangement with any other country as well as on the rates of

53. Section 88, PITA 2004
54. Section 89(1), PITA 2004
55. Section 89(2), PITA 2004
56. Section 86(2), PITA 2004

capital allowance and other taxation matters that are effective throughout Nigeria. It also promotes uniformity both in application of PITA and in the incidence of tax on individuals throughout Nigeria.[57]

**2.6.2.3 Joint State Revenue Committee**

This Committee unifies the state and local government on revenue matters in Nigeria. The Committee is established under section 92 of PITA and it consists of executive chairman of the State Internal Revenue Service as the chairman of the Committee and six other technocrats as members.

The functions of the Committee include to implement the decisions of the Joint Tax Board, advise the Board, and the state and local governments on matters relating to revenue and ensure harmony in the state tax administration. The Committee also enlightens members of the public on matters relating to state and local government revenue and carry out other functions that may be assigned to it from time to time by the JTB.[58]

**2.6.3 Tax Administration at Local Government Level**

Local government is the third level of government in Nigeria and tax administration at this level is the responsibility of the local government revenue committee. This Committee is set up under section 90 of PITA and it is made up of the supervisor for finance as chairman

57. Section 86(9), PITA 2004
58. Section 93, PITA 2004

of the Committee, three elected local government councillors and two other persons with experience in revenue matters to be appointed by the chairman of the local government as members.

The Committee is autonomous of the local government treasury and it is responsible for the day-to-day administration of the Treasury Department.[59] The Treasury Department serves as the operational arm of the local government revenue committee. The main responsibility of the Committee is to assess and collect all taxes, fines and rates under the jurisdiction of the local government and to account for all amounts collected as the local government may direct.[60]

### 2.6.4 Problems of Personal Income Tax Administration in Nigeria

Personal income tax administration in Nigeria is beset by a myriad of problems, which are directly or indirectly encouraging noncompliance. These problems have hindered tax revenue productivity at all levels of government. In the submissions of Adebisi (2004), Ariyo (1997), Odusola (2006), Ola (2001) and Olaofe (2008), the following were identified as some of the problems of personal income tax administration in Nigeria:

(a) The administration of tax in Nigeria has suffered from inadequate manpower, money, tools and machinery. Adebisi (2004) observed that the lack of adequate manpower in quality and quantity has been a major impediment in the effort of the tax authorities to raise revenue. Odusola (2006) provided statistical evidence to prove the problem of manpower in tax administration in Nigeria. He said that as of March 2003, FIRS had

59. Section 91(1), PITA 2004
60. Section 91(2), PITA 2004

7,643 staff members throughout Nigeria and of these only 12.6% or 964 employees were professional tax officers. Tax administration at the state and local government level are also facing the problem of manpower, for instance, Oyo State Internal Revenue Service has 370 tax officers to cover 33 local government councils and Kwara State Internal Revenue Service has 111 covering 16 local government councils in the State (Odusola, 2006).

(b) Another major problem is the increasing rate of tax evasion and avoidance. According to Olaofe (2008), the starting point of effectiveness of any tax administration is the control of the evasion. The attitude of Nigerian taxpayers towards complying with tax legislature provisions is reflected in the enormity of the size of tax evasion occurring in Nigeria. However, Kiabel and Nwokah, (2009) and Sani (2005) declared that the problem of tax noncompliance is more critical among Nigerian individual taxpayers. As proof, Asada (2005) stated that statistical evidence showed that only 9.9 % of individuals in Nigeria's informal economy paid tax on their income.

(c) The majority of Nigerian taxpayers are illiterate which coupled with the fact that the Nigerian tax laws are complex and difficult to understand, and considering the lack of information, laziness of the tax officials, and uncooperative attitude of taxpayers, hinders effective tax administration.

(d) Corruption in the tax administration, as demonstrated by the fact that tax evaders would prefer to bribe officials rather than pay taxes. The tax officers collude with taxpayers in order to have some taxes diverted to private pockets. CITN (2002) said that taxes paid in Nigeria ended up in private pockets, not in public utilities and it stated that this attitude has eroded the tax confidence of Nigerian taxpayers.

(e) The provisions of social amenities by the three level governments in Nigeria are not commensurate with the tax burden on Nigerian taxpayers and, consequently, affect the level of tax compliance in Nigeria. Adebisi (2004) pointed out that mismanagement and the misappropriation of funds is an incontrovertible fact about the Nigerian public sector. Odusola (2006) said that in addition to the problem of mismanagement of public funds, more than 70% of the revenue is spent on recurrent expenditure. The Federal Government's recurrent expenditure ranged between 36.6 % and 77 % over the period of 1995-2007 (CBN, 2007). While some state governments allocated as much as 70-90 % of their revenue to recurrent operations, for instance, in 2000, Abia state's recurrent expenditure was 83% of the total expenditure (CBN 2000). Odusola (2006) identified that the situation is even worse in the local government where substantial allocation is made for recurrent operations. In this case, Odusola (2006) said that Nigerian taxpayers consider the fundamental principle of government has been defeated and that the moral obligation to pay taxes for the salaries of public employees no longer exists.

## 2.7 Noncompliance in Personal Income Tax and Penalties in Nigeria

Tax noncompliance, most especially tax evasion, is a serious problem in Nigeria. Nzotta (2007) stated that tax evasion is a serious limitation to the revenue mobilization effort in Nigeria. Nzotta (2007) noted that the problem of not complying with the provision of tax laws has increased rapidly over the last decade. He said that although the tax revenues of the government have increased remarkably, the available evidence shows that the fiscal viability of the government would have been higher if the level of noncompliance among the Nigerian taxpayers was reduced. Kiabel & Nwokah (2009) identified the tax noncompliance problem to be more critical in personal tax administration. There are provisions in Nigerian tax laws dealing with noncompliance together with sanctions against such an act. The following are considered as noncompliance acts in part 11 of PITA, 2004:

(a) Noncompliance with any provision of Nigerian tax laws.

(b) Failure to comply with the requirements of a tax notice.

(c) Failure to answer tax audit queries.

(d) Filing of incorrect returns either by omitting or understating any income liable to tax.

(e) Providing incorrect information for tax purposes.

(f) False statement and returns for the purpose of obtaining a deduction, set-offs, relief or refund.

(g) Understating of income and over stating of claims.

(h) Any form of forgery, fraud, willful default or neglect with respect to tax.

The Personal Income Tax Act, 2004 makes provision for penalties for cases of noncompliance. The penalties for tax offences are mostly in the form of a court fine on conviction. However, Arogundade (2005) stated that the court fines are too low to serve as a deterrent. In addition, he criticized the Nigerian tax laws for treating tax noncompliance, particularly evasion, as a civil rather than criminal offence. Table 2.9 summarizes the tax offences and penalties in personal income tax administration in Nigeria.

**Table 2.9**
**Nigeria's Personal Income Tax Law Provisions on Offences and Penalties**

| Offences | Penalties |
|---|---|
| Anyone who contravenes or fails to comply with any of the provisions for which no other penalty is specifically provided. | Any person who commits the offence shall be liable to a fine of ₦ 200. |
| Failure to furnish a return, statement or information or to keep records as required. | Any person who commits this offence shall be liable to a fine of a further ₦ 40 for every day during which the failure continues and, in default of payment, to imprisonment for six months. |
| Making incorrect return by omitting or understating any income liable to tax or giving incorrect information in relation to a matter or thing affecting the liability to tax . | The penalty is a fine of 10% per annum of the correct tax and double the amount of tax, which has been undercharged in consequence of the incorrect return or information. |
| Making false statements and returns for the purpose of obtaining a deduction, set-off, relief or an overpayment in respect of tax. | Any person who commits the offence(s) shall be liable to a fine of ₦ 5,000 or imprisonment for five years or to both such fine and imprisonment. |
| Any person in the administration of personal income tax in connection with the assessment or collection of tax who commits the following offences:<br>- Demand from a person an amount in excess of the authorized assessment.<br>- Withholds for his own use or otherwise, a portion of tax collected.<br>- Renders a false return.<br>- Defrauds a person, embezzles any more etc. | Any tax officer who commits the offence(s) shall be liable to a fine of ₦ 1,000 or to imprisonment for three years or both such fine and imprisonment. |

*Note:* Adapted from *"Personal Income Tax Act, Cap P8 LFN 2004"*, by Federal Government of Nigeria, Abuja: Government Printer.

## 2.8 Summary

This chapter presented an overview of Nigeria's personal income tax system. Nigeria is a federation consisting of Federal Government, State Governments and Local Governments. Nigeria's Constitution assigns taxing powers to each of these levels of government according to their responsibilities. Personal income tax is one of the taxes imposed and collected by the government in Nigeria. Personal income tax is the oldest in the history of the Nigerian Tax System and was first imposed as a community tax in the north in 1906 but extended to the south in 1928.

Personal income tax is currently administered under the provisions of the Personal Income Tax Act, Cap P8 LFN 2004 through the Federal Inland Revenue Service at the federal level, State Internal Revenue Service at the state level and Local Government Revenue Committee at the local government level. The Joint Tax Board supports these tax authorities. Personal income taxpayers in Nigeria are assessed directly or through the PAYE method. They are entitled to deduct a number of allowances and relief, such as personal allowance, children allowance, etc., from their income before taxes are paid.

The administration of personal income tax is beset by a myriad of problems. The most obvious and critical of these problems is noncompliance with the provisions of tax law in respect of the payment of taxes, filing of returns, declaration of income for tax purposes and correct reporting of tax claims. This problem has affected the performance of personal income tax in Nigeria; hence, the contribution from the tax is, on average, about 4% of the total revenue of the Nigerian government. The next chapter reviews the relevant literature on tax compliance behaviour.

# Chapter Three
# Literature Review

## 3.1 Introduction

The chapter reviews the literature relevant to the objectives of this study. For this purpose, the chapter is organized into twelve main sections. The chapter starts by presenting theories of tax compliance. These theories are divided into economic, psychological and sociological theories. It also provides an understanding of the concept of tax compliance and noncompliance. The behaviour of taxpayers as well as the factors influencing tax compliance and noncompliance are discussed. The relationship between tax compliance and public governance quality, perceived tax service quality as well as ethnic diversity together with the moderating role of risk preference and personal financial condition are also examined. As a conclusion, the chapter also reviews the models of tax compliance in the literature.

## 3.2 Theoretical Assumptions of Tax Compliance

The study on tax compliance cuts across many disciplines. Economists, accountants, sociologists and psychologists are all interested in the study of tax compliance or noncompliance. As a multi discipline study, theories of tax compliance are from diverse sources. Scholars have concluded that many factors influence tax compliance, which make the use of one theory insufficient for explaining the phenomenon; as a result, they suggested that theories from psychology, sociology and anthropology could also be useful in explaining tax compliance behaviour[61] (Alm, 1991 & 1999; Jackson & Millron, 1986). For a better understanding, theories underpinning and supporting this study are presented under the following headings: economic theories, psychological and sociological theories.

### 3.2.1 Economic Theories

The economists approach the problem of tax compliance from the view of rationality. Accordingly, the question of the failure of the taxpayer to comply started with the construction of a theory, which is based on the assumption about human behaviour that underlies all of economics, that is, individuals generally act rationally by comparing costs and benefits of any chosen activity (Alm, 1999; Allingham & Sandmo; Becker 1968; Brooks, 1998).

Under economic theories, the theoretical assumptions of this study were drawn from the deterrence theory and prospect theory.

#### 3.2.1.1 Deterrence Theory

The initial tax compliance model was derived from the deterrence theory, which was the work of Becker (1968). This theory was built on the economics-of-crime-approach. The theory investigates the deterrent effects of sanctions or threat of punishment on illegal or

61. There are researchers who had drawn from more than one theory to support their studies. Ali's (2004) study was underpinned and supported by economic theory of firm behaviour, deterrence theory, social influence theory, cognitive theory and self-regulation theory of compliance; the study of Manafa (2004) was also supported with deterrence theory, attitude theory, equity theory and cognitive structure theory as well as the study of Sternburg (1993) by deterrence theory and influence theory. Saad's (2011) study was equally supported by equity theory, distributive justice theory, procedure justice theory, theory of reasoned action and theory of planned behaviour.

unwanted behaviour. According to the theory, the difference in crime among people is not because of a difference in motivation to committing the crime but as a result of differences in the analysed expected cost and expected benefit. This means that the theory is suggesting that a person is a rational being, who is attempting to maximize expected utility. Becker (1968) argued that the expected utility of alternative decision of an individual is determined by the identified possible outcomes, which are assigned desirability or utility and by attaching likelihoods for uncertain outcomes. Hamm (1995) said that each outcome is multiplied by the likelihood and weighted outcome, which are summed to obtain the expected utility of alternative decisions and that utility is maximized, when an individual selects the alternative decision that gives the most favourable expected utility. The theory concluded that a crime is committed where the marginal utility of the rewards due to successful crime is greater than the marginal disutility of the penalty incurred in case the crime is detected.

In the literature, deterrence is categorized as general deterrence and specific deterrence. General deterrence is the deterrent effect of potential sanctions and the specific deterrence is the deterrent effect of the actual sanction, which is imposed on the individual who exhibited criminal behaviour. Jackson and Millron (1986) submitted that most research studies on tax compliance behaviour used general deterrence.

The main assumption of this theory is that an increase in either the probability of detection of crime or punishment of crime or both will decrease the economic rewards of the criminal activity. Mustafa (2007) said that the principle of the theory is that if the probability of detection is high and/or punishment of the criminal is high then this would deter individuals from committing crimes.

The theory posits that human behaviour is influenced by the potential cost and rewards of a particular act. The study of Grasmick and Green (1980) concluded that deterrence theory has independent inhibitory variables that can act as a social control mechanism; these variables are: internalization of legal norms defined as ethical and moral commitment; peer pressure from informal sanctions and fear of legally imposed formal sanctions considered as the threat of legal punishment.

Allingham and Sandmo (1972) were the first researchers to apply deterrence theory in taxpayers' compliance behaviour analysis and developed what became known as the A- S model, which was based on Becker's economics-of-crime model. Allingham and Sandmo (1972) stated that the decision of an individual to evade payment or not to evade is viewed as a rational choice in the face of risk and uncertainty. The decision is taken by analysing the expected cost and benefit of noncompliance. Hamm (1995) declared that the decision of the taxpayer whether to comply or not is based on a simple financial self-interest analysis. Under deterrence theory, the compliance decision of taxpayers is the function of four variables, namely: income of the taxpayer, tax rate, probability of audit, and fine rate.

According to Roth, Scholz and Dryden-Witte (1989), in making a decision, the taxpayers have two strategies that are compliance strategy and noncompliance strategy.  In arriving at the best alternative, the two strategies are weighed against each other in light of the expected cost and benefit.

Therefore, within the framework of the A- S model, the taxpayer finds an optimal level of evasion given the taxpayers preference towards risk, his income level, tax rate, the penalty rate and the probability of being audited (Vela, 2007). The implication of deterrence theory is that noncompliance can be reduced by either increasing the penalties prescribed for it or by increasing the probability that the tax evader will be caught (Embaye, 2007; Tanzi & Shome, 1993; Vela, 2007).

Deterrence theory has been used in several tax compliance studies (including by Dubin, Graetz & Wilde, 1987; Manaf, 2004; Slemrod, Blumenthal & Christian, 2001; Sternburg, 1993, etc.) and its application in reducing tax noncompliance has produced diverse results in empirical studies. Although some studies, for example Alm, Sanchez and De Juan (1995), Dubin et al. (1987), Murphy (2007), Slemrod et al. (2001), and Wenzel (2004a), reported a significantly positive effect of auditing and fine on tax noncompliance, other studies like Frey and Feld (2002) and Martinez-Vazquez and Rider (2005) indicated a negative impact of deterrence factors on tax noncompliance.

#### 3.2.1.2 Prospect Theory

Kahneman and Tversky developed the prospect theory in 1979. Mustafa (2007) reported that since the theory was developed, it has gained prominence and has been adopted by many researchers (Alm, 1999; Alm, McClelland & Schulze, 1992; Yaniv, 1999). Prospect theory indicates the influence of framing on decision making. It focuses on gains and losses within reference points rather than on wealth.

Under the prospect theory, it is assumed that the decision makers are concerned about the gains and losses not the ultimate level of their wealth. The theory also assumes that the decision makers will be risk- averse in gain situations and risk seeking in loss situations and that if there is a shift in reference point (situation), decision-making will become inconsistent. An important application of prospect theory is in the tax compliance.

Kornhauser (2007) said that the prospect theory is the framing effect most relevant to tax compliance as it describes how individuals evaluate risk and states that people are risk averse when it comes to gains but risk seeking when it comes to loss. As a result, the willingness of individuals to take risk is influenced by the manner in which decisions are framed (Kornhauser, 2007). In income tax, for instance, a tax issue may be framed as a bonus for individual taxpayers with children in the form of child allowance or a penalty for individuals without children. Such framing will influence the attitude of the taxpayer towards the provision of tax laws, which suggests that the taxpayers whose issues were framed as a loss (penalty) will be more willing to take the risk of not complying than those framed as a gain, that is, a bonus. Therefore, according to the theory, tax compliance is increased when the payment of taxes is seen as a gain rather than a loss. Alm (1999) said that some taxpayers may frame the payment of tax as a loss; such individual may be involved in risk seeking behaviour.

There is available evidence concerning the application of the prospect theory to the tax noncompliance problems. The study of Alm et al. (1992) suggested that one possible explanation for why people pay taxes might potentially be based on the prospect theory. They argued that individual taxpayers might be using a non-linear transformation of probabilities to overweight the probability of a tax audit, which provides for an obvious deterrent to tax evasion activity. Other studies that applied the prospect theory in tax compliance problem are in the area of the advance payment of tax.

The studies of Elffers and Hessing (1997) and Yaniv (1999) are examples of studies that applied the prospect theory in the advance payment of tax. Elffers and Hessing (1997) submitted that when prepaid taxes are greater than the true tax liability, the taxpayer expects a gain from filing a return, whereas if the prepaid taxes are less than the true tax liability, they expect a loss. They argued that it is in the spirit of the prospect theory that the taxpayer is risk averse with respect to the former case and risk seeking in the latter case. This means that the taxpayers will opt to avoid risk in the case where they expect a gain and take risk where they expect a loss.

### 3.2 .2 Social Psychological and Sociological Theories

In line with the submissions of Alm (1999), and Jackson and Millron (1986) that tax compliance behaviour is beyond the explanation of economic theories, psychologists and sociologists have put forward a number of relevant theories to explain noneconomic factors influencing compliance behaviour. Psychologists and sociologists are interested in factors like moral, social influence, fiscal exchange, attitude, demographical characteristic, etc.

The cognitive theory, social influence theory and social exchange theory are the psychological and sociological theories supporting this study.

#### 3.2.2.1 Cognitive Theory

Cognitive theory indicates the effect of socialization on compliance and is useful for tax compliance research (Jackson & Millron, 1986; Sutinen & Kuperan, 1999). The theory attempts to explain human behaviour in terms of the way people actually interpret and represent their experiences and then plan their actions (Hogg & Vaughan, 2005).

According to the theory, the key determinants of compliance are the individual's personal morality and level of moral development (Sutinen & Kuperan, 1999). Personal morality is the internal obligation in which an individual follows his sense of what is right or wrong. Cognitive theory emphasizes the importance of personal characteristics as the determinant of compliance. In addition, the moral development of an individual is hypothesized to be directly linked to his/her propensity to comply with the rules and regulations of the society (Sutinen & Kuperan, 1999).

The development of morality in an individual follows certain levels and stages. Kohlberg (1969) proposed six stages of moral development at three levels. Sutinen and Kuperan (1999) submitted that each level of Kohlberg's moral development is characterized with the relationship between the individual and his social environment based on the attitude of the individual towards the convention of the society. The first level of the moral development is the pre conventional morality, which is concerned with the fear of punishment rather than whether an individual action is harmful or meets the need for social order. Conventional morality is the second level and relates to social conformity and order. The third is post conventional morality, which is concerned with moral principles that are independent of social order. From Kohlberg's level of moral development, Rest (1979) developed the stages of moral reasoning (Table 3.1 summarizes the levels and stages of moral reasoning).

**Table 3.1**
**Six Stages of Moral Reasoning**

| Level | Stage | Moral Reasoning |
|---|---|---|
| **Level One** | | **Pre-conventional Thinking (Individual Perspective)** |
| | Stage1: | Obedience. You do what you are told because of fear of punishment |
| | Stage2 : | Instrumental Egoism and Simple Exchange. Only consideration of the cost and/or benefit to oneself. |
| **Level Two** | | **Conventional Thinking (Member of Society Perspective)** |
| | Stage3: | Interpersonal Concordance. To be considerate, nice and kind and get along with other people. The concern is on cooperation with other people in the environment |
| | Stage4: | Law and Duty to the Social Order: People are obligated to obey and be protected by the Law in the society. The focus here is cooperation with society as a whole. |
| **Level Three** | | **Post-conventional Thinking (Personally Held Principles)** |
| | Stage 5: | Societal Consensus. Obligations to agree to due process and procedure. The focus is on fairness of law or rule as determined by equity and equality in the society. |
| | Stage 6: | Non-arbitrary Social Cooperation. The manner which rational and impartial people organize cooperation is moral. This is concerned with fairness of the law or rules obtained from general principles of just and right. |

*Note:* Adapted from "*Developing in judging moral issues"* by J.R. Rest, 1979, Minneapolis: University of Minnesota Press.

Kohlberg (1969) stated that rule violation tends to decrease at higher levels of moral reasoning. The implication of attaining a higher level of moral reasoning and development in connection with taxation is that it will enhance tax compliance behaviour. The argument that there is a connection between the moral reasoning and tax compliance behaviour agrees with the submission of Idris (2002)[62] that an individual's high moral obligation makes the individual willing to sacrifice even against his interest for the benefit of others including his family, religion and nation and of course complying with tax obligations is among the sacrifices for the benefit of others. However, McGee (1996) argued that there is nothing immoral about not discharging tax obligation, if the tax revenue collected is to be used for a purpose that is against the belief of an individual. The cognitive theory has been applied in some compliance studies, for instance, the studies of Ali (2004), Idris (2002), Kuperan and Sutinen (1989), and Manaf (2004).

#### 3.2.2.2 Social Influence Theory

Social influence theory has a link with social learning theory, which is credited to Albert Bandura, the focus of which is on the influence of the environment. Theory posits that behaviour is intentionally or unintentionally influenced by others in the environment. It considers that people learn from one another as well as through such means as observation, imitation and modeling, and explains human behaviour in relationship to the continuous reciprocal interaction between cognitive and behavioural environmental influences. Bandura (1977) said that people not only learn the behaviour of others through observation of their attitude but are influenced by the outcomes of those behaviours.

In connection with tax compliance, social influence theory identified peers' opinions and the extent of social influence an individual encounters in socialization as the key variables

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62. Idris (2002) was reported in Manaf (2004)

determining compliance (Sutinen & Kuperan, 1999). Equally, Jackson and Millron (1986) included social influence in the fourteen key variables of tax compliance. According to Crisp and Turner (2007), social influence is concerned with "how our thoughts, feelings and behaviour change when in the presence of others" (p.132).

Social influence is linked to conformity, compliance and obedience. According to Hogg and Vaughan (2005), compliance is influenced not only by the persuasive strategies that individuals make use of in seeking consent but also by the power that individuals are perceived to have at their disposal. Power in this case is regarded as the capacity or ability of an individual or institution to exert influence and influence is power in action (Hogg & Vaughan, 2005). French and Raven (1959)[63] identified five bases of social power, which later extended to six by Raven (1965 & 1993). The six bases of social power include reward power, coercive power, informative power, expert power, legitimate power and referent power. The reward power is the provision of the incentive for compliance. For instance, the study of Manaf (2004) reported that positive incentive has significant impact on compliance attitude of land taxpayers in Malaysia.

The second base is the coercive power, which involves the use of the threat of punishment to motivate compliance, in taxation, tax audit and fines serve as coercive power. Information power is the third base; it influences people to compliance through the availability of information. In respect of taxation, the tax knowledge available to the taxpayers may

63. French & Raven (1959) and Raven (1965 & 1993), as cited in Hogg and Vaughan (2005).

encourage them to comply with the tax obligation. The fourth is expert power, which is the capacity of experts with their knowledge to motivate compliance. The tax authority may provide services that will help to address an individual tax problem, which may motivate the individual to comply with the law. Legitimate power is based on authority and the recognition accorded to the body to which the compliance is to be made, for instance, the legitimacy of the tax authority may exert influence for compliance. Referent power is the sixth base and the power is from the reference group, that is, the groups that are significant for an individual's behaviour and attitude. This power may operate through a number of processes including consensual validation, social approval (norms), and group identification (ethnic group, religion).

The attitude of an individual also falls within the framework of learning theories. Myers (2005) perceived attitude as a "favourable or unfavourable evaluative reaction towards something or someone exhibited in one's belief, feeling or intended behaviour" (p.134). Most learning theories are, however, concerned with the ways attitude are acquired rather than the relationship with behaviour. In relating attitude to behaviour, Oskamp (1991) said that attitude is the cause of an individual's behaviour towards another person, event or object. Also, on attitude-behaviour relationship, Fishbein's (1963) theory stated that a person's attitude towards any object is the function of their belief about the object and the implicit evaluative response associated with those beliefs.

Other theories that emphasize attitude-behaviour are the Theory of Reasoned Action (TRA), credited to Fishbein and Ajzen (1975), and the Theory of Planned Behaviour (TPB) of Ajzen

Icek (1991), which was derived from the Theory of Reasoned Action. Under TPB, actual behaviour is the function of behavioural intention and perceived behaviour control. Behavioural intention is determined by three factors. The first factor is attitude towards behaviour and attitudes are determined by an individual's beliefs about the consequences of performing the behaviour. To show the relationship between attitude and behaviour, Ajzen and Fishbein (1977) declared that "A person's attitude has a constituently strong relation with his or her behaviour when it is directed at the same target and when it involves the same action" (p. 912).

In connection with taxation, this means that the attitude of a taxpayer towards payment of tax is the function of their belief about tax. If he has a positive belief about tax, he may in turn have positive attitude towards tax payment and will have favourable tax compliance behaviour. The theories of attitude have been applied in a number of studies of tax compliance, including the studies of Bidin, Idris and Faridahwati (2009), Bobek (1997), Bobek and Hatified (2003), Manaf (2004) and Song and Yarbrough (1987) .

**3.2.2.3 Social Exchange Theory**

The social exchange theory states that social change and stability involves a process of exchange negotiation between parties. The theory posits that all human relationships in a social set up are formed by the use of a subjective cost-benefits analysis and the comparison of the reward and cost alternatives associated with the relationship. Social exchange theory is associated with George Casper Homan (1974) but further developed by Peter Blau (1964), and others.

Some propositions of the theory as provided in Homan (1974) include:

The success proposition: For all actions taken by individuals, the more often a particular action of an individual is rewarded by some benefits, the more likely the individual is to undertake that action. In application to taxation, as taxpayers get more benefits from the payment of taxes in the form of the quality of governance, such as the provision of public goods, the more they will be willing to comply with their tax obligations.

The stimuli proposition: If in the past, the occurrence of a particular stimuli or set of stimuli, has been the occasion on which an individual's action has been rewarded by some benefits, then the more similar the present stimuli are to the past ones, the more likely the individual is to undertake the action, or some similar action now. This in connection to taxation suggests that if in the past the benefits that taxpayers have been receiving from tax payment have been rewarding then the more that is added to the past benefits will likely make them to be more willing to comply with tax obligations. In other words, consistent improvement in the quality of governance in the areas of the provision of public goods, accountability, rule of law, control of corruption, etc., will enhance the compliance behaviour of taxpayers.

The value proposition: The more valuable to an individual the result of taking an action; the more likely they are to undertake the action. For taxation, if the benefit taxpayers received from the government is valuable in quality for compliance then they are more likely willing to comply.

Wallace and Wolf (1999) stated that the theory indicates that people will consistently repeat action that is rewarding, respond to stimuli that has linkage with such rewards and act on the basis of the values given to the action. Extending the work of Homan, Blau (1964) stated that social exchange could lead to extrinsic or intrinsic rewards and argued that social exchange is different from economic exchange. Because social exchange brought about social integration by creating trust between people, encouraging differentiation, and enforcing conformity with group norms. Blau (1964) submitted that the underlying process of social exchange is the fundamental social norm of reciprocity, that is, the "need to reciprocate for benefit received in order to continue receiving them …." (p92).

In application to tax compliance, the theory indicates that the relationship between the government and taxpayers and all reasonable relationship is formed on the basis of the exchange of value, that is, individuals pay tax expecting that the government will reciprocate by providing some form of benefits in the forms of public service, accountability, rule of law, participatory democracy, control of corruption, in sum "quality governance". According to Torgler (2007), the positive behaviour of the government towards the taxpayers will increase the likelihood of compliance and that taxpayers are more desirable to comply with the provision of tax laws if the exchange between the amounts paid as tax and the political goods provided by government are equitable.

There is some empirical evidence concerning the application of social exchange theory in tax compliance. Alm, Jackson and Mckee (1992), and Alm et al. (1992) provide empirical evidence that governments that adhere to the concept of fiscal exchange achieve better compliance from taxpayers. A summary of some of the theories relating to this study is presented in Table 3.2.

**Table 3.2**
**Summary of Underpinning and Supporting Theories of this Study**

| Theory | Proposal/Description | Applications | Empirical Evidence |
|---|---|---|---|
| Deterrence Theory | It investigates the deterrent effects of sanctions or punishment threat on illegal or unwanted behaviour. It assumes human behaviour is influenced by the potential economic cost and reward of an act. | Tax system structure (tax rate, penalty detection probability) | Dubin et al. 1978, Manaf, 2004, Murphy, 2007 Slemrod et al. 2001 |
| Prospect Theory | It focuses on the gain and loss within a reference point. It assumes that the decision maker will be risk averse in a gain situation and risk-seeking in a loss situation. It posits that the decision becomes inconsistent if the situation change (i.e. shift in reference point). | Risk preference, Personal financial condition | Alm et al. 1992, Elffer & Hessing, 1997, Yaniv, 1999 |
| Cognitive Theory . | It posits that the level of moral thinking of individuals influences their behaviour | Moral reasoning | Ali, 2004, Chan et al. 2000, Idris, 2002, Manaf, 2004 |
| Social Influence Theory | It assumes that a change in behaviour may intentionally or unintentionally be caused by the relationship with others in the environment. | Perceived tax service quality, Tax knowledge Ethnicity, Attitude | Ali, 2004, Kuperan & Sutinen, 1998 |
| Social Exchange Theory | It assumes that all social relationships such as social relationships between government and citizen are formed by the use of subjective cost-benefit analysis; it is evolved on the principle of give and take. | Quality of public governance | Alm et al.,1992, Alm et al. 1992 |

## 3.3 Concept of Tax Compliance and Noncompliance

The payment of tax is the obligatory duty of every citizen whether natural or corporate. As a civic duty, it is expected that citizens will voluntarily comply with such obligation but that is not the case with some citizens. Alm et al. (2003) acknowledged that most people do not like to pay taxes; as a result, it is difficult for tax authorities to impose and collect taxes anywhere and anytime. Kirchler, Hoelz and Wahl (2008) said that the government has a primary interest and responsibility in ensuring that citizens follow this civic duty and behave in compliance with the provision of tax laws irrespective of their social status.

In order to ensure compliance with tax rules and regulations, the tax system, which is made up of tax laws, tax policies and tax administration is in place. According to Marti (2000), the existence of the tax system forces individuals and organizations to give part of their income to the government as tax payment. Silvani (1992) added that the goal of tax administration is to foster voluntary compliance.

Tax compliance can be described as the degree to which a taxpayer obliges to tax rules and regulations. James and Alley (2004) present that the meaning of the tax compliance concept can be given from different perspectives but they define tax compliance as"…the willingness of individual and other taxable entities to act in accordance within the spirit as well as the letter of tax law and administration without the application of enforcement activity" (p.7). McBarnett (2003) identified three forms of compliance, which include committed compliance, capitulative compliance and creative compliance. Committed compliance is the willingness to discharge tax obligations by the taxpayer without grumbling. While capitulative compliance is the reluctance in the discharging of tax obligations by the taxpayer and creative compliance refers to any act by the taxpayer aimed at reducing taxes by redefining income and deductible expenditure within the confines of the law.

In his contribution, Kirchler (2007) submitted that compliance may be voluntary or enforced compliance. Voluntary compliance is made possible by the trust and cooperation ensuing between the tax authority and taxpayer and it is the willingness of the taxpayer on his own to comply with the tax authority's directives and regulations. However, in the presence of distrust and a lack of cooperation between the authority and the taxpayer, which creates a tax hostile climate, authorities can enforce compliance. Compliance is enforced on taxpayers who are unwilling to pay their taxes through the threat and application of audit and fine (Kirchler, 2007). In its submission, the Organization for Economic Cooperation and Development (OECD, 2001) categorized tax compliance into administrative compliance and technical compliance. Administrative compliance is made up of reporting compliance, procedural compliance and regulatory compliance and it is generally concerned with complying with the rule relating to the lodging and payment of tax while technical compliance is concerned with meeting up the technical requirements of tax laws in computation of tax liability. Franzoni (2000), and Chatopadhyay and DasGupta (2002) stated that compliance with tax laws involves true reporting of the tax base; correct computation of the tax liabilities; timely filling of tax returns and timely payment of the amount due as tax. Any behaviour by the taxpayer contrary to the above constitutes noncompliance.

Despite the arrangements put in place through the tax system to ensure compliance with tax rules and regulations, human society is still confronting numerous cases of tax noncompliance. Therefore, as Marti (2000) submitted, the tax noncompliance problem is a phenomenon inherent in the existing tax system.

Tax noncompliance is the failure of a taxpayer to meet tax obligations whether the act is done intentionally or unintentionally (James & Alley, 2004). However, Kirchler (2007) argued that since the degree of compliance varies then certain noncompliance might not violate the law. According to Roth et al. (1989), tax noncompliance occurs through the failure to file a return, misreporting income or misreporting allowable subtractions from taxable income or tax due (exemptions, deductions, adjustment, tax credit, etc.). Soos (1991) broadly classified noncompliance into four types: failing to file a tax return; underreporting of taxable income; overstating tax claims such as exemptions, expenses etc., and failing to make a timely payment of tax liability.

Noncompliance with tax laws comes in different forms. It may be intentional noncompliance in which the taxpayer deliberately undermines the tax rules and regulations for his personal gain. The second is in the form of unintentional noncompliance, which may be as result of ignorance, oversight or mistake in the applying of tax laws. Any noncompliance act committed by a taxpayer that results in non-declaration or underreporting of taxable income leading to non-payment or underpayment of tax is regarded as tax evasion.

Goradichenko, et al. (2009), Tanzi and Shome (1993), and Vela (2007) stated that tax evasion is a universal and growing phenomenon. The research evidence available shows that the problem of tax evasion cuts across the globe from developing countries to developed countries. For instance, Tyagi (1982) indicated that as early as 1920 in Britain, the Royal Commission on Income Taxes drew the attention of the British Government to the existence of tax noncompliance, especially evasion. Embaye (2007) also reported that evasion is considerable in the US with about 16% overall noncompliance for individual income tax. Anyanwu (1993) described tax evasion as the failure to meet tax liabilities through illegal means, such as not declaring income or profit. He further said that tax evasion is viewed as illegal, which suggests that a person or organization is paying less tax than specified by tax laws or not paying it at all. Figure 3. 1 below indicates the various classes of compliance and noncompliance.

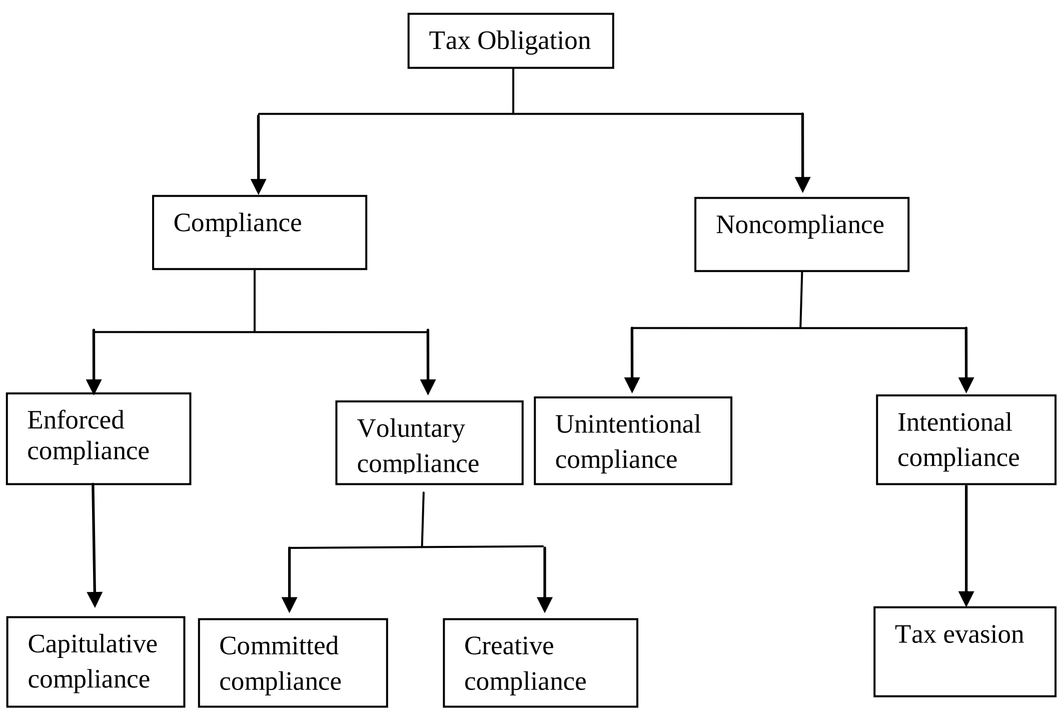


Figure 3.1
Branches of Tax Compliance. The author's design.

The concept related to tax evasion is tax avoidance, which is described as creative compliance in McBarnett (2003). However, according to Arogundade (2005) and Sandmo (2005) there is a conceptual distinction between tax evasion and tax avoidance. The distinction between these two concepts hinges on the legality of the taxpayer's actions. Arogundade (2005) said that the similarity of both concepts is that they lead to leakages in tax revenue. Sandmo (2005) distinguished the two concepts from a legal perspective. He said that tax evasion is carried out in violation of the law, therefore, it is illegal while tax avoidance is carried out within the legal framework of the tax law in order to reduce one's tax liability, therefore, tax avoidance is legal.

In this study, any breach of the provisions of tax law is considered tax noncompliance and this include tax evasion. Individual complies with tax law by reporting his/her income fully, makes correct tax claims, files tax returns at stipulated time and pays his/her tax liability within the time allow by the law.

### 3.4 Tax Compliance and Taxpayers' Behaviour

The taxpayer's behaviour is easily predictable as the behaviour is influenced by numerous factors. Generally, well-behaved taxpayers are expected to comply with the rules governing tax obligations in its entirety. However, some taxpayers are more cooperative in following specific tax rules than others. Torgler (2003) said that, "one reason might be that taxpayers have the tendency to follow specific rules rather than acting in the line of standard economic rational choice theory of cheating" (p.184).

The taxpayers' attitude towards complying with tax rules will determine the extent of tax noncompliance in a country. The behaviour of a taxpayer is, however, influenced by several factors. According to Brook (2001), these factors may be economic factors, such as income, tax rate, tax penalty; psychological factors such as norm, moral, attitude of taxpayers; and social factors such as demographic factors. Therefore, taxpayers exhibit a range of behavioural possibilities.

Torgler (2003) argued that whatever way the behaviour of taxpayers is analysed, it enables a broader understanding of rationality. Based on the classic theory of tax compliance, a rationally behaved taxpayer's goal is to maximize the expected value and at the same time to be risk neutral.

Torgler (2003) said that emotions play a vital part in the behaviour albeit the emotions may be stabilized by norms, and fairness. He further said that there exists different types of taxpayers, and that it is the rules and factors that cause taxpayers to behave differently. Torgler (2003) argued that each type of taxpayer has already made a decision before making a tax return and further said that taxpayers must have decided or internalized which behavioural rules to follow through systematically disregarding or considering specific information. This act completely contradicts the expected behaviour of a fully rational economic agent.

Taxpayers are classified according to reason for complying with tax rules. Kelman (1965)[64] classified taxpayers into three (a) the identifiers, that is, the taxpayers who are influenced by social norms and the beliefs and behaviours of related people in discharging their tax

64. Kelman (1965) as cited in Torgler (2003).

obligation (b) the compliers, that is, taxpayers who pay their taxes in complying with the provision of law because of the fear of the consequences of sanctions of failure to pay and (c) the internaliser, that is, the taxpayer who maintains his /her belief and behaviour regarding tax obligations.

Going by the work of the Vogel (1974), Torgler (2003) classified taxpayers into tax evader, honest taxpayer, intrinsic taxpayers, and social taxpayer.

**Honest Taxpayers**: These are taxpayers that comply with every aspect of tax rules. The honest taxpayer is obviously against noncompliance and does not look for a means to cheat in the payment of taxes. According to Torgler (2003), the honest taxpayer does not change his behaviour as a result of alterations in the tax policy parameters, such as tax rate, fines etc. The honest taxpayers are only affected by absolute rather than marginal evaluation of tax policy.

**Tax Evaders:** These taxpayers fail to comply with tax rules, particularly payment of tax. This type of taxpayer has low tax morale. The behaviour of tax evaders changes in response to changes in the tax policy parameters and before such taxpayers make a decision, they compare the expected cost and benefit of not paying tax.

**Social Taxpayers**: These taxpayers are influenced by the norms and beliefs of people related or close to them. The social taxpayers will feel guilt when they under-declare income even when they are not detected and feel ashamed when they are caught as a result of under declaring of income or overstating tax claims. The behaviour of social taxpayers reacts to a change in the environment, for instance, they may stop paying tax, if they perceive that others are not paying. The social taxpayers are majorly influenced by the environment. Social taxpayer behaviour may be influenced by perceived unfairness between their tax payment and that of others. According to Torgler (2003), the perceived unfairness may create a sense of distress, which may cause anger and a feeling of guilt. He suggested that taxpayers in such a situation might engage in the behaviour of evading tax, in order to restore their sense of equity.

**Intrinsic Taxpayers:** These taxpayers are motivated by intrinsic rather than extrinsic (force) factors. The intrinsic motives influencing the behaviour of intrinsic taxpayers include the feeling of moral obligation. According to Torgler (2007), there are intrinsic taxpayers that are sensitive to institutional factors, such as the behaviour of the government and tax administration towards the taxpayer. Therefore, improvement in the quality of governance may increase the intrinsic taxpayer's positive attitude and commitment to tax obligation.

Frey (1997) pointed out that under the theory of crowding intrinsic motivation, when the probability of audit and penalty increase; individuals notice that extrinsic motivation increases and this may crowd out the intrinsic motivation to comply with tax obligation. One important factor that influences the behaviour of the intrinsic taxpayer is the institutional setting. According to Torgler (2003), the behaviour of intrinsic taxpayers depends strongly on the trust they have in their government and political system and it is expected that an improvement in public governance quality will invoke positive compliance behaviour from intrinsic taxpayers.

In relation to this study, this suggests that the degree of compliance with tax rule depends on behaviour of the taxpayers. An honest taxpayer would follow the provisions of tax laws fully while an evader would find the means of circumventing the law. However, the taxpayers' behaviour is influenced by numerous factors including perceived tax service quality, public governance quality etc.

### 3.5 Factors Influencing Tax Compliance and Noncompliance

The literature has provided evidence suggesting that tax compliance is influenced by numerous factors (Alm, 1999; Brook, 2001). Scholars identified these factors as economic, social and psychological factors (Alm, 1999; Brook, 2001; Devos, 2008; Fischer et al., 1992; Jackson & Millron, 1986; Kirchler, 2007). To tackle the challenge of tax noncompliance, it is necessary to understand the factors influencing the individual's decision to comply with the provision of tax laws. The early researchers based their work on the economic perspective of tax compliance and they identified tax rate, penalty and detection probability as factors influencing taxpayers' behaviour (Allingham & Sandmo, 1972; Dubin et al., 1987).

In the course of time, researchers realized that taxpayers' compliance behaviour is equally influenced by social and psychological factors, and, as a result, extended their studies to cover these factors (Bobek, 1997; Fischer, 1993; Jabbar, 2009; Jackson & Millron, 1986; Manaf, 2004; Wenzel, 2004a)[65] In the first major comprehensive review of the literature concerning compliance tax, Jackson and Millron (1986) identified 14 key factors influencing

65. For summary of some research findings on tax compliance refer to Appendix 4.

tax compliance.[66] In addition to the work of Jackson and Millron (1986), other scholars have offered possible explanations for taxpayers' compliance behaviour.

In another extensive review of the literature, the Australian Cash Economy Task Force (1998) identified interrelated factors influencing taxpayers' decision to comply or not with tax obligations and categorized these factors into business profile, industry factors, psychological factors, sociological factors and economic factors, (Figure 3.2 shows the factors). According to the Task Force, none of the factors can stand-alone; they are interrelated in shaping the taxpayers' decisions.

66. A detail explanation on the study of Jackson and Millron (1986) and other similar studies is provided in section 3.11 of this chapter

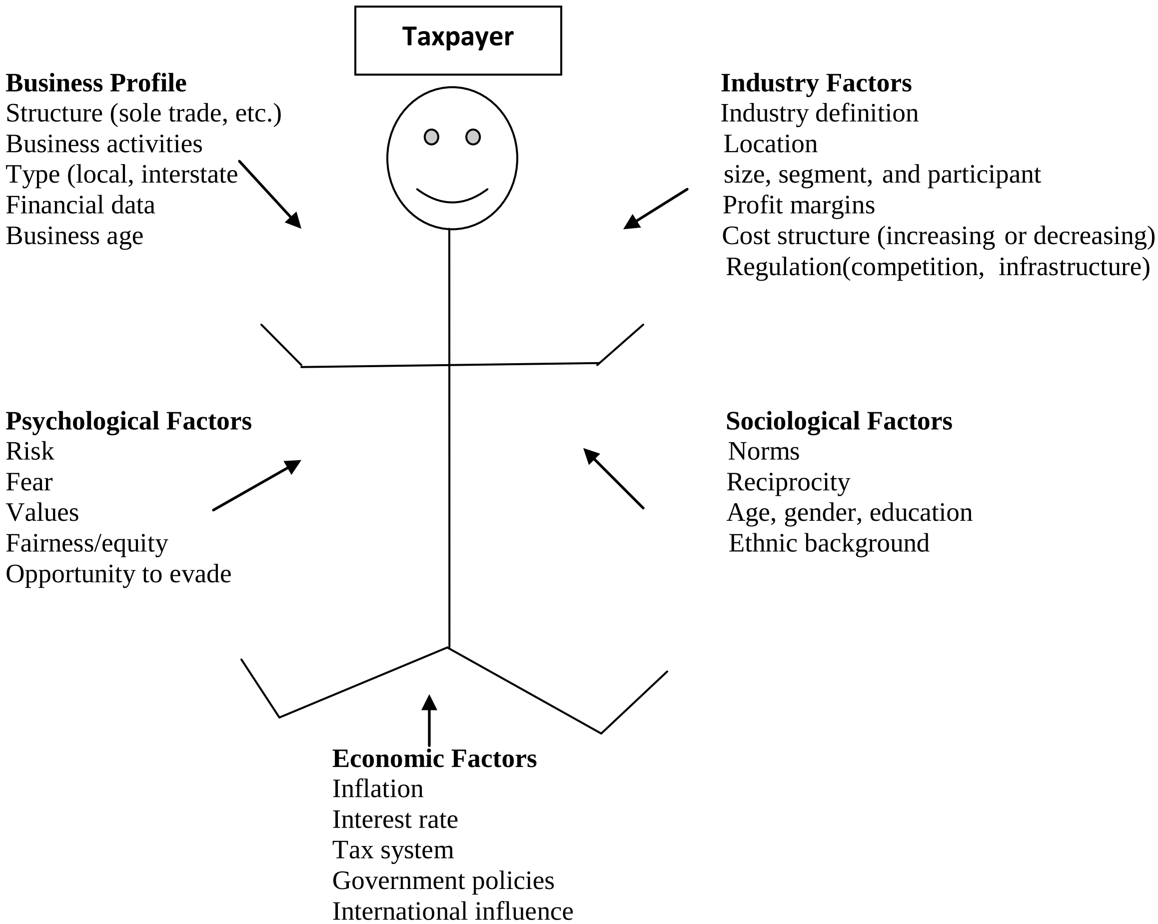


Figure 3.2
Factors Influencing Taxpayer's Compliance or Noncompliance Decision. Adapted from "Improving tax compliance in the cash economy" by Australian Cash Economy Task Force, 1998,. Canberra: Commonwealth of Australia, p.20 .

In the case of Nigeria, a number of studies have offered possible explanations on why Nigerians are not complying with tax laws as well as factors influencing their taxpaying behaviour. In the work of Anyanwu (1993), possible explanations why individuals do not comply with tax laws, particularly engaging in tax evasion, were stated as economic explanation and psychological explanation. Under economic explanation, he said that taxpayers could think of themselves as maximizing the expected income after taxes and penalties or minimizing the expected taxes and penalties since pre-tax income is given.

There are two issues in this, that is, the probability of the revenue authority identifying the individual tax evader and the severity of the penalty. The psychological explanation includes the attitude of the people liable to pay taxes with respect to compliance or noncompliance of their obligations relative to the attitude vis-à-vis the state (tax ethics) and the resistance of taxpayers to extremely high tax rates. Anyanwu (1993) further stated that tax noncompliance might occur when there is a relative degree of inefficiency in tax administration as well as corruption within government.

Nzotta (2007) also identified a number of factors responsible for high tax noncompliance in Nigeria and Africa as a whole. According to him, the basic factors responsible for noncompliance in developing countries are the high level of corruption by government officials at all levels and the lack of fiscal transparency. To Nzotta (2007), corruption in government affects the willingness to pay taxes in two ways. In the first instance, taxpayers watch how the taxes they paid go into the private pockets of public office holders with little or no sanctions. This affects the taxpayer's willingness to make further payment of tax to the government.

Second, corrupt public officers responsible for tax administration may encourage tax noncompliance by receiving a small payment from the taxpayer instead of large payments going to the government coffers. Nzotta (2007) also pointed out that the complexity of tax laws and bye-laws in developing countries creates room for noncompliance. The average taxpayer does understand the requirement of the different tax laws, the methods of tax assessments or the rights and duties of a taxpayer under the different tax laws. Therefore, taxpayers are completely ignorant of the provision of tax laws.

Third, Nzotta (2007) identified the absence of a strong deterrent punishment and the willingness to prosecute offenders. He said that governments in Nigeria at all levels do not show seriousness in prosecuting tax evaders. The legal system in most developing countries is characterized with so much corruption that it even becomes difficult to prosecute taxpayers not complying with tax laws.

In the same submission, the deteriorating standard of living in developing countries was also identified as another reason for the high level of noncompliance (Nzotta, 2007). There has been a general reduction in the real income levels of an average citizen in most developing countries, for instance, in Nigeria, a high inflationary rate has reduced purchasing power, and most taxpayers outside the PAYE system are involved in noncompliant behaviour to enhance the level of their disposable income.

To Sani (2005), the factors that stop individuals from complying with tax obligations, particularly in Nigeria, include high tax rates, which make noncompliance more attractive and economical as well as the lack of faith in the ability of the government to utilize the taxes collected for the benefit of the society. He equally identified total ignorance of the tax laws and regulations by taxpayers, absence of any visible benefit accruing to the taxpayers in return for tax payment together with inefficiency of the tax administration and the attitude of the individual to contribute towards the maintenance of the society as other factors responsible for tax noncompliance.

In investigating the causes of tax noncompliance in Nigeria, Odinkonigbo (2009) discovers that the complexities of the Nigerian tax laws and administration, the failure of the Nigerian government keep to their part of the social or psychological contract entered into with the taxpayers by providing quality public goods and services as well as the deteriorating quality of life (poverty) and extended family burden are factors contributing to tax noncompliance. Odinkonigbo (2009) identified other factors, which include corruption in tax administration and other public organizations, political turbulence and culture.

The consequences of noncompliance, especially evasion, are obvious and numerous. Franzoni (2000) pointed out that the immediate consequence of tax noncompliance is tax revenue loss and that this loss of tax revenue may cause serious damage to the proper functioning of the public sector, threatening the capacity of the government to finance its basic expenses. In the same vein, Hammar, Jagers and Nordblom (2005) argued that unless taxpayers pay the taxes they are supposed to pay, the general welfare of a state may eventually collapse and that, for the government of a nation to survive in the long run, tax compliance is of great importance.

### 3.6 Public Governance Quality and Tax Compliance

Everest-Phillip and Sandall (2009) argued that public governance quality is necessary to have a good tax system and that also, a good tax system is essential to achieve public governance quality. Social exchange theory posits that the relationship between the parties is based on reciprocity, such that, as the individuals pay taxes in fulfilling their obligations as citizens, the expectation is that the government will equally keep its part of the contract by providing quality public governance.

There is no general agreement as to what should constitute governance. However, the literature identified three types of governance: public or political governance, which is concerned with authority in the public sector as well as how the society organizes its affairs and manages its resources; the second is economic governance which, is concerned with authority in the private sector and, finally, social governance, the authority of which is within the corridor of civil society and non-profit-organizations (UN, 2007). The general attention is always on public governance.

The World Bank (2006) viewed public governance as the tradition and institutions by which authority is exercised in a country for the common good of its people. It considers quality of public governance to consist of the process in which leaders in authority are selected, monitored and replaced; the capacity of the government of a country to manage the resources of a country effectively and implement sound policies for the benefit of everyone as well as respect for the citizens and the government for the institutions that regulate economic and social interaction in the country.

The indicators of the World Bank's concept of public governance quality include participation in governance through democracy and accountability, ensuring political stability, government effectiveness, that is, the provision of the quality of public goods, regulatory quality, adherence to rule of law, and control of corruption (Kaufmann, Kraay & Mastruzzi, 2007).

In contrast with the view of the World Bank about what constitute public governance, the UN (2007) argued that public governance should represent more than the provision of common good but, in addition, should have the capacity to help individuals to attain satisfaction and material prosperity. The submission of the UN concurs with the views of Rotberg (2005), who said that public governance could be described as the management, supply and delivery of political goods to the citizens of a country. Besancon (2003) had earlier given similar views as Rotberg. Besancon (2003) said that public governance exists to deliver political goods to the citizens and further stated that quality public governance results when a country provides a high order of certain political goods.

Extending what constitutes the quality of public governance further, Rotberg (2005) said that public governance is "good" when a country allocates and manages the resources available to it to respond to collective problems of the people, that is, when the government provides political goods of the necessary quality to its citizens efficiently, and he concluded that good governance will be assessed on the basis of quality as well as the quantity of political goods provided to the citizens.

Besancon (2003) and Rotberg (2005) gave account of what constitutes and the hierarchy of political goods. They said that political goods begins with the supply of human and general security and others include the rule of law; political and civil freedom; medical and health care; schools and educational instruction; roads, railways, accountability, and participation in governance.

However, what is the connection between public governance quality and tax compliance behaviour. Citizens support the government in its responsibilities through the provision of finance in the form of tax payment. What is happening in government therefore, should matter to the taxpayers because they provide the finance for its sustenance. As a result, governance affairs may have either a positive or a negative influence on the compliance behaviour of the taxpayers.

In analysing the relationship between taxpayers and government, Levi (1988)[67] stated that the tax compliance is influenced by a vertical contract. He said that the contract between taxpayers and the government is a vertical contract, which he refers to as the quid pro quo of taxation. The vertical contract is concerned with whether taxpayers get public goods in exchange for taxes paid. According to the argument of quid pro quo, complying with tax law provision depends in part on whether the political goods provided by the government are sufficient in return for the taxes they are paying (Lassen, 2003). Levi (1988) argued that if it is perceived by the taxpayers that the rate of transformation from tax to political goods is low then the taxpayers will feel that the government has not kept its obligation of the contract, as a result, voluntary tax compliance would deteriorate. In support of Levi (1988), Besancon (2003) also stated that there is a social contract between the government (ruler) and taxpayers (ruled), which is embodied in effective delivery of the political goods.

67. Levi (1988) as cited in Lassen (2003) and Kimeniyi (2003)

In addition, in line of Alm et al. (1992), Lassen (2003) said that the political goods mix is also important and declared that if the political goods mix supplied by the government is very different from those they prefer or the rate of transformation is low due to corruption, taxpayers may feel that attractiveness of the quid pro quo contract is diminished, which could lead to lower tax compliance. Arguing in the same vein, Torgler (2003) said that when the government's integrity is down, individuals' tax compliance might be crowded out since the government has failed to honour their honesty. He further said that positive actions by the government might cause taxpayers to develop a positive attitude and commitment to the tax system and tax payment resulting in enhanced compliance behaviour. Mann and Smith (1988) also declared that taxpayers are conscious of the exchange relationship with government when taking decisions relating to tax compliance.

Examining the relationship between public governance quality and compliance further, Everest-Philips and Sandall (2009) noted that there is a linkage between public governance quality and taxation and that quality governance delivers a good tax system and, equally, a better tax system makes it possible to have good governance. Similarly, Akpo (2009) stated that good governance entails the provision of quality public goods to the public and that where the government fails to provide public amenities and infrastructure to the citizens in exchange for tax payment, the citizens may become reluctant to pay tax.

Mackscheidt (1984)[68] declared that a much more direct incentive for ensuring tax compliance is in the political goods that the government provides to the citizens. Alm, et al. (1992) also

68. Mackscheidt (1984) as cited in Torgler (2003)

submitted that compliance occurs because people appreciate the political goods that their tax payments finance and that if there is an increase in the amount and quality of the political goods going to them from tax payment, their compliance rates may likely increase.

In drawing a conclusion concerning the relationship between taxation and good public governance, Egwaikhide (2010) contended that there is a high correlation between tax compliance and good public governance. The study of Alm and Gomez (2008) established a significant positive association between the perception of the benefits to be derived from political goods and the willingness of taxpayers to comply with tax laws.

### 3.7 Perceived Tax Service Quality and Tax Compliance

Organizations operating in the private sector have long realized that customer satisfaction and continued patronage, as well as loyalty, is secured through high quality service (Staple, Darlymple & Bryar, 2002). Asubonteng, McCleary and Swan (1996) stressed that service quality is important to service providers because the evaluation of the quality of service provided and the level of satisfaction that results from such service is thought to determine the likelihood of repurchase. Service quality in this regard is considered as the difference between what the customers are expecting from service performance before the service encounter and their perceptions of the services they received.

Oliver (1980) theorized that customers would judge the quality of service they received as low if the performance does not meet their expectation and service quality increases as performance exceeds the expectation of the customers. On the basis of the theory, Asubonteng et al. (1996) drew the conclusion that as the quality of service rendered to a customer increases, satisfaction with the service and intention to reuse the service equally increases.

In marketing, because of the great amount of attention focused on the issue of service quality many research contributions have resulted in that area and, subsequently, the development of some models for measuring service quality like Brady and Cronin Jr. (2001), Gronroos (1984), and Parasuraman, Zeithaml and Berry (1985). However, the issue of service quality was initially thought to be a concept that was only related to the private sector. Nevertheless, with the systematic extension of the principles of marketing to the public sector, it is now realized by organizations operating within the public sector that customer service and quality are critical strategic issues that require attention (Donnelly, Darlymple, Wiskniewki & Curry, 1995; Wiskniewki, 1996). With the new administrative philosophy known as the New Public Management (NPM) being evolved for the public sector, the issue of service quality is more critical (Brysland & Curry, 2001; Proctor, 2007).

Just like any other public sector organization, the issue of service quality is also critical to tax offices since they provide numerous services to taxpayers.[69] OECD (2005 & 2007) identified services commonly provided by revenue offices according to three categories of information, interaction and transaction and described transaction as the core service while information and interaction service provide support to transaction (see Table 3.3, for a

69. Tax service is defined as "a set of measures undertaken by the tax administration that are designed to assist the taxpayers in complying with tax laws" (Jenkin & Forlemu, 1993).

detailed description of the services). However, Ott (1998) argued that tax administration in the modern societies should offer services to citizens and in the process become more and more specialized and he concluded; that the goal of any tax administration is to offer a better service to taxpayers.

**Table 3.3**
**Categories of Tax Services Provided By Revenue Authority**

| Service | Description | Example |
|---|---|---|
| Information | Information service and products, which are one way communication and do not result in a change status of the account of the taxpayer. | - Tax education<br>- Tax publications to (paper, web, etc.)<br>- Tax campaign<br>- Mass distribution of different types of tax information (television, radio etc). |
| Interaction | Two way communication, which in itself results in a change of status of the account of the taxpayer. | - Enquiry in tax office<br>- Tax audit<br>- Tax investigation<br>- Guidance<br>- Tax debt collection |
| Transaction | Activities or services that result in a change in the status of the account or information account of the taxpayer. | - Filing of tax returns<br>- Tax payment<br>- Tax refund |

*Note*: Adapted from " *Improving taxpayers' service delivery: Channel strategy development,"* by OECD, 007, Committee on Fiscal Affair, OECD, p.53.

However, there is a widespread opinion among the public that tax offices are inefficient, incapable, rude, abusive and unhelpful, which directly influences their willingness to pay taxes (Job & Honaker, 2003; Job, Stout & Smith, 2007). The US taxpayers indicated that their satisfaction with the IRS service was low and that the quality of the service was deteriorating (Job & Honaker, 2003). This assertion was supported by Jackson and Millron (1986), and Feld and Frey (2006) who stated separately that the manner in which taxpayers are treated in the course of the provision of tax service has an impact on their compliance behaviour. Torgler (2007) argued that taxpayers' willingness to cooperate with the tax authority will increase, if the authority sees itself as a service institution and provides a quality service and treats the taxpayers as partners. OECD (2007) equally submitted that the delivery of quality of service to taxpayers will strengthen their willingness to comply with tax rules and regulations voluntarily, and, as a result will contribute to the overall level of tax compliance. However, Jenkin and Forlemu (1993) opined that for an improvement in the quality of tax service delivery, there must be a simplification of the tax system, taxpayers' assistance centre[70] must be placed in revenue offices and the logistics to facilitate tax collection and enforcement must be provided.

With the evolving New Public Management concept, tax offices are increasingly becoming aware of the necessity to accord the taxpayers the status of customers as many tax authorities, such as those of Australia, France, Sweden, the UK and the US, have reconstructed their approaches towards taxpayers by giving more consideration to their tax service needs and treating them as clients (Kirchler, 2007). However, Stuart and Tax (1996) stated that quality in service environments like the tax office should incorporate elements such as:

(a) The physical evidence of the service environment, which includes the impact of the client presence and use of the physical environment like buildings.

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70. Internal Revenue Service (IRS) operates 400 taxpayers' assistance centers in the USA at 2005 to ensure the delivery of a quality tax service and efficient tax administration. The number of taxpayers that contacted the centers for tax services was between 8 to 10 million in 2002 to 2004 (IRS, 2005).

(b) The action of the participants, such as the client and employees in the exchange; this includes the feeling and emotion of all involved in the exchange.

(c) The processes required to facilitate service delivery.

In accordance with the submission of Stuart and Tax (1996), Brady and Cronin Jr. (2001) proposed a model for service quality with interaction quality, physical environment quality and outcome quality as dimensions. Interaction quality concerns the evaluation of the customer about the quality of the interactive relationship between him and the service providers. This factor is regarded having a significant influence on the customer's perception concerning the quality of service delivered to him, (Chen & Kao, 2009). In the provision of the tax service, there is interaction between the tax office's employees and the taxpayers and the manner in which the taxpayer is treated in the course of the interaction will greatly influence his perception about the quality of the tax service he has received from the tax office.

The physical environment quality is also another factor that influences the perception of the customer about the quality of service. The physical environment quality includes the surrounding environment and equipment available to the service provider. According to Parasuraman et al. (1985), the physical environment where service is provided is a factor taken into consideration by the customer in forming a perception about the overall service quality. The physical environment and equipment for providing tax services to the taxpayers is important in the evaluation of the quality of services provided by the tax office. The third factor is the outcome quality, which represents the service actually delivered to the customer.

The study of Chen and Kao (2009) indicated that both interaction and outcome quality have a significant positive relationship with customer satisfaction.

## 3.8 Ethnic Diversity and Tax Compliance

There is an increasing number of studies suggesting the importance of understanding the degree of ethnic fractionalization, as it influences taxpaying compliance in a society, (Kimenyi, 2003; Lassen, 2003). Ethnicity is a concept used to indicate the relationship existing between groups who consider themselves different from others and who are also seen by others as culturally different (Ackren, 2009). A society may be ethnically homogeneous or heterogeneous. A society whose citizens are members of the same ethnic group is an ethnically homogeneous society while a society having more than one ethnic group is referred to as an ethnically heterogeneous society. Kimenyi (2003) stated that a society that is a highly heterogeneous ethnically is prone to high degree of mistrust, which has a tendency to retard economic progress.

Two perspectives of ethnicity are provided in Mbatia, Bikuru and Ndertu (2009). The first is a passive form of ethnicity, which provides ethnic members with identity, language and other cultural resources such as value, beliefs, religion, heritage, etc. The second is the active perspective, in which ethnicity provides a forum for the promotion of the interest of members socially, economically and politically in competition with outsiders. Some scholars who adopted the primordial approach in viewing ethnicity, perceived ethnicity as only passive cultural consciousness while those scholars who adopted the instrumental approach saw ethnicity as an active social, economic and political instrument for furthering the interests of members (Mbatia et al., 2009). In anthropology literature, four levels of ethnicity are conceptualized. The lowest level is the ethnic category, which captures a positive perspective of ethnicity. It provides a distinct boundary for an ethnic group, differentiating the group from outsiders. Other levels include ethnic network level, in which interaction between the members is possible while the ethnic association level develops and promotes the common interests of members. The highest level is the ethnic community, which provides a permanent and physically bounded geographical territory for the ethnic group (Handelman, 1977). Ethnicity exhibits the cultural heritage of people and it is commonly believed to express cultural differences (Eriksen, 2002).

Hofstede (1980) developed four dimensions of describing cultural differences among people: power distance, individualism, uncertainty avoidance and masculinity. The power distance dimension concerns the degree of equality or inequality among the individuals of a country. A country with inequality in power and wealth distribution is considered to be a high power distance country while a country that creates opportunities that narrow differences among its people in power and wealth distribution is a low ranked power distance country. The second dimension is individualism, which describes the extent to which a country supports the individual or collective achievement and interpersonal relationships among its citizens. A country where individualistic and individual rights are dominant is referred to as a high individualism country. However, a country that is more collective in nature, with closes ties between individuals and reinforces extended families and collection, making everyone take responsibility for the other members of their group is called a low individualism ranked country.

Uncertainty avoidance is the cultural dimension concerning the degree to which a country is tolerant of uncertainty and ambiguity. A country ranked as high uncertainty avoidance is a country that has a low tolerance for uncertainty and ambiguity, which will create a rule oriented country in which laws, rules and regulations are needed to reduce uncertainty. However, a country with a high tolerance for uncertainty and ambiguity is regarded as a low uncertainty avoidance country and such country is less rule oriented, more ready to accept changes and takes greater risk. The last dimension is masculinity. This is concerned with how social roles are allocated within a country. A country with high masculinity ranking is a country that places more emphasis on achieving heroism, assertiveness, and material success while a country with low ranking is a country that places more importance on relationships, modesty, quality of life and caring for the poor (Hofstede,1980).

However, Chan et al. (2000) and Chau and Leung (2009) stated that of the four dimensions, individualism is more relevant in understanding the differences in taxpayers' compliance behaviour. On this account, Chan et al. (2000) argued that the obligation to pay tax is seen as an individualistic interest in the legal sense.

But is there a link between ethnicity and culture and tax compliance behaviour? According to Chan et al. (2000), cultural differences have a direct effect on individual taxpayer's compliance behaviour. Chau and Leung (2009) considered culture as a powerful environmental factor that influences taxpayer's compliance behaviour. Lewis, Carrera, Cullis and Jones (2009) also said that the taxpayer's compliance behaviour is different as a result of a variation in ethnicity. Tsakumis, Curatola and Porcano (2007) also pointed out that the study of ethnic culture might contribute to furthering the understanding of taxpayer compliance behaviour.

Furthermore, some scholars have suggested that there is a link between ethnic fragmentation and noncompliance behaviour. Studies have shown that the level of tax compliance may be affected by the degree of trust existing in a society (Kimenyi, 2003; Lassen, 2003; Scholz & Lubell, 1998; Torgler, 2003). It is also stated that the degree of the level of trust in a society depends on the degree of ethnic polarization and diversity of the society (Kimenyi, 2003; Lassen, 2003; Mbatia, et al., 2009; Zerfu, Zikhali & Kabenga, 2009). This suggests that ethnic diversity may explain the variation in the level of compliance behaviour of taxpayers in a multi-ethnic society and, therefore, a society with ethnic fragmentation is likely to experience a low degree of trust among its people and, similarly, a lower level of taxpayers' compliance (Kimenyi, 2003).

Lassen (2003) also pointed out that apart from trust, ethnic diversity could also affect tax compliance through social sanction or norms since ethnic group may be a source of social sanction. Roth et al. (1989) concurred with the argument of Lassen (2003) and said that social sanction or norms from an ethnic group, which is against noncompliance, may help improve compliance. Empirical studies have supported the arguments of Kimenyi (2003) and Lassen (2003) concerning the relationship of ethnicity and tax compliance. The study of Coleman and Freeman (2002) has indicated that differences in ethnicity have considerable influence on tax compliance behaviour in Australia. Similarly, Rothengatter's (2005) study showed that tax regulators encounter certain kinds of difficulty in the administration of tax in ethnically diverse countries.

### 3.9 Risk Preference as a Moderator of Determinants of Tax Compliance

Following the inconsistency in the research findings concerning the relationship between tax compliance and some of its determinants, most especially the deterrent factors (Dubin et al.,1987; Dubin & Wilde, 1988), and coupled with the empirical evidence indicating that the actual compliance level in most countries cannot be explained by the basic theory of tax compliance (Feld & Frey 2003; Slemrod 2009; Torgler 2003 ; Torgler & Schaffner, 2007), the literature has suggested that the relationship may be moderated by certain variables (Kirchler, et al., 2007). This argument is supported by the submission of Baron and Kenny (1986) who stated that moderators are introduced when the relationship between the dependent variable and independent variables is inconsistent or unexpectedly weak. In addition, Edward and Lambert (2007) also suggested that a moderator (s) might be introduced in research involving individual differences or social situations that influence the strength of the relationship between the predictor and outcome with an effect on behaviour.

Earlier before this suggestion, some researchers (McGill, 1988; Murphy, 2007; Wenzel, 2004a & 2004b) had tested the moderating effects of certain variables on the relationship between tax compliance and its determinants. Although some studies have tested different variables as a moderator between tax compliance and its determinants, consideration has not yet been given to taxpayer's risk preference and financial condition as moderators. However, evidence from other behavioural studies has suggested that risk preference as well as financial condition interfere with an individual's behaviour and commitment (Brett, Cron & Slocum, 1995; Campell & Goodstein, 2001; Mathieu & Zajac, 1990).

In this respect, the moderating role of individual risk preference in determining the relationship between tax compliance and its determinants cannot be underscored. Risk preference is one characteristic of an individual that influences their behaviour (Sitkin & Pablo, 1992). In a complete conceptualization of risk preference, three ranges are possible. These include risk aversion, risk neutrality and risk seeking. A number of researchers and scholars have suggested that the attitude of taxpayers to risk cannot be underestimated in their compliance behaviour (Alm & Torgler, 2006; Hite & McGill, 1992; Torgler, 2003). Torgler (2007) submitted that individual taxpayers' decision could be affected by their attitude towards risk. An individual's risk preference is one of the components of several theories relating to decision making including tax compliance theories, such as expected utility theory, prospect theory etc. The theoretical basis for the moderating role of risk preference in the relationship between tax compliance and its determinants is found in the prospect theory. The theory indicates that how a situation is framed would determine the outcome of an individual's risk choice. According to Kahneman and Tversky (1979), individuals tend to be inconsistent in their decision making as a result of changing situation. Therefore, when tax compliance and its determinants are predicted to have a strong positive relationship it may not be so because of the effect of an individual taxpayers' risk preference, which varies according to the situation and from individual to individual.

However, in the arena of taxation, taxpayers may seek risk in perceived loss situations and avoid risk in gain situations. According to Kirchler (2007), when tax payment is perceived as a loss, there will be a willingness to take higher risks leading to noncompliance compared to tax payments seen as a gain.

### 3.10 Financial Condition as a Moderator for Determinants of Tax Compliance

There are indications in other behavioural literature that an individual's financial condition (requirement) and family obligations moderate the relationship between their commitment and performance (Brett et al., 1995; Mathieu & Zajac, 1990). Empirically, some behavioural studies have shown support for the moderating effects of financial requirements on an individual's behaviour. The study of Doran, Stone, Brief and George (1991) supported the proposition that an individual's financial condition moderates the consistency of their attitude and behaviour. The study of Brett and his colleagues (1995) also revealed that when financial condition moderates individual commitment and performance, that is, the individual is in good financial condition or has low financial requirements, the relationship between commitment and performance is high. This implies that the financial burden might moderate an individual's commitment to discharge obligations, including tax payment. The implication of the moderating effect of individual financial conditions on tax compliance and its determinants may be more obvious in societies where there is a high family responsibility and poverty rate as is the case in some developing countries including Nigeria (Brett et al., 1995).

However, the financial condition of an individual might positively or negatively affect their willingness to comply with the provisions of the tax laws irrespective of the relationship between tax compliance and its determinants. Torgler (2003) argued that the financial situation of the individual may create a sense of distress, particularly when payment is to be made including taxes and that the individual may perceive the payment of tax as a strong restriction, and, as a result, may increase the incentive for tax dishonesty. Bloomquist (2003) identified financial strain as one of the sources of taxpayer's stress and said that individual taxpayers with meagre financial resources may be tempted by their bad financial condition to be noncompliant when the expenses of their household are more than their income. Bloomquist supported his assertion by arguing that, in order to meet daily household expenses, such as medical expenses, taxpayers with little or no available financial resources in savings  might be tempted to "rob Peter" ( tax authority) to " pay Paul" (household) when facing such a situation.

This kind of situation, which is not unusual, is what many taxpayers face from time to time. Therefore, this suggests that irrespective of the relationship between tax compliance and its determinants, complying with tax obligations depends on among others the financial condition of an individual. There is high tendency that individuals in sound financial condition will comply with the provisions of the tax laws better than individuals in bad financial condition. This analogy agrees with the assertion advanced in Bloomquist (2003), which suggested that taxpayers with limited financial resources have a higher propensity to be noncompliant because they are more vulnerable to financial strain than those taxpayers in sound financial condition. In support of the submission above, Carroll (1986) reported that the lack of money motivates individuals to search for an opportunity to engage in crime.

### 3.11 Other Researchers' Conceptual Models of Tax Compliance

Researchers have made reasonable contributions to tax compliance literature, which led to the development of different models for tax compliance. Some of these models include the A-S model by Allingham and Sandmo, Wiegel, Hessing and Elffers's social psychological model, Lewis's revised model and Fischer's model.

#### 3.11.1 Financial Self Interest Model

Allingham and Sandmo (1972) relied basically on the financial self-interest model, which was derived from Becker's (1968) economics-of-crime approach for their work. The financial self-interest model is based on deterrence theory and within the framework of the model - tax rate, audit probability and penalty structure - are the factors through monetary compliance cost influencing taxpayers' behaviour in complying with tax obligation. However, empirical studies have indicated that the factors influencing the compliance behaviour of taxpayers are far more numerous than suggested in the financial self-interest model and that the relationship among the factors are not straightforward as depicted in the model (Fischer, 1993). The graphical representation of financial self- interest is shown in figure 3. 3.

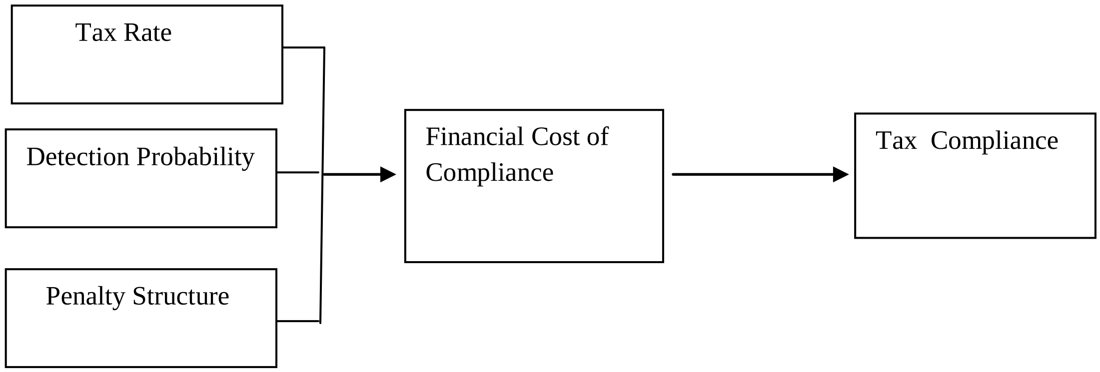


Figure 3.3
Financial Self- interest Model of Tax compliance. Adapted from "Perceived detection probability and taxpayer compliance: A conceptual and empirical examination" by C. M. Fischer, 1993,. Ann Arbor: UMI, p.23.

### 3.11.2 Social Psychological Model

In an effort to make a tax compliance model with all factors inclusive, Weigel, Hessing and Elffer developed the tax compliance model in 1978, which incorporates social and psychological factors. The model is divided into two major parts. The first part focuses on social conditions that may influence noncompliance decisions. The social conditions of the taxpayer are further divided into situational instigations and situational constraints. The situational instigation consists of the individual financial strain and social norms while the situational constraint indicates the effect of high noncompliance opportunity as well as less legal control and social control on noncompliance.

The second major part is the psychological conditions, which also consist of five subparts grouped into personal instigation and personal constraints. The personal instigation is indicated by personal strains and personal orientation while personal constraint consists of perceived opportunity to evade, perceived risk of punishment and intolerance of tax evasion. In sum, the model indicates two instigations for engaging in noncompliance and two constraints against noncompliance behaviour each under social conditions and psychological conditions, respectively (Fischer, 1993). The major limitation of the model of Weigel et al. is that it undermines the importance of economic factors. Figure 3.4 presents the model of Weigel et al.

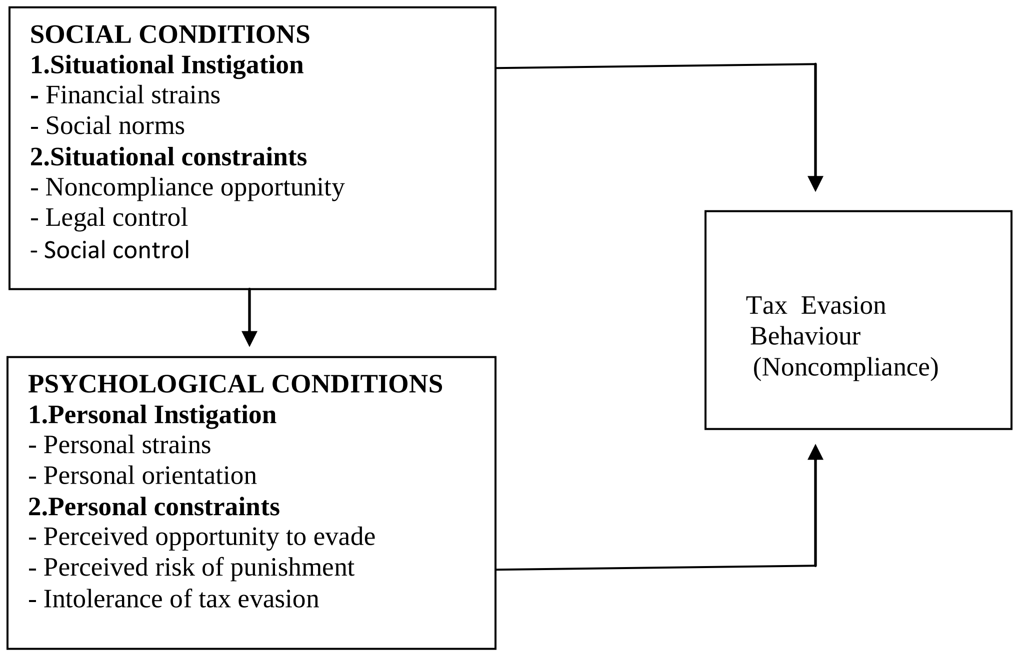


Figure 3.4
Weigel's social and psychological model . Adapted from "*Perceptions of taxation:A comparative study of different population groups in South Africa"* by R. Oberholdzer, 2007, University of Pretoria, South Africa, p.26.

### 3.11.3 Lewi's Revised Model

Lewi's model is an improved model over Weigel et al. (1978). It is divided into two parallel structures incorporating economic factors and complemented by social and psychological factors. Each of the parallel structures has four boxes. The first structure contains economic and political factors, which include the tax structure and fiscal policy of the government, tax enforcement structure and policy (tax audit, tax penalty, etc.), assumptions about taxpayers' behaviour (risk averse, etc.) and taxpayer compliance or noncompliance, which is the dependent variable. The focus of the second parallel structure is on social and psychological variables. The second structure contains the taxpayer's attitude and perception [including attitude towards the tax system, government, perception about fiscal accountability and tax system (Fischer, 1993)], perceived tax enforcement and opportunity and taxpayer's demographic background (age, gender, education, occupation, etc.). Perceived tax enforcement and taxpayer's attitude influences each other, while there is interaction between the demographic factors and other variables. Equally, there is an arrow linking the tax enforcement structure to tax attitude and perceived tax enforcement, suggesting that the actual result influences the attitude and perception of the taxpayers (Fischer, 1993). According to Webley, Robben, Elffer and Hessing (1991),[71] the contribution of Lewi's model is that it includes variables on government fiscal policy, tax enforcement policy and policy maker's assumption about taxpayer behaviour. However, Lewi's model is not broad enough to capture many other variables. Figure 3.5 shows Lewi's revised model.

71. Webley, Robben, Elffer & Hessing (1991) as reported in Oberholdzer (2007).

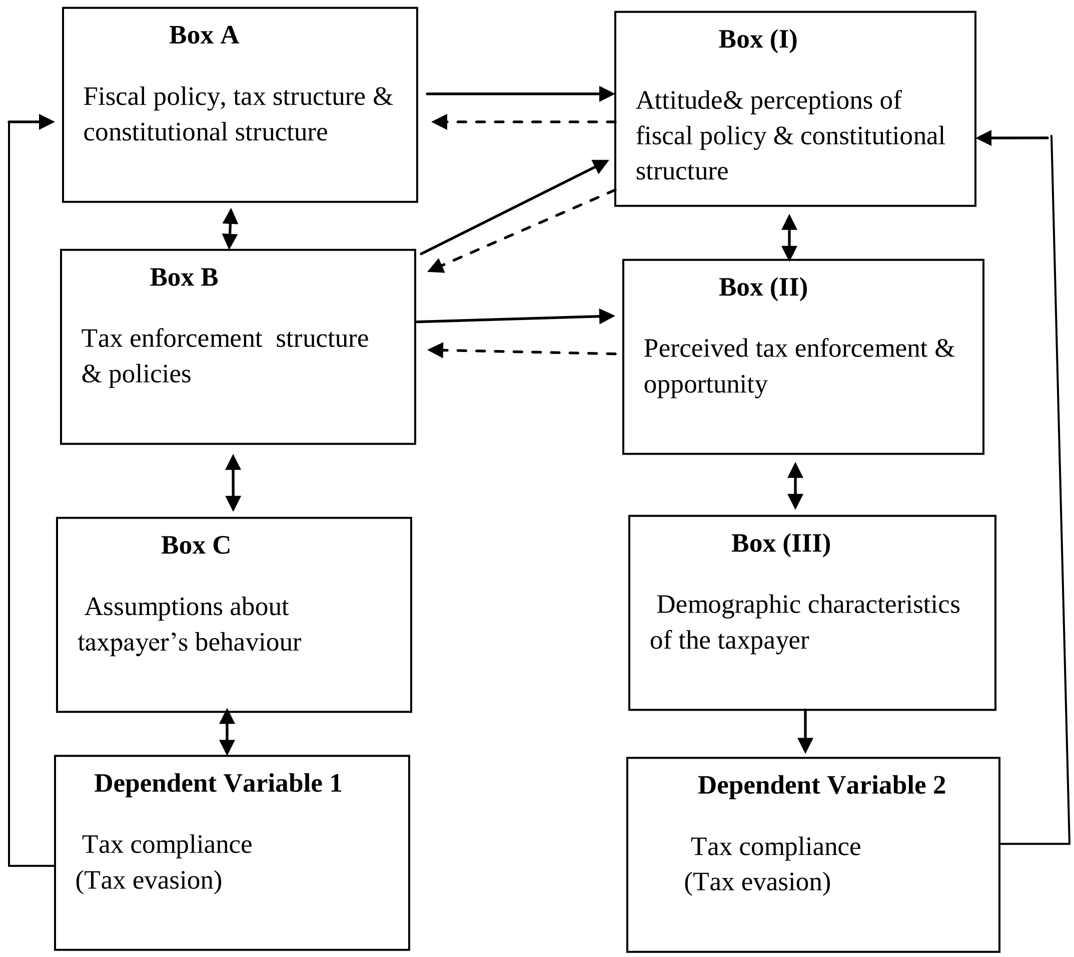


Figure 3.5
Lewi's revised model of tax compliance. Adapted from "*Perceived detection probability and taxpayer compliance: A conceptual and empirical examination"* by C. M. Fischer, 1993,. Ann Arbor: UMI, p.29.

### 3.11.4 Fischer's Model

The first comprehensive work to expand the classic model was the review study of Jackson and Millron (1986), which introduced fourteen key determinants for tax compliance. The fourteen (14) tax compliance determinants are age, sex, education, income level, occupation, compliant peer, withheld income source, ethics, fairness, complexity, IRS contact, sanction, probability of detection and tax rate. These key determinants were later categorized into four group determinants in the study of Fischer et al. (1992) and became known as Fischer et al.'s model of tax compliance.[72] Fischer's model is a comprehensive model incorporating economic, sociological and psychological factors. The model consists of the following constructs:

(a) Demographic Variables: This group is made up of age, gender and education

(b) Tax System Structure Variables: This group consists of tax rate, penalty, probability of detection, complexity of tax system and tax authority contact.

(c) Noncompliance Opportunity Variables: This group comprises income level, income sources and occupation.

(d) Attitude and perception: This includes fairness, ethics, and peer influence.

Fischer's model made the variables under the tax system structure, noncompliance opportunity and, attitude and perception the direct determinants of tax compliance with demographic variables as the antecedent variables linking noncompliance opportunity as well as attitude and perception. Just like other models of tax compliance, Fischer's model did not capture many other determinants of tax compliance. Fischer's model is shown below in Figure 3.6:

72. Fischer' et al.'s (1992) model of tax compliance is henceforth referred to as Fischer's model throughout this thesis. Fischer's model provides the theoretical foundation for this study.

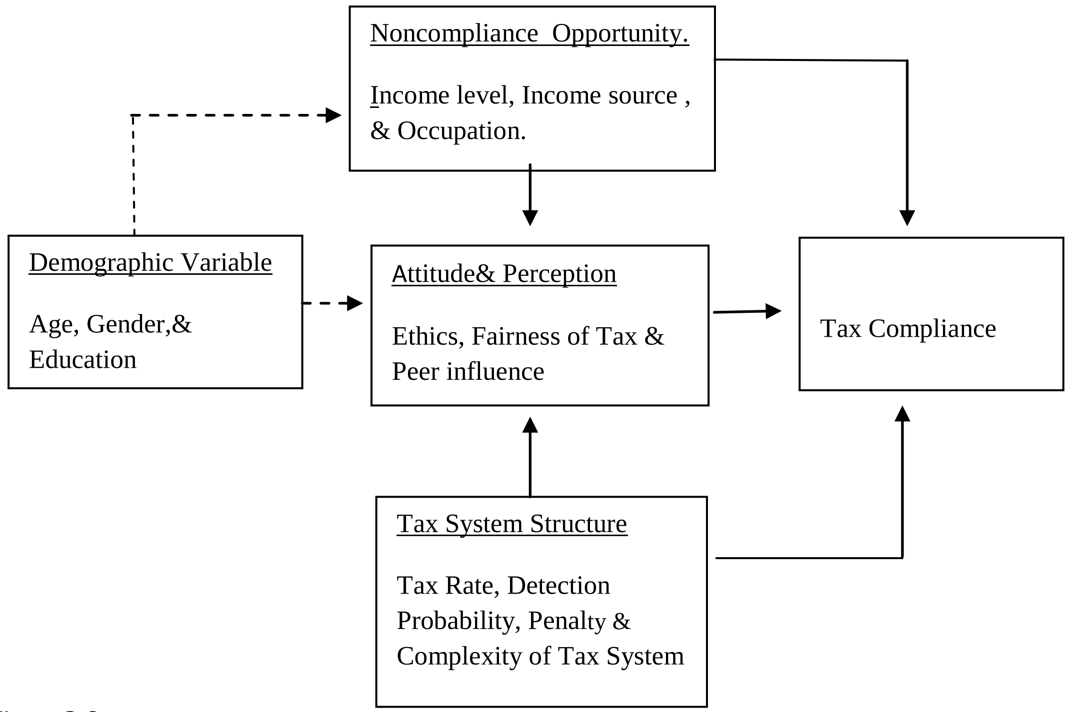


Figure 3.6
Fischer's Model of Tax Compliance Behaviour. Adapted from "*Perceived detection probability and taxpayer compliance: A conceptual and empirical examination"* by C. M. Fischer, 1993,. Ann Arbor: UMI, p.33.

### 3.11.5 Expanded Models

Using Fischer's model as a base, some researchers have added one or more variables to the model to suit their research objectives. The expanded models of some of these researchers include:

#### 3.11.5.1 Mustafa's Model

The study of Mustafa (1997) evaluated the tax administration system, taxpayers' perception towards the assessment system, tax law fairness and complexity in Malaysia. The study adopted Fischer's model but added knowledge and understanding of tax system as a new variable. According to Mustafa (1997), the right knowledge and understanding of the tax system will enhance the compliance behaviour of taxpayers. However, the study only measured the tax knowledge and understanding of taxpayers using a single statement item. Mustafa's model is shown in Figure 3.7 below:

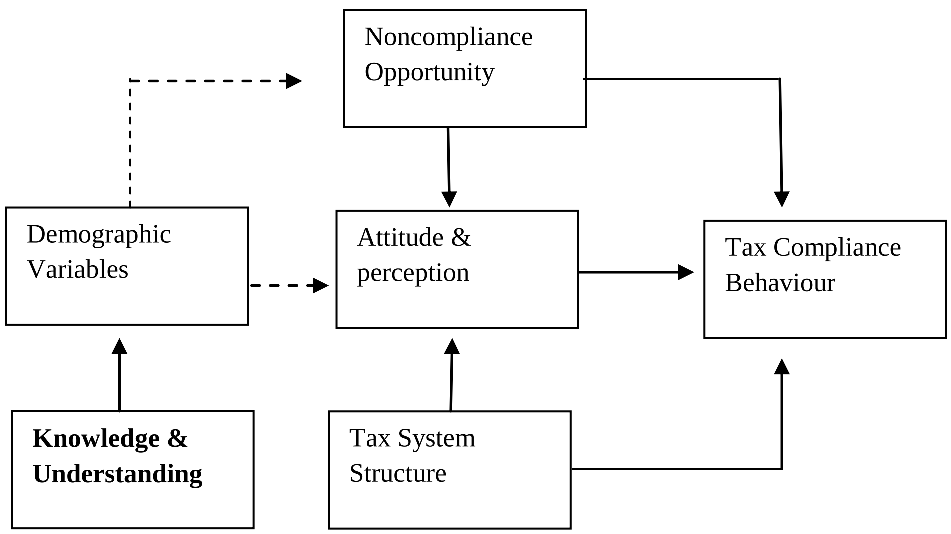


Figure 3.7
Mustafa's Knowledge based Model of Tax Compliance. Adapted from "*An evaluation of Malaysian tax administrative system and taxpayers perceptions towards assessment system, tax law fairness and tax law complexity"* by M. H. Mustafa, 1997, Universiti Utara Malaysia, p. 49.

### 3.11.5. 2 Tayib's Model

Tayib (1998) is a study on the determinants of assessment tax collection in Malaysia. The study adapted and expanded Fischer's model by adding quality of service provided by local government, and financial information disclosure, and the dependent variable is tax collection performance, which depends directly on tax compliance behaviour. Tayib (1998) believes that the quality of public service provided by local government has influence on taxpayers' compliance behaviour. However, the study did not measure quality of public service comprehensively using any quality service model. Tayib's Model is presented below in Figure 3.8:

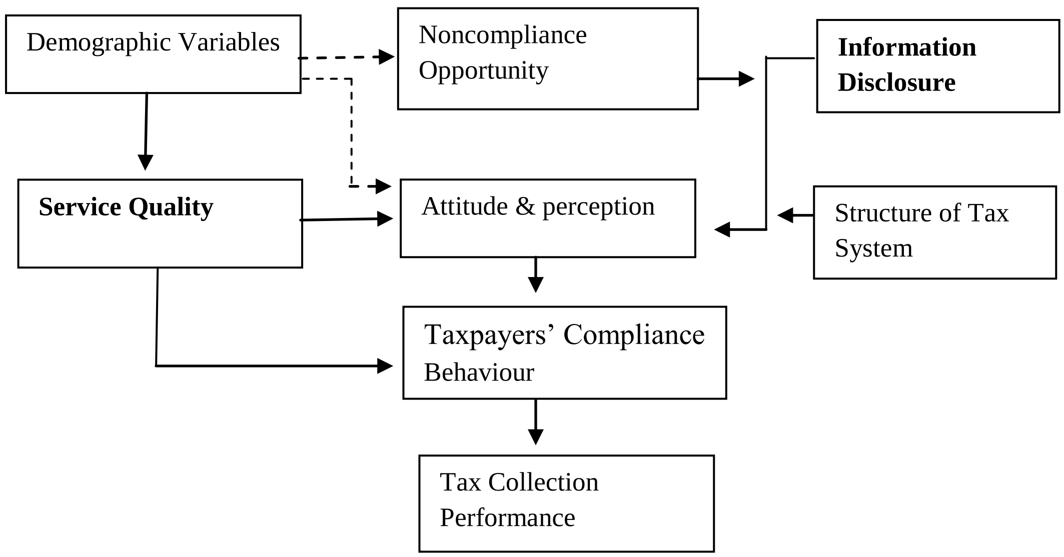


Figure 3.8
Tayib's Local Tax based Model of Compliance Behaviour. Adapted from "*The determinants of assessment tax collection: The Malaysian local authority experience"* by M. B. Tayib, 1998, University of Glamorgan, United Kingdom, p. 108.

### 3.11.5.3 Manaf's Model

Another researcher who also used Fischer's model based on the modification of Mustafa (1997) was Manaf (2004) whose study is on land tax administration and compliance attitude in Malaysia. Based on the objective of her study, land and incentives were added as new variables in the model. The study also added race to the demographics in order to measure the effect of culture on taxpayers' behaviour. Manaf's model is presented in Figure 3.9 in the next page.

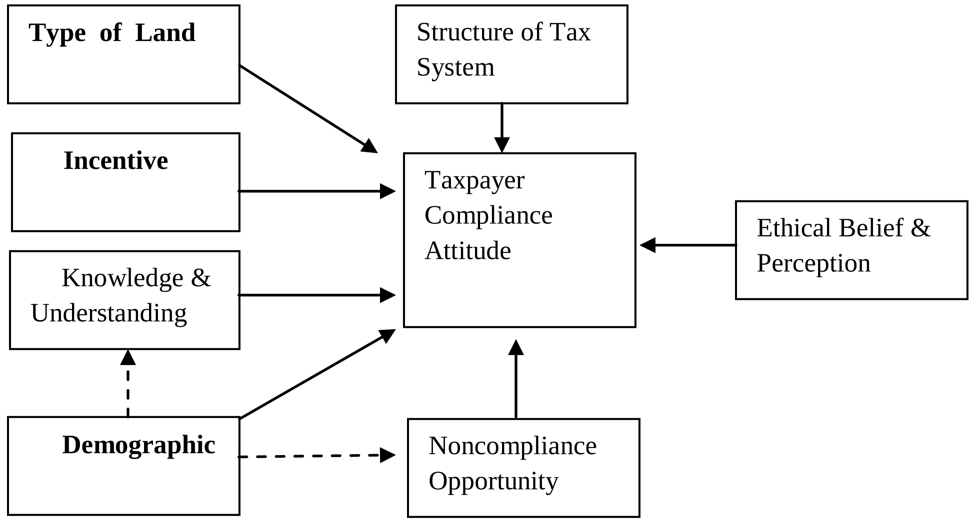


Figure 3.9
Manaf's Land Based Tax Compliance Model. Adapted from "*Land tax administration and compliance attitude in Malaysia"* by N. A. Manaf, 2004, University of Nottingham, United Kingdom, p. 64.

### 3.11.5.4 Chau and Leung's Model

Chau and Leung (2009) is one of the recent review studies on tax compliance behaviour, which made use of Fischer's model as the framework of reference. The study introduced culture as a new variable and modified the pattern of Fischer's model. Chau and Leung (2009) stated that culture as an environmental factor has an influence on tax compliance behaviour. Chau and Leung's Model is shown in Figure 3.10.

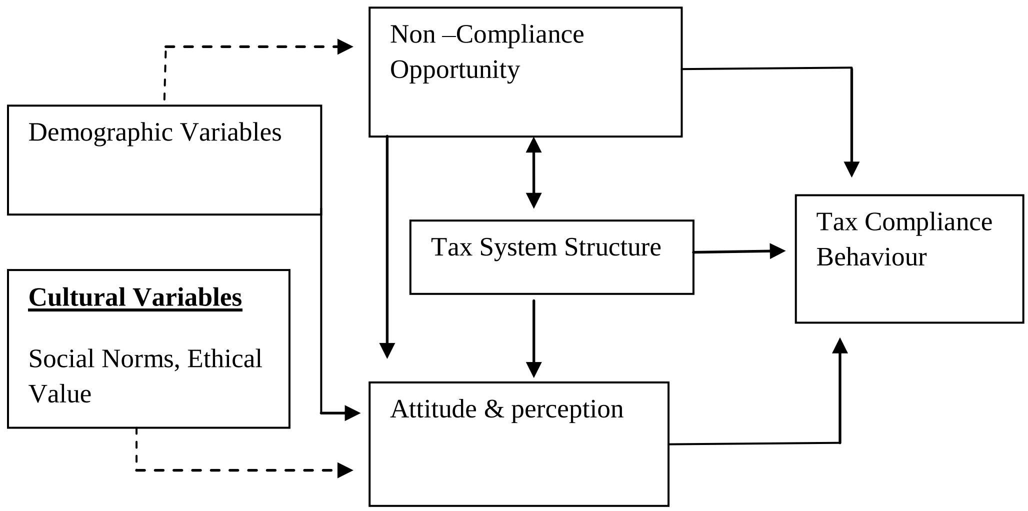


Figure 3.10
Chau and Leung's Culture based Model of Tax Compliance. Adopted from "A critical review of Fischer's tax compliance model:A research synthesis"" by G. Chau & P. Leung, 2009. *Journal of Accounting and Taxation* , 1, p.38.

A summary of the tax compliance models from the literature is presented in Table 3.4.

**Table 3.4**
**Tax Compliance Models in the Literature (Summary)**

| Researcher (s) | Research/Book Title | Model | Variables |
|---|---|---|---|
| Becker (1968) | Crime and punishment: A economic approach | Financial self-interest model | Tax rate, detection probability penalty & financial cost of compliance. |
| Allingham & Sandmo (1972) | Income tax evasion: A theoretical analysis | A- S model | Tax rate, detection probability, penalty & income |
| Weigel, Hessing & Elffer (1978) | Tax evasion research: A critical appraisal & Theoretical model | Social & psychological model | **Social condition** Financial strain, social norms, opportunity, legal control, social control **Psychological condition** Personal strains, personal orientation, perceived opportunity perceived risk of punishment, intolerance of tax evasion |
| Lewis (1982) | The Psychology of taxation | Lewi's revised model | **Parallel structure 1** Tax structure, tax enforcement, assumption about taxpayers **Parallel structure 2** Attitude , perception, perceived enforcement & opportunity, characteristics of taxpayers |

**Table 3.4**
**Tax Compliance Models in the Literature (Continued)**

| Researcher (s) | Research Title | Model | Variables |
|---|---|---|---|
| Fischer, Wartick & Mark (1992) | Detection probability & tax compliance: A review of the literature. | Expanded model | **Demographic factors**<br>Age, gender, & education<br>**Noncompliance opportunity**<br>Income level, income source & occupation<br>**Attitude & perception**<br>Ethic & perceived fairness of tax system, peer influence<br>**Tax system structure**<br>Complexity of tax system, IRS contact, tax rate, Detection probability,& penalty. |
| Mustafa (1997) | An evaluation of Malaysian tax administrative system & taxpayers & taxpayers perceptions towards tax law, fairness and tax law complexity. | Expanded model (Tax knowledge) | Demographic factors<br>Noncompliance opportunity<br>Attitude & perception<br>Tax system structure<br>**Understanding and knowledge of tax**. |
| Tayib (1998) | The determinants of assessment tax collection: The Malaysian local authority experience. | Expanded model (Local taxation based) | Demographic factors<br>Noncompliance opportunity<br>Attitude & perception<br>Tax system structure<br>**Quality of local govt service**<br>**Financial information Disclosure.** |
| Chan, Troutman & O' Bryan (2000) | An expanded model of taxpayers compliance: Evidence from the US & Hong Kong | Expanded model | Demographic factors<br>Noncompliance opportunity<br>Attitude & perception<br>Tax system structure |
| Manaf (2004) | Land tax administration and taxpayers' compliance attitude in Malaysia. | Expanded model ( Land taxation based) | Demographic factors **(Race)**<br>Noncompliance opportunity<br>Attitude & perception<br>Tax system structure<br>**Incentive**<br>**Land location/ type** |
| Chau & Leung (2009) | A critical review of Fischer's tax model: A research synthesis | Expanded model | Demographic factors<br>Noncompliance opportunity<br>Attitude & perception<br>Tax system structure<br>**Culture** |

Source: Author's Compilation

### 3.12 Summary

In summary, this chapter presented literature relevant to the study. This study is underpinned and supported by the deterrence theory, prospect theory, cognitive theory, social influence theory and social exchange theory. The review made on these theories resulted in an important conclusion - that no single theory can offer an adequate explanation of the factors influencing tax compliance behaviour. Hence, theories from different sources are useful in tax compliance research. In reviewing the factors influencing tax compliance behaviour, attention particularly focused on perceived tax service quality, public governance quality, ethnic diversity, financial condition and risk preference while other economic, sociological and psychological factors were reviewed generally. The interesting conclusion concerning the various factors reviewed is that tax compliance is influenced by other factors outside of the economic factors contrary to the assumption in the classical theory of tax compliance.

In addition, the available literature on tax compliance model was reviewed with particular reference to Fischer's model, which provides a base for the conceptual model of this study. It was similarly concluded from the review of the models that no single model can incorporate all the factors influencing the tax compliance at the same time. Taking into account the dynamic nature of human society, factors not considered at a particular time or environment may become factors having an influential impact on tax compliance behaviour at another time or in another environment. Hence, the need for the continuous expansion of the model to incorporate new factors based on social, economic, psychological, cultural and environmental reality at a particular time.

# Chapter Four
# Methodology

## 4.1 Introduction

The various research methods and procedures adopted for realizing the objectives of the study are discussed in this chapter. These include providing the conceptual framework for the study; developing the hypotheses on the basis of the objectives; stating the research design for the study; providing operational definitions of the study's constructs and variables and the measurements of the various variables of the study; the procedures for collecting the data as well as the instrument for the data collection, and, finally, the techniques used in analysing the data also included in the methodology.

## 4.2 Conceptual Framework

The conceptual model, which is normally based on theory, provides a guide for testing the hypothesis. According to Hair, Money, Samouel and Page (2007), the conceptual model is a diagram that connects variables based on theory and logic to visually display the hypotheses that will be tested.

The model of this study drew most of its constructs and variables from the tested models of the previous studies. The model has nine constructs and two moderating variables. Of these constructs and variables; tax system structure, noncompliance opportunity, attitude, moral reasoning, tax knowledge and demographic factors were adopted from other studies. Therefore, these adopted construct/variables served as the control variables for the study and since the direct relationships between these variables and tax compliance behaviour had been tested and determined previously (Bobek, 1997; Chan et al., 2000; Fischer, 1993; Kasipillai

& Jabbar, 2006; Manaf, 2004; Mustafa, 1997; Richardson, 2006; Tayib, 1998), they were deemed constant and not tested again in this study.[73] Just as in Fischer's model and some other studies, the demographic variables in this study were treated as antecedent variables linked to tax knowledge, moral reasoning, noncompliance opportunity and attitude but had no direct relationship with the dependent variable.

However, in order to satisfy the environmental needs of some developing countries, especially Nigeria, the tax compliance model was expanded with perceived tax service quality and public governance quality as constructs. Taxpayer's personal financial condition and risk preference were also introduced into the model as moderating variables. In addition, ethnic diversity was also incorporated in the model to capture the cultural characteristics of Nigerian taxpayers in the study. The need to expand the tax compliance model by these constructs and moderating variables was derived from the suggestions of scholars and previous studies (Alm & Torgler, 2006; Akpo, 2009; Edward & Lambert 2007; Kircher et al., 2007; Torgler, 2006; Wallschutzky, 1984).

Although the low and the shrinking tax compliance level in Nigeria might be caused by a multitude of factors, the relevance of public governance quality cannot be underestimated (Akpo, 2009; Bird & Zolt, 2005; Everest-Philip & Sandall, 2009; Odinkonigbo, 2009; Oluba, 2008). With an unimpressive ranking position of 38 out of 53, and a score of 49.6% in

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73. These variables appeared in the conceptual model of this study to measure the moderating effects of taxpayers' financial condition and risk preference on the relationship between these variables and tax compliance behaviour. Similar to what was done in the some moderating studies ( Dijke & Verboon, 2010; King, Slotegraat & Kesner, 2008; Wenzel, 2004a & 2005) with controlled variables, the findings of this study on the direct relationship between the controlled variables and tax compliance behaviour were not reported as they had already reported in the work of several researchers as mentioned above.

African governance index in 2006 (Ibrahim, 2010; Rotberg & Gisselquist, 2009), as measured by indicators of control of corruption, accountability and transparency, level of crime and public infrastructure, it appears that public governance quality may not be satisfactory in Nigeria (Natufe, 2006; Oluba, 2008). The noncompliance behaviour may perhaps be an indication that the taxpayers are not satisfied with the quality of public governance in Nigeria. The theory of Social Exchange provides justification for their behaviour. The theory posits that relationships between parties is based on cost and benefit and for it to continue, it must be rewarding to all parties. In light of the importance of public governance quality, Bird and Zolt (2005) indicated that taxpayers think that government of countries with good public governance are more likely to enjoy public acceptance for the need for taxation than governments of countries with poor public governance.

Equally, the perception of Nigerian taxpayers about the quality of tax service may also play a role in their compliance behaviour as quality of service delivery in Nigeria's public organizations including tax offices is poor and falls below internationally accepted standards (Ewenpu, 2010; Thomson, 2004; Wallshutzky, 1984). This argument is supported by the theory of social influence, which indicates that the power of expertise influences compliance. To stress the relevance of perceived tax service quality, Wallshutzky (1984) submitted that the taxpayer's level of satisfaction with tax office service had an influence on their future compliance level. Furthermore, the effects of personal financial condition and risk preference as they moderate taxpayers' compliance behaviour are also important given Nigeria's poverty level of 54.4% and crime ranking position of 46 out of 53 (Rotberg & Gisselquist, 2009). Nzotte (2007) and Odinkonigbo (2009) in a separate submission said that poverty and extended family burden may be responsible for noncompliance behaviour in Nigeria, and, similarly, Bloomquist (2003) stated that financial strain causes individuals to be less tax compliant. Hite and McGill (1992) as well as Torgler (2003) also indicated that the taxpayer's attitude towards risk affects their compliance decision.

In addition, despite the uniform tax system operating in Nigeria, individual taxpayers have continued to exhibit varying levels of compliance in different parts of the country. This difference may not be unconnected with the multi-ethnic background of Nigeria. According to Bird and Zolt (2005), most developing countries adopted a personal income tax system from developed countries without consideration for the environmental reality of their countries.

The model of this study is shown in Figure 4.1 below:

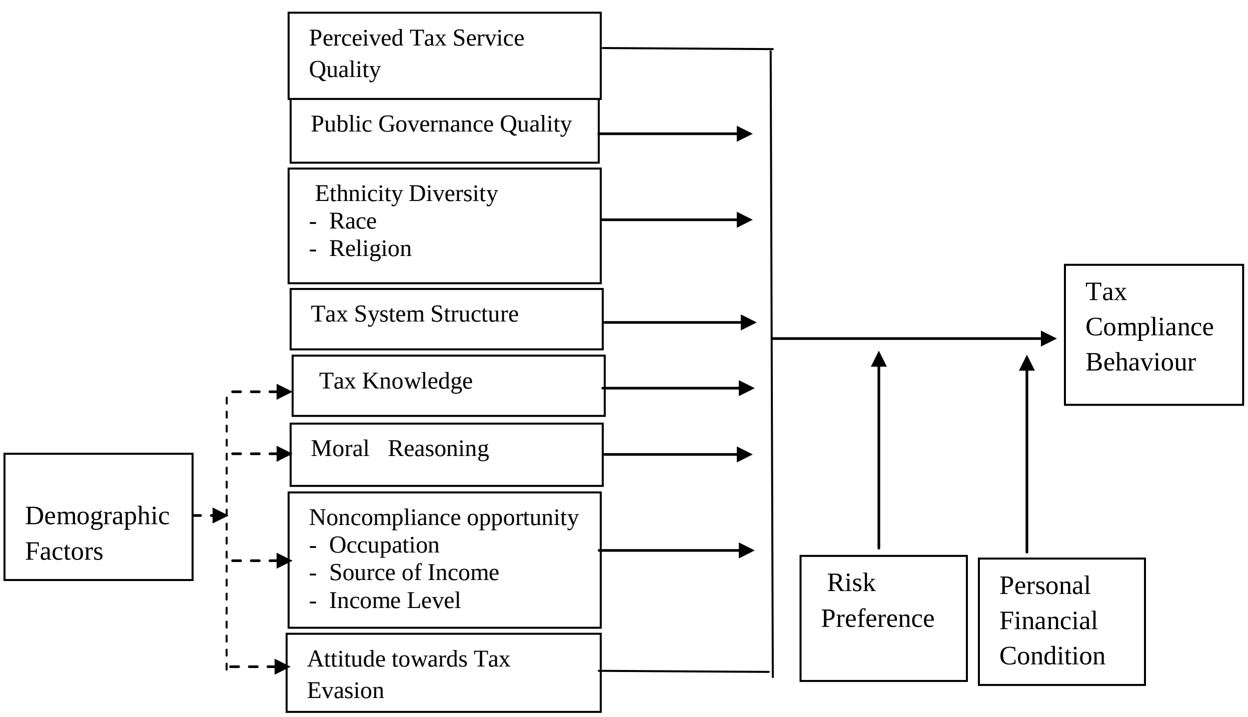


Figure 4.1
Conceptual model of the current study

## 4.3 HYPOTHESES DEVELOPMENT

The research questions set up in chapter one form the basis of framing the hypotheses of the study. The hypotheses are equally in line with the conceptual model of the study.

### 4.3.1 The Relationship between the Tax System Structure and Tax Compliance in the Presence of Financial Condition and Risk Preference

Tax system structure has been identified as a major determinant of tax compliance behaviour (Fischer et al., 1992; Jackson & Millron, 1986; Richardson & Sawyer, 2001). Tax revenue mobilization in a country depends on the effectiveness and efficiency of the tax system. The factors that determine the effectiveness of the tax system structure of any country were identified in Fischer's model and include probability of detection, penalty, tax rate and complexity of tax system. Empirical evidence has linked these factors to compliance behaviour (Chan et al., 2000; Fischer, 1993; Jackson & Millron, 1986).

Taxpayers engaging in a noncompliant act may be detected through the process of tax audit and investigation. The primary aim of tax audit is to detect taxpayers not complying with the submission of income tax returns and the payment of income tax. Alm, Deskin and McKee (2004) stated that tax audits not only have a direct deterrent effect on taxpayers being audited but also an indirect deterrent effect on taxpayers not being audited. Under deterrence theory, the position of the probability of detection in relation to tax compliance is that a high rate of detection will reduce tax noncompliance. According to Chau and Leung (2009), higher audit probability will encourage tax compliance. Some empirical studies have established relationships between tax audit and tax compliance. The study of Friedland, Maital and Reuentberg (1978), which was one of the pioneer studies to determine the effects of deterrence variables on tax noncompliance, reported that tax audits have a strong effect on tax compliance behaviour. Equally, a study of Witte and Woodbury (1985) also found that there is a significant positive relationship between tax audit and rate of tax compliance. So did the findings in the studies of Dubin and Wilde (1988), and Slemrod et al. (2001). However, Beron, Tauchen and Witte (1993) indicated that tax audit only exert a modest positive effect on tax compliance. Similarly, the experimental study of Alm et al. (1992) reported that the impact of tax audit seems small and nonlinear, and, as a result, the deterrent effect on compliance eventually declines. A similar result was also obtained in experimental studies on tax compliance by Alm et al. (2004), and Alm and Mckee (2006).

The taxpayer caught in the process of audit or investigation is penalized by the tax authority. Penalty is associated with sanctions or punishment. According to Schwartz and Orleans (1967) sanctions are imposed with the objective of enforcing legal obligation and advised that where the threat of punishment produces resistance to compliance then such resistance can be minimized by altering the methods of securing compliance. The penalty to be assigned to an offence depends on the gravity of the offence. Theoretically, Allingham and Sandmo (1972) stated that tax compliance could be increased by increasing the associated penalties. Doran (2009) stated that tax penalties remain important for two reasons. First, the norm model assumes that certain taxpayers will not comply with tax obligations and those taxpayers must be deterred by the threat of legal sanctions and, second, taxpayers who complied must be assured that noncompliant taxpayers will be sanctioned. Similarly, Chau and Leung (2009) argued that tax penalties are important factor affecting tax compliance and that the idea is that the fear of penalties will prohibit the noncompliance tendency. Some studies have proven the relationship between tax penalty and tax compliance empirically. The study of Witte and Woodbury (1985) established a significant relationship between the severity of criminal sanctions and tax compliance. This result agreed with the early survey study of Tittle (1980), which indicated that some forms of tax noncompliance are less likely if such acts result in a severe penalty. A similar result was produced in Feld and Frey (2006).

Tax rate is another factor of the tax system structure, which influences tax compliance behaviour in Fischer's model. According to the deterrence theory, an increasing tax rate increases tax compliance. However, Allingham and Sandmo (1972) pointed out that the effect of tax rate on compliance include income and substitution effects. They stated that a higher tax rate would reduce after-tax-income and increase compliance, assuming a decreasing risk aversion. They referred to this scenario as the income effect. A higher tax rate will also make acts of noncompliance more profitable. This is what they referred to as the substitution effect. They therefore concluded that the net change in tax compliance behaviour due to the effect of tax rate is ambiguous. However, the early findings of Friedland et al. (1978) revealed that a higher tax rate is linked with less tax compliance. The study of Clotfelter (1983) also found that both the marginal tax rate and after-tax income have a significant effect on individual underreporting. Other empirical studies with similar findings include Alm et al. (1992), Alm, Bahl and Murray (1990), and Martinez-vazquez and Rider (2005).

The complexity of the tax system is another factor that also influences tax compliance behaviour (Millron, 1985). According to Jackson and Millron (1986) as tax laws and regulations of a country become increasingly complex, complexity must be recognized as a possible reason for tax noncompliance. They said that taxpayers should be able to understand the rules for computing their taxes and that these rules must be made simple, understandable and clear so as to promote tax compliance behaviour. Brand (1996) declared that complexity in tax laws might contribute to noncompliance with tax provision. In same the vein, Krause (2000) said that when the tax system is too complex, neither the taxpayers nor the tax authority could perfectly determine the true amount of tax to be paid by the taxpayer. The results of the study of Clotfelter (1983) indicated that complexity has been associated with a greater underreporting of tax. Devos (2005), Millron (1985), Mustafa (1997), and Richardson (2006) also provided empirical evidence that tax complexity is significantly related to tax noncompliance. However, the study of Frost and Sheffrin (2002) suggested that simplifying the tax system might not be an effective deterrent to noncompliance behaviour as taxpayers do not necessarily consider a complex tax system as being unfair to them.

However, the moderating effect of the personal financial condition of the taxpayer on the relationship between the tax systems structure and tax compliance cannot be underestimated as the impact of an efficient tax system structure on compliance behaviour will only manifest itself if the taxpayer is in a financial condition to pay tax. Alm and Torgler (2006) argued that this is because higher financial satisfaction leads to a higher motivation to pay tax while financial dissatisfaction creates a sense of distress, hence, a disincentive to not pay. The study of Ritsema and Thomas (2003) indicated that some taxpayers could not pay their taxes because they are in bad financial condition. Equally, it is also important to recognize that the risk preference of the taxpayer may also have a moderating effect on the influence of the tax system structure on compliance. This, however, depends on the risk choice of the taxpayer because, according to Kahneman and Tversky's (1979) prospect theory, a taxpayer may be risk averse or risk seeking depending on the situation.

Since the relationship between the tax system structure and tax compliance behaviour has been previously determined by other studies, the hypotheses below are developed to achieve the fourth objective of this study[74]:

$H_{1a}$: The taxpayer's financial condition moderates the relationship between tax system structure and tax compliance behaviour.

$H_{1b}$: The taxpayer's risk preference moderates the relationship between tax system structure and tax compliance behaviour.

$H_{1c}$: The financial condition and risk preference moderate the relationship between tax system structure and tax compliance behaviour.

### 4.3.2 The Relationship between Tax Knowledge and Tax Compliance in the Presence of Financial Condition and Risk Preference

Tax compliance literature has pointed out the importance of specific knowledge on taxation in shaping the compliance behaviour of taxpayers (Eriksen & Fallan, 1996; Fallan, 1999; Mustafa, 1997). However, some studies on tax compliance considered specific tax knowledge as part of the general education background of the taxpayers, which has

74. In subsection 4.3.1 and other similar subsections, we started with objective four and developed hypotheses for moderating effect of financial condition and risk preference on the relationship between the independent and dependent variable because the direct relationship between the variables have been reported in other studies as a result, such relationship is not reported in this study again. See section 4.2 for detail.

contributed to the inconsistent research findings on the effect of general education on tax compliance behaviour (Devos, 2005 & 2008). Spilker (1995) identified the types of knowledge needed in taxation to include declarative knowledge and procedural knowledge. Declarative tax knowledge is knowledge about tax facts and concepts while procedural tax knowledge is detailed knowledge about how to perform various tasks in taxation. Spilker (1995) declared that procedural knowledge might be developed through training and experience. The appropriate type of knowledge that may be easily acquired by taxpayers without much effort is declarative knowledge.

On the effect of tax knowledge on tax compliance behaviour, Mustafa (2007) said that taxpayers with a knowledge of tax law and the system or with an understanding of tax matters or equipped with technical knowledge of the computation of tax liability are likely to comply with the provisions of the tax law better compared with other taxpayers without such knowledge. Manaf (2004) also supported this assertion. Acquisition of tax knowledge is likely to enhance taxpayers' compliance behaviour, particularly in developing countries like Nigeria where there are few tax practitioners and high professional fees. The study of Song and Yarbrough (1978) indicated that the respondents with high fiscal knowledge had a more positive tax ethic score than those with less fiscal knowledge. The study of Eriksen and Fallan (1996) reported that increased specific tax knowledge made respondents consider their own tax evasion more seriously, their perception about tax fairness increased and their attitude towards other individual's tax noncompliance became stricter. Similarly, Manaf, Hasseldine and Hodges (2005) found that knowledge and understanding of tax is related to land taxpayers' compliance attitude in Malaysia.

However, the impact of a taxpayer's knowledge on compliance behaviour may be moderated by the effect of their personal financial condition and risk preference. A taxpayer may be endowed with adequate tax knowledge and yet too financially constrained to pay tax. Torgler (2006) submitted that a taxpayer's financial satisfaction might affect their attitude towards paying tax. Hite and McGill (1992) also said that the risk preference of the individual affects the tax compliance decision. Since the direct relationship between tax knowledge and compliance behaviour has been previously tested, in accordance with the above discussion, the hypotheses below are formulated to meet the fourth objective:

$H_{2a:}$ The taxpayer's financial condition moderates the relationship between his/her knowledge on tax matters and compliance behaviour.

$H_{2b:}$ The taxpayer's risk preference moderates the relationship between his/her knowledge on tax matters and compliance behaviour.

$H_{2c}$: The financial condition and risk preference moderate the relationship between taxpayer's knowledge on tax matters and compliance behaviour.

### 4.3.3 The Relationship between Perceived Tax Service Quality and Tax Compliance in the Presence of Financial Condition and Risk Preference

In the marketing literature, Asubonteng et al. (1996) said that the expectation of the customer is the foundation on which the quality of service is evaluated and that as the quality of service increases, satisfaction with the service and patronage increase. In connection with tax service, when the tax office provides quality services to their clients (taxpayers), as expected, this is likely to increase the taxpayers' patronage to the office thereby enhancing their compliance behaviour (OECD, 2007). In support of this analogy, Kirchler (2007) argued that if the tax office assists the taxpayers by providing a better service, the taxpayer may be encouraged and may likely repay back through good behaviour and compliance. Empirical studies have proven this point as a number of studies have provided evidence linking customer satisfaction and behavioural intention with perceived service quality (Asubonteng et al., 1996; Bloemer, Ruyter, & Peteer, 1998; Sivada & Baker, 2000; Wong & Sohal, 2003; Zeithmal, Berry, & Parasuraman, 1996). In the public sector, some studies like Brysland and Curry (2001), Donnelly et al. (1995) and Wisknieswki (2001) have equally established a relationship between the provision of a quality service in local governments and the satisfaction of the communities.

The service quality model of Brady and Cronin Jr. (2001), which is considered to be the most appropriate for the service industry (Caro & Gracia, 2007) indicated that service quality is determined by three factors: interaction quality, physical environment quality and outcome quality. Research studies have revealed that interaction quality is an important factor, which has a significant effect on the customer's perception on the overall service quality (Caro & Gracia, 2007; Chen & Kao, 2009). The physical environment in which the service is provided is also considered to have an influencing power on the perception of the customer about the service quality. Brady and Cronin Jr. (2001) argued that since service is intangible and often requires the presence of the customer in the course of its provision then the surrounding environment might have a significant impact on the perception of the customer of service quality. Outcome quality is equally considered to play an incredibly significant role in influencing the perception of the customer on overall service quality (Chen & Kao, 2009). The study of Powpaka (1996) reported that outcome quality is a significant determinant of the perception of service quality while the study of Chen and Kao (2009) revealed that interaction and outcome quality are positively and significantly related to customer satisfaction. Similar results are also found in the study of Madhavaiah, Rao and Akthar (2008).

In taxation, studies that measure the direct impact of perceived tax service quality on the compliance behaviour of taxpayers are rare; however, the study of Wallschutzky (1984) revealed that the taxpayers' level of satisfaction with the way they are treated in the tax office influences their future compliance behaviour. Niemirowski and Wearing (2003) also reported that Australian taxpayers were moderately satisfied with the manner in which Australian Tax Office (ATO) was handling their tax returns and, equally, some scholars have suggested that the friendly treatment of taxpayers by the revenue authority is an important means of enhancing tax compliance behaviour (Feld & Frey, 2003; Torgler, 2003). However, treatment is just an element of what constitutes perceived tax service quality.

In Nigeria, the poor quality of service delivery from the public sector organizations (including the tax office) to citizens, prompted the Federal Government to establish the Service Compact office (SERVCOM) in 2004 with the objective of improving the quality of service delivery in the public sector. Every Federal ministry and agency has a designated officer in charge of SERVCOM, who monitors the quality of service delivery in the ministry or agency, (including the tax office). However, the study by the Institute for Development Research (2001) showed that most households were not satisfied with the quality of public services delivery in Nigeria. A number of factors have been identified for poor quality of public service in Nigeria including tax services. These factors include lack of commitment by civil servants, inadequate professional manpower, lack of training and development to update the skill of the civil servants, inadequate working materials, etc., (Ewenpu, 2010; FGN, 2003; Odusola, 2006; Odinkonigbo, 2009; Thomson, 2004). However, to what extent does the perception of tax service quality influences Nigerian taxpayers' compliance behaviour?

Drawing from social influence theory, which indicates that experts (tax office service) have the power to influence compliance and based on studies that established a relationship between perceived service quality, satisfaction and patronage, the hypothesis below is developed to meet the first objective of this study:

$H_3$: The perception of taxpayer about quality of tax service has a positive relationship with his/her compliance behaviour.

However, the financial condition as well as risk preference of the taxpayer may dictate the outcome of the relationship between their perception about tax service quality and their compliance behaviour. According to the service quality theory, although a taxpayer who perceives that the service quality exceeds the expected service will increase patronage (compliance), his financial condition may prevent him from doing that. The study of Lago-Penas and Lago- Penas (2008) indicated that the level of financial satisfaction of the individual might influence their willingness to pay tax. In addition, Torgler (2007) stated that the willingness to pay tax depends on the risk preference of the taxpayer. Based on the above submission, the following hypotheses are stated for the purpose of meeting the fourth objective:

$H_{3a:}$ The taxpayer's financial condition moderates the relationship between his/her perception about tax service quality and tax compliance behaviour.

$H_{3b:}$ The taxpayer's risk preference moderates the relationship between his/her perception about tax service quality and tax compliance behaviour.

$H_{3c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about tax service quality and tax compliance behaviour.

#### 4.3.4 The Relationship between Attitude towards Tax Evasion and Compliance Behaviour in the Presence of Personal Financial Condition and Risk Preference

An individual's attitude towards the tax system may predict his tax compliance behaviour. Theoretically, Ajzen (1991), Fishbein and Ajzen (1975) and Oskamp (1991) have indicated that attitude is a partial indication of behaviour. Attitude towards an event, object, function or person may be favourable or unfavourable. According to Ajzen (1991) and Fishbein and Ajzen (1975) an individual evaluates an event or object positively or negatively and positive and negative evaluation is the main dominant characteristic of an individual's attitude. In agreement with the statements of Ajzen (1991), and Fishbein and Ajzen (1975), Kirchler et al. (2008) stated that a taxpayer who has a favourable attitude towards tax evasion is expected to be less compliant and equally a taxpayer with an unfavourable attitude is likely to be more compliant. In his early submission, Bobek (1997) argued from the perspective of the theory of functional attitude that the motive of the attitude will determine whether it will be positive or negative. A taxpayer, whose motive of attitude towards the tax system is to express their belief in the system, is expected to judge the fairness of the system objectively and a taxpayer whose attitude is motivated with what benefits are derived from the system may label the tax system fair if they are benefiting from the system (Bobek, 1997). Eriksen and Fallan (1996) said that the dimensions of attitude towards tax evasion include attitude to one's own tax evasion, which is referred to as tax ethic, fairness of tax system, attitude to other people's tax evasion and attitude to general crime.

There is empirical evidence that suggests that ethical value may play a significant role in the compliance decision of an individual taxpayer. In line with this, Ho and Wong (2008) submitted that individuals with a stronger ethical mind might have favourable compliance attitude, as they will regard complying with the rules and regulations as an obligation that must be honoured. Similarly, Chau and Leung (2009) stated that ethical value might affect the tax compliance decision of an individual. The study of Recker, Sanders and Roark (1994) found that tax compliance is higher when there is a stronger belief that tax evasion is unethical. The result of Bobek and Hatfield (2003) also indicated that the ethical beliefs of individuals are the best means of improving tax compliance. Manaf (2004) reported that taxpayers who see tax evasion as unethical are likely to be more complaint than those who regard tax evasion as not unethical. A similar result was also reported in the study of Ho and Wong (2008).

Also within the literature concerning tax compliance, the perception of the taxpayers about the fairness of the tax system is recognized as an important factor that can have a significant influence on tax compliance behaviour. According to Gilligan and Richardson (2005), a tax system that is perceived as unfair by the citizens may likely be less successful, which will encourage the taxpayers to engage in noncompliant behaviour. Kirchler (2007) and Wenzel (2004a) suggested that fairness could be conceptualized as distributive justice, procedural justice and retributive justice. Distributive justice concerns fairness in exchange for resources in both the benefit and cost, while procedural justice refers to fairness in the process of resources distribution and retributive justice is concerned with the fairness and appropriateness of sanctions when rules are broken. However, Kirchler (2007) stated that research relating to fairness and tax compliance only focuses on distributive justice.

In respect of distributive justice, comparisons are made on the basis of individuals, groups and societal level, and, at the individual level, taxpayers will be interested in the fairness of their tax burden, if it is perceived to be too high compared to other individuals' tax burden, the rate of compliance is likely to decrease. At the group level, the taxpayers are interested in the fairness of treating their groups compared to other groups; when a group perceives that it is not being fairly treated in respect to tax burden in relation to other groups it may lead to tax noncompliance in the group. At the societal level, the taxpayers are concerned with the fairness of the tax system to the whole society; when they perceive the tax system to be unfair, tax noncompliance is likely to increase in the society (Kirchler, 2007). The study of Spicer and Lundstedt (1976) reported that the respondents believe that when the tax system is unfair they are not likely to comply with the tax laws. Porcano (1984) indicated that taxpayers' needs and ability to pay are the important factors that determine the fairness of the tax system. Mustafa (1997) also reported that taxpayers perceived tax law to be unfair.

Richardson (2006) also found a significant negative relationship between tax system fairness and tax evasion.

Generally, studies have established a relationship between the attitudes of taxpayers and compliance. The study of  Eriksen and Fallan (1996) revealed that taxpayer's attitude towards tax system has an influence on reinforcing the desire towards tax evasion and compliance. Chan et al. (2000) reported that Hong Kong taxpayers have a less favourable attitude towards tax system as a result a lower level of compliance. The study of Oriviska and Hudson (2002) examined the attitudes to tax evasion and reported that evasion is condoned by a large number of people who are particularly benefiting there from.  Trivedi, Shehata and Mestelman (2005) also revealed that there is a relationship between attitude and compliance.

However, the relationship between a taxpayer's attitude towards tax evasion and compliance may be indirectly affected by the presence of their financial condition and risk preference. The attitude may depend on the financial condition of the taxpayer as well as their risk preference (Torgler, 2006). Since previous studies have tested the direct relationship between taxpayer's attitude and tax compliance behaviour, the following hypotheses are formulated to account for the moderating effects of financial condition and risk preference in order to satisfy the fourth objective of this study:

$H_{4a}$: The taxpayer's financial condition moderates the relationship between his/her attitude towards tax evasion and tax compliance behaviour.

$H_{4b}$: The taxpayer's risk preference moderates the relationship between his/her attitude towards tax evasion and tax compliance behaviour.

$H_{4c}$: The financial condition and risk preference moderate the relationship between taxpayer's attitude towards tax evasion and tax compliance behaviour.

### 4.3.5 The Relationship between Moral Reasoning and Tax Compliance in the Presence of Personal Financial Condition and Risk Preference

The level of moral reasoning of a taxpayer is considered an important factor in understanding compliance behaviour. According to Bobek, Robert and Sweeney (2007), the most significant and influential factor in understanding and explaining compliance behaviour is the taxpayer's own personal moral belief. Similarly, Chan et al. (2000) declared that moral commitment is one factor that influences tax compliance and that individual taxpayer comply with the provision of the tax laws as a result of their perceived moral obligation to obey tax law. Erard and Feinstein (1994) argued that the level of taxpayer's moral reasoning sharpens their compliance behaviour. Since the tax authority lacks the ability to strictly enforce the provisions of the tax laws, the social control mechanism available may be the sense of moral obligation of the taxpayers. The improvement in compliance with the provisions of tax laws will have to focus on shoring up the taxpayers' sense of moral obligation towards tax payment (Thurman, St. John & Riggs, 1984).

The moral commitment of a taxpayer to comply with tax laws depends on their level of moral reasoning. In the theory of moral development, Kohlberg claimed that an individual passes through six stages at three levels progressively in his/her moral reasoning. At each level of moral reasoning, the taxpayer is expected to exhibit a different behaviour. At stage four, which is law and order orientation, the taxpayer's moral is expected to be above average and at stage six, Thiroux and Krasemann (2008) said that an individual will possess " a large stock of ethical concepts and understand the operative principles behind moral rules, law and ethical policy" (p. 25) . Taxpayers at stage six of moral development will think and act well. Chan et al. (2000) said that within the framework of moral reasoning development, the decision of the taxpayer to obey or not obey the tax laws involves an ethical component. The perceived values and code of conduct of the taxpayers will be useful in assessing what is right and wrong in their behaviour. Empirical evidence has shown a relationship between moral reasoning and tax compliance. The study of Recker et al. (1994) revealed that when tax noncompliance is considered as a moral issue, individuals are less likely to evade taxes irrespective of the situation. The study of Chan et al. (2000) also indicated that Hong Kong taxpayers have a low level of moral reasoning, and, as a result, low tax compliance. In contrast, however, the study of Bobek and Hatfield (2003) found that a high level of moral obligation alone would not fully eliminate tax noncompliance.

The relationship between a taxpayer's moral reasoning and their compliance behaviour may, however, be moderated by the effects of personal financial conditions and the risk preference of the taxpayer. Ritsema and Thomas (2003), and Torgler (2006) in a separate submission identified that compliance decisions depend on the taxpayers' financial condition and risk preference. As the direct relationship between the taxpayer's moral reasoning and compliance behaviour has been previously determined, in meeting the fourth objective of this study, the following hypotheses are presented to account for the moderating effects:

$H_{5a}$: The taxpayer's financial condition moderates the relationship between his/her moral reasoning and tax compliance behaviour.

$H_{5b}$: The taxpayer's risk preference moderates the relationship between his/her moral reasoning and tax compliance behaviour.

$H_{5c}$: The financial condition and risk preference moderate the relationship between taxpayer's moral reasoning and tax compliance behaviour.

### 4.3.6 The Relationship between Ethnic Diversity and Tax Compliance in the Presence of Personal Financial Condition and Risk Preference.

Research studies have indicated that the level of tax compliance may be affected by the degree of trust and cohesiveness in a country (Kimenyi, 2003; Lassen, 2003; Torgler, 2003). Equally, it has been pointed out that the degree of level of trust in a society is associated with the degree of ethnic polarization and diversity existing in the society (Kimenyi, 2003; Lassen, 2003; Mbatia et al., 2009; Zerfu et al., 2009). Therefore, ethnic diversity may explain the variation in the level of compliance behaviour of taxpayers in a multi-ethnic society. According to Kimenyi (2003), a society with diverse ethnicity is characterized with low trust and, equally, such a society can be characterized by a markedly lower level of taxpayers' compliance when compared to a society with high trust.

However, Okediji (2005) has argued that ethical diversity should include social factors like religion because certain ethnic groups are identifiable with a particular religion, for instance, a proportion of Yoruba in Nigeria are known to be traditional religious believers while others are either Muslim or Christian. Moreover, McGee (1996) has stressed the need to study religion for an understanding of certain religious beliefs regarding tax payment because according to him other religions may deny the obligation of tax payment under certain circumstances, such as a government engaging in activities regarded as illegitimate. However, the study of Torgler (2003 & 2006) reported that in a country where the attendance of religious worship places is high there is significant tax compliance.

On the whole, empirical studies have reported that differences in tax compliance across countries are as a result of differences in ethnicity and culture. In the early studies, Song and Yarbrough (1978) discovered marginal difference between blacks and whites in tax compliance, while the study of Aitken and Bonneville (1980) reported that more blacks than whites were less compliant. In a cross-country study, Chan et al. (2000) explored the effect of differences in ethnic background between the US and Hong Kong in the context of taxpayer compliance behaviour. The study noted significant differences between US taxpayers and Hong Kong taxpayers in respect of moral development and attitude towards the tax system, and, in sum, US taxpayers were more compliant than Hong Kong taxpayers. In a similar study between two African countries - Botswana and South Africa - and the US, Cummings, Martinez-Vazquez, Mckee and Torgler (2006) observed that differences in the compliance level between the US and the two African countries are due to differences in ethnic background. Lewis et al. (2009) who investigated the effect of cultural differences on tax compliance between the UK and Italy reported a similar result. The study of Lassen (2003) reported that ethnic diversity decreases tax compliance through a reduction in the level of trust among taxpayers. The result of Manaf (2004) revealed that there is a difference in the tax compliance attitude of major ethnic groups of Malaysia while Kasipillai and Jabbar

(2006) found no difference in tax compliance behaviour and attitude of the ethnic groups in Malaysia.

Within an ethnically diverse country such as Nigeria, the variation in tax compliance behaviour of taxpayers from different ethnic groups may not be ignored. Nigeria is a multi-cultural country characterized with high ethnic polarization. The country has among its approximately 167 million people, 250 ethnic groups speaking about 500 indigenous languages. The ethnic groups are divided into ethnic majorities and minorities. The major ethnic groups are the Hausa/Fulani (29%), Yoruba (21%) and Igbo (18%) while ethnic minorities (32%) are made up of northern minorities and southern minorities[75] (Wolffram Alpha, 2010). For religion, most Nigerians are either Muslim or Christian while a few are of traditional belief. However, Lewis (2007) indicated that most Nigerians would like to be identified with their race. But, to what extent does diverse ethnic background influence taxpayers' compliance behaviour in Nigeria? Based on the above discussion, the hypotheses below are set out to achieve the third objective.

$H_6$: The people of different race are more likely to exhibit different tax compliance behaviour.

$H_7$: The people of different type of religion are more likely to exhibit different tax compliance behaviour.

75. The Hausa/Fulani is the predominate ethnic group in northern Nigeria and the Yoruba speaking people are from western Nigeria while the Igbo race comes from the eastern part of Nigeria The south and some parts of the north belongs to the minority ethnic groups .

The relationship between taxpayers' ethnic diversity and tax compliance may, however, be contingent on the moderating effects of the taxpayer's financial condition and risk preference. This is because, as Ritsema and Thomas (2003) reported, the compliance decision depends on whether the taxpayer is in a good financial condition, and, similarly, Hite and McGill (1992), and Torgler (2006) said that the tax compliance decision is a function of the risk attitude of the taxpayer. In accounting for the moderating effects of the personal financial condition and risk preference, the following hypotheses are formulated to meet the fourth objective:

$H_{6a:}$ The financial condition moderates the differences in compliance behaviour of taxpayers of different race.

$H_{6b:}$ The risk preference moderates the differences in compliance behaviour of taxpayers of different race.

$H_{6c:}$ The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different race.

$H_{7a:}$ The financial condition moderates the differences in compliance behaviour of taxpayers of different religious faith.

$H_{7b:}$ The risk preference moderates the differences in compliance behaviour of taxpayers of different religious faith.

$H_{7c:}$ The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different religious faith.

### 4.3.7 The Relationship between Noncompliance Opportunity and Tax Compliance Behaviour in the Presence of Personal Financial Condition and Risk Preference

Research studies have indicated that the structure of economic opportunities available to an individual influence his/her compliance behaviour. According to Fischer (1993), individuals with high structural opportunities may likely be more noncompliant than those with low structural opportunities. Loretta, Stalans, Smith and Kinsey (1989) said that the likelihood that noncompliance will be detected depends on the opportunities available to the individual and that it varies from individual to individual depending on the source of income and occupation. Loretta et al. (1989) and Erard and Ho (2003) identified the sources of income vulnerable to noncompliance as cash, tips and other income, which cannot be traced by the tax authority because they are not subject to third party information reporting. Chau and Leung (2009) also said that tax noncompliance opportunities are greater in occupation of self-employment such as sole trader, partnership and sources of income that are not subject to withholding tax.

In Fischer's model, source of income, level of income and occupation are factors affecting the relationship between noncompliance opportunity and tax compliance behaviour. According to Andreoni et al. (1998), most of the theoretical models indicate that as income increases, tax compliance should decrease. Studies have proven this assertion. Witte and Woodbury (1985) reported that low- and high- income taxpayers are relatively noncompliant with tax laws. Crane and Nouraud (1990) also found that individuals with a higher level of income tend to evade tax more. The study of Ritsema and Thomas (2003) showed that income level is positively related to the tax owed. Similarly, Manaf (2004) found that middle-income taxpayers are more compliant. Concerning source of income, the studies of

Aitken and Bonnevlle (1980) and Groenland and van Veldhoven (1983) found that individuals with untraced sources of income are more likely to be noncompliant than individuals whose income is reported by a third party.  Similar results were also reported in Clotfelter (1983) and Loretta et al. (1989). In agreement with other studies, Fjeldstad and Semboja (2001) also observed that employees paying their taxes through a withholding system have fewer opportunities to be noncompliant. In another study, Richardson (2006) also found that income source is significantly related to tax evasion.

In respect of occupation, the study of Groenland and vanVeldhoven (1983) reported that taxpayers who are self-employed are more likely to commit various forms of tax noncompliance. Andreoni et al. (1998) also noted that there was an understatement of taxes by a greater percentage by sole proprietors who engaged in businesses in fixed locations. In contrast, Manaf (2004) showed that sole proprietors are likely to be more compliant. The study of Erard and Ho (2003) equally revealed that noncompliance is greater in occupations with income not subject to third party information reporting.

However, personal financial condition and the risk preference of the taxpayer may have a moderating effect on the relationship between noncompliance opportunity and compliance behaviour as it is stated in Alm and Torgler (2006) that financial condition might create a sense of distress, which may influence the willingness and ability to pay tax. Torgler (2006) also stressed that the risk attitude of the taxpayer influences his/her compliance decision.

Since previous studies have tested the direct relationship that exists between noncompliance opportunity and taxpayer's compliance behaviour, therefore, the moderating effects of financial condition and risk preference are taken into account in the following hypotheses in order to achieve the fourth objective:

$H_{8a:}$ The taxpayer's financial condition moderates the relationship between his/her type of occupation and tax compliance behaviour.

$H_{8b:}$ The taxpayer's risk preference moderates the relationship between his/her type of occupation and tax compliance behaviour.

$H_{8c:}$ The financial condition and risk preference moderate the relationship between taxpayer's type of occupation and tax compliance behaviour.

$H_{9a:}$ The taxpayer's financial condition moderates the relationship between his/her source of income and tax compliance behaviour.

$H_{9b:}$ The taxpayer's risk preference moderates the relationship between his/her source of income and tax compliance behaviour.

$H_{9c:}$ The financial condition and risk preference moderate the relationship between taxpayer's source of income and tax compliance behaviour.

$H_{10a:}$ The taxpayer's financial condition moderates the relationship between his/her income level and tax compliance behaviour.

$H_{10b:}$ The taxpayer's risk preference moderates the relationship between his/her income level and tax compliance behaviour.

$H_{10c:}$ The financial condition and risk preference moderate the relationship between taxpayer's income level and tax compliance behaviour.

### 4.3.8 The Relationship between Public Governance Quality and Tax Compliance in the Presence of Personal Financial Condition and Risk Preference.

The relationship between taxpayers and the government is based on psychology's law of reciprocation, which calls for cooperation from both parties. There are numerous issues in governance, which may have an influence on tax compliance behaviour. These may include the handling of government finance, election of public office holders, provision of services, etc. Kaufmann, Kraay and Zoido-lobation (2002), and Kaufmann et al. (2007) stated that good public governance includes government effectiveness in the provision of the quality of public goods, participation in governance through democracy and accountability, ensuring political stability, adherence to rule of law, control of corruption and regulatory quality. Empirical studies indicated that there is a strong relationship between government effectiveness in the provision of public goods and compliance. The study of Wallshutzky (1985) revealed that a substantial number of respondents made their compliance decision in relation to the level of public services provided by the government. Alm et al. (1992) also reported that average compliance is always higher in the presence of the public good. The same result was found in Alm and Gomez (2008), and Fjeldstad and Semboja (2001).

Democracy and accountability made it possible for taxpayers to participate in governance. The participation in public governance by taxpayers allows them to be part of the decision of their taxed money, which is capable of shoring up compliance behaviour. However, Torgler and Schneider (2009) said that in a country, whose government's budget lacks accountability and transparency, the obligation of paying taxes by the citizens may not be considered as an accepted social norm of the people. However, Torgler (2003) pointed out that the more the opportunity of participation in political decision making by taxpayers through democratic means, the more relationship between government and taxpayers will be based on trust and that this will influence the willingness of the individual to pay tax. Feld and Frey (2006) argued that the extent of the involvement of the citizen in political decision making may have an effect on the tax policy adopted by the government as well as its tax authority, and that this may lower tax evasion in the country. The study of Alm, McClelland and Shulze (1999) discovered that voting on tax issues by citizens has a positive effect on tax compliance. The study of Alm and Torgler (2006) about tax morale in the US, Austria and Switzerland showed that the US has a higher tax morale than others as a result of its strong direct democratic value.

The literature has also indicated that compliance with regulation is enhanced in a stable political environment. According to Everest-Phillip and Sandall (2009), revenue collection depends on efficient government and political stability. Damania, Fredriksson and Mani (2004) also argued that in a country that is characterized by political instability, the necessary institutions of the government responsible for monitoring and enforcing compliance may be weak, and, as a result, compliance with regulation in such a country will be low. Torgler and Schneider (2009) stated that political instability might influence the willingness of an individual to comply with the provisions of tax law including the payment of tax. In their contribution, Joshua and Jinjarik (2005) theorized that greater polarization and political instability in a country would reduce the efficiency of tax collection, hence, lower compliance level. The study of Damania et al. (2004) reported that in a politically stable country with an efficient judiciary and lower corruption, there is a high degree of compliance with regulation. Also, the study of Tedds (2007) revealed that political instability led to noncompliance.

Similarly, scholars have indicated the importance of the efficient and effective rule of law in enforcement of compliance with regulations in a country. Bergman (2009) stated that the rule of law creates an environment for compliance with rules and regulations. Torgler and Schneider (2009) also noted that the lack of an efficient and effective administration of rule of laws might undermine the willingness of the citizens to pay tax. The study of Bergman (2009) revealed that a country that has a well-established rule of law that is widely accepted and embraced as the social norm of its people, has a better compliance than a country without an efficient rule of law. Riahi-Belkaoui (2004) also found that the effectiveness of rule of law is positively related to tax compliance.

Furthermore, the issue of corruption in government finance is a growing problem in some countries, particularly developing countries. According to Uslaner (2007), corruption is far worse in transition and developing countries than in the developed countries of the west and that corruption robs the public treasury of available resources for public projects and destroys the trust of the people in government. The consequences of corruption are numerous. Uslaner (2007) declared that corruption discourages people to pay taxes. Torgler (2003) argued that combating corruption could help control the problem of tax noncompliance. The study of Spicer and Lundstedt (1976) showed that taxpayers would feel cheated if they believe that their tax burden is not well spent. Picur and Riahi-Belkaoui (2006) reported that tax compliance is positively related to the successful control of corruption. Uslaner's (2007) study equally indicated that less corruption would lead to greater tax compliance.

In Nigeria, there is evidence pointing to the fact that the quality of public governance may not be satisfactory. Natufe (2006) said that Nigeria is witnessing a fundamental crisis in public governance. Abati (2006) equally submitted that the state of decay in Nigeria's public infrastructure and economic activity are a reflection of poor public governance quality. Religious and inter-ethnic crisis, decay in infrastructure such as education, power supply, health and roads, etc., are all indicators and symptoms of poor public governance in Nigeria (Natufe, 2006). The study of Madueke (2008) showed a general dissatisfaction with the quality of public governance in Nigeria and underpinned the problem on the lack of control of corruption, lack of rule of law and poorly articulated government policy. The studies of Lewis (2006), and Lewis and Alemika (2005) also indicated a drop in the public expression of satisfaction with the government performance and dividends of democracy in Nigeria. Fagbadebo (2007) also declared that Nigeria is a victim of bad public governance and suggested that accountability and transparency must be guaranteed to ensure good public governance in Nigeria. But, to what extent has the perception of public governance quality in Nigeria influenced taxpayer's compliance behaviour ?

On the basis of the above submission and the social exchange theory, the hypothesis below is thereby developed to meet the second objective:

$H_{11}$: The perception of taxpayer about the quality of public governance has a positive relationship with his/her compliance behaviour.

However, the relationship between the quality of public governance and tax compliance behaviour may be contingent on the moderating effects of the taxpayer's financial condition and risk preference because even in the presence of high public governance quality, the taxpayer may be facing a bad financial condition or may decide to take unfavourable risk. Accordingly, the following hypotheses are stated to achieve the fourth objective:

$H1_{11a}$: The taxpayer's financial condition moderates the relationship between his/ her perception about the quality of public governance and tax compliance behaviour.

$H1_{11b}$: The taxpayer's risk preference moderates the relationship between his/ her perception about the quality of public governance and tax compliance behaviour.

$H_{11c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about the quality of public governance and tax compliance behaviour.

Table 4.1 presents the summary of the hypotheses along the study's objectives and research questions.

**Table 4.1**
**Summary of Hypotheses, Objectives and Research Questions**

| Research Questions | Objectives | Hypotheses(H) |
|---|---|---|
| 1.Do quality of tax services, multi-ethnic background and Nigerian public governance quality play a significant role in Nigerian tax compliance behaviour? | 1. To determine the perception of Nigerians about the quality of tax service and its relationship with their tax compliance behaviour. | $H_3$ |
| | 2 To determine the perception of Nigerians about public governance quality and its relationship with their tax compliance behaviour. | $H_{11}$ |
| | 3.To determine whether the multi-ethnic background of Nigerian taxpayers causes a difference in the compliance behaviour in Nigeria. | $H_{6,}$ $H_7$ |
| 2. Do taxpayers' financial condition and risk preference moderate the relationship between tax compliance behaviour and its determinants? . | 4. To determine whether taxpayer's financial condition and risk preference moderate the relationship between the tax compliance behaviour and the determinants individually and jointly. | Moderating effects of:<br>i) Financial condition<br>$H_{1a,}$ $H_{2a,}$ $H_{3a,}$ $H_{4a,}$ $H_{5a,}$ $H_{6a,}$ $H_{7a,}$ $H_{8a,}$ $H_{9a,}$ $H_{10a.,}$ $H_{11a}$<br>ii) Risk Preference<br>$H_{1b,}$ $H_{2b,}$ $H_{3b,}$ $H_{4b,}$ $H_{5b,}$ $H_{6b,}$ $H_{7b,}$ $H_{8b,}$ $H_{9b,}$ $H_{10b,}$ $H_{11b}$<br>iii) Financial condition & Risk Preference<br>$H_{1c,}$ $H_{2c,}$ $H_{3c,}$ $H_{4c,}$ $H_{5c, H6c,}$ $H_{7c,}$ $H_{8c,}$ $H_{9c,}$ $H_{10c,}$ $H_{11c..}$ |

## 4.4 Research Design

The most used research method recommended for the study investigating perception, attitude, opinion and behaviour of individual taxpayers is the taxpayer opinion survey method (Jackson & Millron, 1986; Roth et al., 1989; Torgler, 2007). According to Torgler (2007), the main advantage of the survey method is that it helps the researcher to obtain data relating to socio economic, demographic and attitudinal variables of the taxpayers. Going by this recommendation, the taxpayer opinion survey method was adopted as the research method of this study. This method has been used in several previous studies on tax compliance in both developed and developing countries (Fjeldstad & Semboja, 2001; Kasipillai & Jabbar, 2006; Manaf, 2004; Mustafa, 1997; Mason & Calvin, 1984; Saad, 2011; Spicer & Lundstedt, 1976; Song & Yarbrough, 1978; Tayib, 1998; Verboon & van Djike, 2011). The survey research method used in this study was based on the quantitative research approach.

The quantitative research approach was used in this study because of the number of variables of the study. Creswell (2009) said that the quantitative research approach is appropriate for complex studies with many variables and treatments. The survey instrument used to collect the metric data of this study was a questionnaire. The instrument was subjected to a reliability and validity test using taxation and research methodology experts, both academicians and professional, as well as through a pilot study. The questionnaire was designed with structured questions, which were assigned weight. Demographic questions were also included to obtain information on the socio-economic background of the study's samples. The questionnaires were distributed to the samples in the selected geographical areas of Nigeria with the help of research assistants.

The target population of this study was individuals whose incomes are taxable under the provisions of Personal Income Tax Act Cap P8 2004 in Nigeria. Samples were selected from the target population using a multi-stage cluster random sampling technique. Under this technique, the samples were selected in three stages. In the first stage, the geographical areas of Nigeria covered in the study were selected and in the second stage, organizations, enterprises as well as government establishments that filed tax returns and PAYE to tax offices operating within the sampling areas were chosen. In the third stage, the individual taxpayers that participated in the study were selected from the chosen organizations, enterprises and government establishments.

In designing this study, the model of tax compliance was expanded to incorporate perceived tax service quality, public governance quality and ethnic diversity as constructs as well as personal financial condition and risk preference as moderating variables. These constructs and moderating variables are relevant in meeting the environmental reality of Nigeria.

### 4.5 Operational Definitions of Constructs and Variables

The model of this study was built on nine constructs and two moderating variables. These constructs and moderating variables were derived from the literature and they were defined in various dimensions as well as measured using a different number of items.

#### 4.5.1 Tax System Structure

Tax system structure is one of the major constructs of Fischer's model. In the model, it consists of five dimensions: complexity of tax system, detection probability, sanctions, tax authority contact and tax rate. Some researchers have tested less than the five dimensions in their studies, for instance, Chan et al. (2000) did not test tax system structure; Manaf (2004) included only penalty and sanction and the same was done in Loo, Mckerchar and Hansford (2009). Detection probability is defined as the likelihood that the tax authority will find out about the noncompliance act of the taxpayer through any of its enforcement (Chau & Leung, 2009; Fischer, 1993). Tax penalty is a sanction imposed on the taxpayer for noncompliance.

However, Fischer (1993) stated that in a survey, the effects of penalty and detection probability on compliance are perceived because they are not the actual penalty and detection. Accordingly, perceived detection probability is operationally defined as the taxpayer's belief about the likelihood that the tax authority will discover his/her noncompliance act through its enforcement programme (Fischer, 1993) , while perceived penalty is the expression of the taxpayers about the severity of tax sanction and its effect on his/her noncompliance act.

The complexity of the tax system is operationally defined as difficulties in the understanding of tax laws, computation of tax liability and other tax procedures (Millron, 1985). In their review work, Jackson and Millron (1986), and Long and Swingen (1991) indicated that tax complexity can be measured in two dimensions, that is, detail of tax rules and numerousness of tax computation. However, Mustafa (1997) measured tax complexity more comprehensively with six sub-dimensions. The six sub-dimensions included changes in tax law, ambiguity in tax law, detail, record keeping, computations and tax forms. Tax rate is defined as the perceived fairness in the tax rate structure and burden distribution (Gilligan & Richardson, 2005). In this study, the focus is on the overall scale of tax system structure rather than each of its dimensions, and, for this purpose, the 20 items used to measure tax system structure were adapted from the studies of Gilligan and Richardson (2005), James, Murphy and Reinhart (2005), Mustafa (1997) and Wenzel (2004a). Table 4.2 shows the various dimensions of structure of the tax system together with their measurement items.[76]

**Table 4.2**
**Dimensions and Measurement Items of Structure of Tax System**

| Dimension | Sources of Dimension | Measurement Items | Sources of Measurement |
|---|---|---|---|
| Perceived detection probability | Chau and Leung (2009), Fischer et al. (1992), Jackson and Millron (1986), Manaf (2004), Loo et al. (2009) & Wenzel, 2004a | Detection of underreporting of large amount<br>Detection of overstating of large deductions<br>Detection of underreporting of small amount<br>Detection of overstating of small deductions | Wenzel, (2004a) |
| Perceived sanction severity | Chau and Leung (2009), Devos ( 2008), Fischer et al. (1992), Fischer (1993), James & Murphy (2007), Loo et al (2009), Manaf (2004) & Verboon and Dijke (2007) | Sanctions of court, fine and paying interest<br>Sanctions of court, and paying interest<br>Sanctions of fine and paying interest<br>Sanction of paying interest. | James , Murphy& Reinhart (2005) |
| Complexity of tax system | Chau and Leung (2009), Fischer et al. (1992), Frost and Sheffin (2002) Millron (1985), Mustafa (2007) & Richardson (2006) | Ambiguity in tax laws<br>Easiness in income tax computation<br>Frequency of change in tax laws<br>Detail of tax rules<br>Record keeping requirement<br>The extent of confusion on tax forms | Mustafa, (1997& 2007) |
| Tax rate structure | Chau and Leung (2009), Fischer et al. (1992), Gilligan and Richardson, (2005) & Mann & Smith (1988) | Ability to pay tax.<br>Progressive tax<br>Flat tax.<br>High-income earner tax<br>Middle- income earner tax<br>Low -income earner tax. | Gilligan & Richardson, (2005) |

76. However, 5 items were deleted from the 20 items course of factor analysis (see chapter five for detail).

### 4.5.2 Tax Knowledge

Tax knowledge as the determinant of compliance was included in the studies of Ahmad, Mustafa and Noor (2007), Eriksen and Fallan (1996), Kasipillai (1997), Loo et al. (2009), Manaf (2004), Mustafa (1997), and Song and Yarbrough (1978). Tax knowledge is defined as the ability of the taxpayer to understand tax law and compute tax liability, (Ahmad et al. 2007). Most Malaysian studies (Ahmad et al., 2007; Kasipillai, 1997; Manaf, 2004; Mustafa, 1997) measured the knowledge of taxpayers on the tax laws and concepts while other studies (Eriksen & Fallan 1996), measured taxpayer understands of the tax laws and computations of tax liabilities. Six items were used to measure tax knowledge in this study with three items each on income to be included and expenses to be deducted in tax return, respectively. These items followed after the studies of Eriksen and Fallan (1996), and Kasipillai (1997). Table 4.3 shows the dimension of tax knowledge and its measurement items.

**Table 4.3**
**Dimension and Measurement Items of Tax Knowledge**

| Dimension | Sources of Dimension | Measurement Items | Source of Measurement |
|---|---|---|---|
| Knowledge of income tax law | Ahmad et al. (2007), Eriksen & Fallan (1996) Kasipillai (1997), Manaf (2004) & Loo et al. (2009) | Items of income to be included in tax return<br>Items of deductions to be included in tax return | Erisken & Fallan (1996), Kasipillai (1997) |

### 4.5.3 Perceived Tax Service Quality

To erase the doubt about the possibility of using a service quality model in the public sector as it is done in the private sector, Brysland and Curry (2001) said that the service quality model can be applied in the public sector as long as the instrument is modified to suit the context in which it is applied and the customers properly identified. Perceived tax service quality as a construct in this study is defined as taxpayer's global judgment or attitude relating to the superiority of the tax service provided by the tax office (Parasuraman et al., 1985). The marketing literature has provided evidence of different dimensions of perceived service quality from different authors. Gronroos (1984) developed two dimensions (technical quality and functional service) in what is known as the Nordic model. Parasuraman et al. (1985) invented the SERVQUAL model otherwise known as the American model with ten dimensions initially but later reduced to five (reliability, responsiveness, assurances, empathy and tangibility). Another service quality model is the Three-Component Model of Rust and Oliver (1994), which consists of the service product, the service delivery and the service environment. However, in another work on service quality in the literature, three themes of modifications are evident, which affects SERVQUAL as well as the structure of the service quality construct. Brady and Cronin Jr. (2001) from the work of Rust and Oliver (1994) came up with the perceived service quality model, which is multilevel and multidimensional and incorporates all the different service quality models. According to Caro and Garcia (2007), Brady and Cronin's Jr model is believed to explain the complexity of human perception about service quality better and provides knowledge of the real service experience of the customer. The model has been adopted by a number of studies in evaluating service quality, particularly in service industry; examples include the studies of Caro and Garcia (2007), and Madhavaiah et al. (2008). Following the submission of Caro and Garcia (2007), this study adopted Brady and Cronin's Jr. (2001) model as the appropriate model considering the interactive nature of the tax service. The model is made up of the following dimensions:

(a) Interaction quality: This is defined as taxpayers' perception of the quality of interaction that takes place between him/her and the tax office employees during service delivery (Gronroos, 1984). The interaction quality dimension has three sub dimensions, which include attitude, behaviour and expertise and each sub dimension is measured by three items derived from Parasuraman's et al. (1985) SERVQUAL model , (reliability, responsiveness and empathy ).

(b) Physical environment quality: This is the evaluation by the taxpayers of the surrounding environment of the tax office and equipment available for the delivery of tax services. The sub dimensions of physical environment quality are: ambient conditions, design and social factors (Brady & Cronin's Jr., 2001).

(c) Outcome quality: This is defined as the perception of the taxpayers about what they received in the tax service encounter (Gronroos, 1984). Outcome quality is measured by the following sub dimensions: waiting time, tangibles and valence. However, this study is interested in the overall scale of perceived tax service quality not in its dimension. Perceived tax service quality was measured with 28 items adapted from the work of Brady and Cronin Jr. (2001).[77] The items are presented in Table 4.4.

77. The actual items used to perceived tax service quality were 24 as 4 items were rejected in the factor analysis.

**Table 4.4**
**Dimensions and Measurement Items of Perceived Tax Service Quality**

| Dimension | Sources of Dimension | Measurement Items | Source of Measurement |
|---|---|---|---|
| Interaction Quality | Brady & Cronin Jr. (2001), Gronroos (1984) & Rust & Oliver (1994) | Quality of interaction with tax office employee.<br>Tax office employees friendliness<br>Tax employees' willingness to help taxpayer<br>Tax employees' action to meet taxpayers' needs<br>Tax employees' response to taxpayers' needs<br>Tax employees' behaviour to taxpayers' needs<br>Tax office employees knowledge of their job<br>Reliance on tax office employees' knowledge | Brady & Cronin Jr. (2001) |
| Tax office physical Environment quality | Brady & Cronin Jr (2001) &Rust& Oliver, (1994) | Reliance on tax office atmosphere<br>Rating of tax office physical environment<br>Compare ambiance at the tax office to any office<br>Importance of atmosphere to tax office<br>Tax office layout impressiveness<br>Tax office layout serving taxpayers' purpose<br>Importance of facility design to tax office<br>Impression about tax office by other taxpayers<br>Service provided by tax office to every taxpayers<br>Taxpayer's patronage and perception of service | Brady & Cronin Jr. (2001) |
| Tax service outcome quality | Brady & Cronin Jr, (2001),Gronroos (1984) & Rust& Oliver, (1994) Parasuraman, et al. (1985) | Taxpayer's impression of the tax service provided<br>Minimum waiting time at tax office<br>Prediction of waiting time at tax office<br>The importance of waiting time to tax office<br>Taxpayer's satisfaction with tax office service<br>Taxpayer's satisfaction with tax office's equipment<br>Ability to know the needs of taxpayers<br>Taxpayer feeling after receiving tax service<br>Intention about taxpayer's service experience<br>Knowledge of taxpayer's type of experience | Brady & Cronin Jr. (2001) |

### 4.5.4 Attitude towards Tax Evasion

Taxpayer's attitude towards tax evasion has been predicted to have an effect on the compliance behaviour of the taxpayer (Chan et al., 2000). The attitude towards tax evasion can be defined as the taxpayer's disposition to respond favourably or unfavourably to tax cheats (Ajzen, 1991; Fishbein & Ajzen, 1975). Attitude of the taxpayer to tax evasion comprises their belief about tax evasion, feeling about tax evasion and behaviour.

Attitude towards tax evasion is multi dimensional construct. Following the work of Lewis (1982), Eriksen and Fallan (1996) measured attitude towards tax evasion using the dimensions:

(a) Tax ethic: Attitude of taxpayer to their own tax evasion behaviour without identifiable victims (Eriksen & Fallan, 1996).

(b) Other taxpayers' evasion and fairness: Attitude of taxpayer to tax evasion behaviour of other taxpayers with identifiable victims and tax fairness (Eriksen & Fallan, 1996).

(c) General crime: Attitude of the taxpayer to other illegalities with identifiable victims. The focus of this study is on the total scale of attitude not the dimension and for this purpose, the study adapted 9 items from the study of Eriksen and Fallan (1996).[78] Table 4.5 shows the dimensions of taxpayer's attitude towards tax evasion together with the measurement items.

**Table 4.5**
**Dimensions and Measurement Items of Attitude towards Tax Evasion**

| **Dimension** | **Source of Dimension** | **Measurement Items** | **Sources of Measurement** |
|---|---|---|---|
| Tax ethic | Eriksen & Fallan (1996), Lewis (1982), McGee (2006) & Song & Yarbrough (1978) | Taxpayer not declaring other income<br>Taxpayer claiming non-existent tax deductions<br>Taxpayer underreporting of income | Eriksen & Fallan (1996) |
| General crime | Eriksen & Fallan (1996) & Lewis (1982). | Seriousness of embezzlement of association funds<br>Seriousness of stealing money from wallet<br>Seriousness of driving car while drunk | Eriksen & Fallan (1996) |
| Other people tax evasion & fairness | Eriksen & Fallan (1996) & Lewis (1982) | Feeling about other people's involvement in evasion<br>Other people underreporting their income<br>Other people's evasion and tax system unfairness | Eriksen & Fallan (1996) |

78. Attitude was measured with 8 items as 1 item was dropped in the course of factor analysis.

### 4.5.5 Taxpayer's Moral Reasoning

Taxpayer's moral reasoning in the context of tax compliance behaviour is defined as the degree to which a taxpayer considers a particular behaviour to be morally agreeable (Chen Pan & Pan, 2009). It equally refers to the extent, to which a taxpayer thinks a particular behaviour and option is ethical or unethical, and correct or not correct (Chen et al., 2009). Taxpayer's moral reasoning as a construct in this study is a one-dimensional construct and was measured using 10 items of the Ethic Position Questionnaire (EPQ) developed by Forsyth (1980).[79] This measurement was adopted as its validity and reliability had been proven. Table 4.6 indicates the items for measuring moral reasoning.

**Table 4.6**
**Dimensions and Measurement Items of Taxpayer's Moral Reasoning**

| Dimension | Sources of Dimension | Measurement Items | Source of Measurement |
|---|---|---|---|
| Moral Reasoning | Chan et al. (2000), Chen, Pan & Pan (2009) | Intentional actions harm others | |
| | | Tolerance of risk to another person | |
| | | Wrongness of potential harm to others | |
| | | Harming of other person psychologically and physically | Forsyth (1980) |
| | | Action that threaten the dignity and welfare of other | |
| | | Not doing action that harm innocent | |
| | | Balancing negative and positive consequences of act | |
| | | The concern for dignity and welfare in the society | |
| | | Sacrifice for the welfare of others | |
| | | Marching moral behaviour with action | |

### 4.5.6 Taxpayers' Ethnic Diversity

Most studies on tax compliance that were conducted from the perspective of the ethnic background of taxpayer are cross-country studies; examples include the studies of Chan et al. (2000), Richardson (2008) and Tsakumi et al. (2007). Literature has provided

79. One item was equally dropped from the 10 for measuring moral reasoning in the factor analysis.

limited evidence of the effect of multi-ethnicity on tax compliance within a country (Aitken & Bonneville, 1980; Kasipillai & Jabbar, 2006; Manaf, 2004). Ethnic diversity within the context of this study is defined as differences that characterize the society of the taxpayer, (O'Neil, 2006). It is social fragmentation in the form of religion, race, culture and linguistic distances that characterize the taxpayer's society (Okediji, 2005).

In measuring ethnic diversity and the culture of taxpayers, studies like Aitken and Bonneville (1980), Chan et al. (2000), Fjeldstad and Semboja (2001), Kasipillai and Jabbar (2006), Manaf (2004) and Torgler (2003) used ethnic or race groups as a proxy for ethnicity and culture. However, Okediji (2005) extended the measurement by including religion and arguing that a religious faith may be tied to a particular ethnic group or race not the other. Following the trend in the previous studies, this study used ethnic group as well as religion as a proxy for taxpayers' ethnic diversity.

### 4.5.7 Noncompliance Opportunity

Noncompliance opportunity is one of the major constructs from Fischer's model having a direct relationship with taxpayer's compliance behaviour. Tax noncompliance opportunity is defined as the structural opportunity to engage in noncompliance. Structural opportunity is the extent to which a taxpayer's economic and social situations provide a way to avoid detection (Fischer, 1993; Lorreta et al., 1989). In Fischer's model, noncompliance opportunity has income source, income level and occupation as dimensions. Income source is the type or nature of income of a taxpayer. Income level refers to adjusted gross income or positive income of a taxpayer while occupation is the taxpayer's employment or earning activities (Jackson & Millron, 1986). In this study, income source, level of income and occupation were measured with categorical data. Some of the items of the categorical questions were adapted from the study of Manaf (2004). Table 4.7 shows the sources of the dimensions of noncompliance opportunity.

**Table 4.7**
**Dimensions of Noncompliance Opportunity**

| Dimension | Source of Dimension |
|---|---|
| Income Source | Chan et al. (2000), Chau &Leung (2009), Devos (2005, 2008) Fischer et al. (1992), Loo et al. (2009), Manaf (2004), Mustafa (1997 & 2007) , Tayib (1998), Torgler (2003) & Richardson (2006) |
| Income Level | Chan et al. (2000), Chau & Leung (2009), Devos (2005,2008) Fischer et al. (1992), Loo et al. (2009), Manaf (2004), Mustafa (1997 & 2007), Tayib (1998), Torgler, (2003) & Richardson (2006) |
| Occupation | Azmi &Perumal (2008), Chan et al. (2000), Chau &Leung (2009), Devos (2005, 2008), Erard & Ho (2003) Fischer et al. (1992), Loo et al. (2009), Manaf (2004), Mustafa (2007), Tayib (1998), Torgler (2003) & Richardson (2006) |

### 4.5.8 Public Governance Quality

Public governance quality is a multi faceted concept, which encompasses all aspects of exercising authority through formal and informal institutions in the management of the available resources of a state for the benefit of the people (Huther & Shah, 1999). In the context of this study, public governance quality is defined as the provision of political goods of necessary quality by the government to the taxpayers efficiently (Rotberg, 2005). It is also referred to as more closely matching political goods with the taxpayers (citizens) preference and moving the government's intended service closer to the people and ensures greater accountability in the public sector (Huther & Shah, 1999).

Cepiku (2010) and Huther and Shah (1999) said that there is no single index that can conceptually capture all aspects of public governance but focusing on key observable aspects of the governance dimension can be helpful. Kaufmann et al. (2002), Kaufmann et al. (2007), Torgler, Schaffner and Macintyre (2007), Torgler and Schneider (2009) indicated that public governance quality is a multidimensional construct. The dimensions commonly used to measure perceptions of good governance (Kaufmann et al., 2002; Kaufmann et al., 2007), adapted to measure public governance quality in this study include the following:

(a) Democracy and accountability: This measures the extent to which taxpayers (citizens) are able to participate in the selection of government as well as transparency in government financial management (Kaufmann et al., 2007).

(b) Political stability: This measures the perception of the taxpayers of the likelihood that the government in power will be destabilized or overthrown through unconstitutional and/or violent means (Kaufmann et al., 2007). Political instability will have a direct effect on the continuity of government policies, which will undermine the welfare of the taxpayers as well as the peaceful selection and replacement of political office holders.

(c) Government effectiveness: This represents the combined perceptions of the taxpayers concerning the quality of public service provided by the government, the quality of the public bureaucracy, the competence of the public servants, the independence of the civil service from political intervention and the credibility of the government's commitment to the realization of its policies ( Kaufmann et al., 2007).

(d) Rule of law: This indicator measures the degree to which the taxpayer has confidence in the rule of the society as well as the government abiding by the rule. It measures "the success of a society in developing an environment in which fair and predictable rules form the basis for economic and social interaction" (Kaufmann et al., 2002, p3).

(e) Control of Corruption: This indicator measures the perception of the taxpayers about corruption in the public sector. Corruption is defined as the exercise of entrusted public power for private gain (Kaufmann et al., 2007). However, this study focused on the overall scale of public governance quality rather than the dimensions. To measure this latent variable, the study used 17 items[80] adapted from the sources indicated in Table 4.8.

**Table 4.8**
**Dimension and Measurement Items of Public Governance Quality**

| Dimension | Sources of Dimension | Measurement Items | Sources of Measurement |
|---|---|---|---|
| Democracy & Accountability | Kaufmann et al. (2002), Torgler et al. (2007), Torgler & Schneider (2009) & Tayib, 1998 | Trust of the parliament for making good law<br>Free and fair election<br>Wastefulness in government expenditure<br>Access to govt. annual report and account | Afrobarometer (2005)<br><br><br>Tayib (1998) |
| Political Stability | Kaufmann et al. (2002), Odinkongbo (2009) Torgler, et al. (2007), Torgler & Schneider (2009). & Marc (2001) | Decline in political authority and stability<br>Political protest threat to stability<br>Ethnic and religious conflict and stability | Marc (2001) |
| Government Effectiveness | Kaufmann et al. (2002), Torgler et al. (2007), Torgler & Schneidler (2009), Afrobarometer, 2005&WEF, 2006 | Satisfaction with quality of infrastructure<br>Political intervention in public service<br>Satisfaction with health service<br>Satisfaction with quality of education system | World Econ. Forum (2006)<br>Afrobarometer (2005) |
| Rule of law | Kaufmann et al. (2002), Torgler et al. (2007), Torgler & Schneidler (2009) & WEF, 2006 | Fairness in administration of justice<br>Confidence in legal system<br>Police effectiveness<br>Independence of the judiciary | World Economic Forum (2006) |
| Control of Corruption | Kaufmann et al. (2002), Picur & Riahi-Belkaui (2006),Torgler et al. (2007) Torgler & Schneider (2009), Gallup (2006) & Uslaner, (2007). | Trust of financial honesty of politicians<br>Diversion of public funds<br>Corruption in contract and tax payment | Gall up (2006) |

80. Public governance quality was actually measured with 13 items as 4 items were rejected in the factor analysis.

### 4.5.9 Taxpayer's Financial Conditions

Personal financial condition of the taxpayer is a moderating variable in this study and it is defined as the extent to which the taxpayer is satisfied with his financial condition and that of his/her household (Lago-Penas & Lago-Penas, 2009; Torgler, 2003 & 2006). It is a one dimension variable and measured by 3 items in this study.

**Table 4.9**
**Dimensions and Measurement Items of Taxpaer's Financial Condition**

| Dimension | Source of Dimension | Measurement Items | Source of Measurement |
|---|---|---|---|
| Financial Condition | Lago-Penas & Lago- Penas (2008), Loo et al. 2009 & Torgler (2003& 2006) | Family financial commitment<br>Comfort of living<br>Satisfaction with financial condition | Loo et al (2009)<br>Lago-Penas & Lago-Penas (2008)<br>Torgler (2003& 2006) |

### 4.5.10 Taxpayer's Risk Preference

Taxpayer's risk preference is a moderating variable and it is operationally defined as risk-laden opportunities, which a taxpayer considers are more desirable than other possible available choices (Atkins et al., 2005; Guthrine, 2003). This study measured the general risk preference of taxpayer using 5 items.

**Table 4.10**
**Dimensions and Measurement Items of Taxpayer's Risk Preference**

| Dimension | Source of Dimension | Measurement Items | Source of Measurement |
|---|---|---|---|
| Risk Preference | Torgler, 2006 | Financial risk taking<br>Social risk<br>Health risk<br>Career risk<br>Safety risk | Nicholson, Soane, Fenton-O'Creevy, & William (2005) |

### 4.5.11 Tax Compliance Behaviour

In the context of this study, tax compliance behaviour is the dependent variable. Tax compliance is operationally defined as true reporting of the tax base; correct computation of the tax liabilities; timely filling of tax returns and timely payment of the amount due as tax (Chatopadhyay & DasGupta 2002; Franzoni, 2000). Any behaviour by the taxpayer contrary to the above is noncompliance. According to Roth et al. (1998), tax noncompliance occurs through failure to file a tax return, misreporting income or misreporting allowable subtractions from taxable income or tax due (exemptions, deductions, adjustment, tax credit, etc.).

However, the difficulty of measuring tax compliance has been acknowledged in the literature (Alm, 1999; Long & Swingen, 1991; Tanzi & Shome, 1993) and for this reason; different direct and indirect methods have been devised to observe tax compliance, however, the most commonly used method is the self-report method (Fischer et al., 1992; Jabbar, 2009; Long & Swingen, 1991). The self- report method could be designed to measure past behaviour or behaviour in a hypothetical case (scenario). Marshall, Smith and Armstrong (2005) emphasized that scenario has significant advantage over other techniques of data collection in a sensitive issue such as taxation. Kirchler and Maciejovsky (2001) also argued that the use of a scenario describing possible actions of a third party might likely produce the desired response and reduce personal bias. As a proof of the usefulness of scenario cases in tax compliance researches, many studies conducted in both developed and developing countries have employed the technique (Aripin, Kasipillai, & Amran, 2002; Bobek, 1997; Chan et al., 2000; Fischer, 1993; Kasipillai, Mat-Udin, & Ariffin, 2003; Kirchler & Maciejovsky, 2001;

Marshall et al., 2005; Recker et al., 1994; Saad, 2011; Wenzel, 2004a). For the purpose of this study, the scenario case adapted from the study of Bobek (1997) was used to measure tax compliance behaviour.

Following the criticism that some studies only focused on income reporting behaviour of taxpayers and ignored other forms of tax compliance (Alm & McKee, 2006), the scenario case of this study was designed to measure the respondents' behaviour in the four basic components of tax compliance. The four components of tax compliance were equally measured in other studies (Ashby, Webley, & Haslam, 2009; Brown & Mazur, 2003; Kasipillai et al., 2003; Plumley, 2002; Wenzel, 2004a). The basic components of tax compliance were described in the submissions of Brown and Mazur (2003) and Plumley (2002) to include filing compliance, reporting compliance and payment compliance. Filing compliance measures information about the taxpayers who have filed their tax returns voluntarily at a stipulated time. Reporting compliance measures the proportion of income and claims that are accurately reported by taxpayers on timely filed tax returns. Therefore, reporting compliance consists of income reporting and tax off set reporting. Payment compliance measures timely and voluntarily paid tax by taxpayers on timely filed return (Plumley 2002). The study used one item to measure each of the components of the tax compliance and these components and their sources are presented in Table 4.11

**Table 4.11**
**Dimension and Measurement Items of Tax Compliance Behaviour**

| Dimension | Source of Dimension | Measurement Components / Items | Sources of Measurement |
|---|---|---|---|
| Tax compliance | Chan et al. (2000), Chau & Leung (2009), Devos (2005,2008) Fischer et al. (1992), Kasipillai & Jabbar (2006), Loo et al. (2009), Manaf (2004), Mustafa ( 2007) Tayib (1998), Torgler (2003) & Richardson (2006) | Income reporting compliance<br>Tax offset reporting compliance<br>Filing compliance<br>Payment compliance | Bobek (1997)<br>Brown & Mazur (2003)<br>Ashby, Webley Haslam (2009)<br>Wenzel (2004b) |

## 4.6 Measurement of Variables and Constructs

This study was designed to apply quantitative approach with data collected through the sampling survey method using a questionnaire; as a result, the level of scale measurement that was used for most variables was the interval scale level and a nominal scale for a few variables. The interval scale was the most appropriate for the study of this nature because; according to Hair et al. (2007), variables measured at the interval level are referred to either as quantitative or metric study.

In this study, most variables were measured, using a five-point Likert scale of strongly disagree, disagree, neutral, agree and strongly agree with score from 1 to 5 respectively. This rating scale was also used in the tax compliance studies of Devos (2008), Manaf (2004), McGee (2006), Mustafa (1997) and Tayib (1998). Some of the variables were measured using a categorical scale but which were subsequently recoded to dummy variables for the purpose of analysis and a summated scale was used to obtain each construct of the study. Hair, Black, Babin and Anderson (2010) described a summated scale as the “method of combining several variables that measure the same concept into a single variable…”(p.3).

### 4.6.1 Tax System Structure

The four dimensions of the tax system structure construct were measured with a five- point scale. Perceived detection probability was measured with four item statements with which respondents were asked to indicate their agreement or disagreement to the chance that someone will be caught in an attempt to underreport income or overstate tax claims. In this case, the highest score is 5 indicating that there is high chance of being caught while the lowest score (1) indicates a low chance of being caught.

Perceived sanction severity was equally measured by four item statements in which subjects were asked to indicate how much a problem a specified sanction would be if someone is caught. The scale and scores for these statements are: no problem (1), small problem (2), medium problem (3), large problem (4) and very large problem (5). For perceived sanction severity variable, a high score is an indication that the legal sanction is very severe while a low score is less severe on noncompliance. Tax rate and complexity of tax system were measured with six items each of which respondents indicated the extent of their agreement or disagreement with statements relating to tax rate and complexity of the tax system. In the case of both variables, a high score suggests that the tax rate structure is perceived to be fair and the tax system is more complex while a low score means the tax rate structure is less fair and the tax system less complex, respectively. The items of the four dimensions were summated to derive the tax system structure construct. In this case, a high score indicates that the tax system structure is effective[81] while a low score means it is less effective.

81. Jenkins and Forlemu (1993) made a distinction between effective and efficient tax system structure. The tax system structure is effective when tax administration minimizes the degree of noncompliance to tax laws by the implementation of appropriate tax control measures while tax administration consists of efficient tax system structure when it minimizes the administrative cost per a monetary unit of tax collected.

### 4.6.2 Tax Knowledge

The tax knowledge of the respondents was evaluated concerning two areas, which included income to be reported in tax return and expenses to be claimed. Each area was measured using three items and these items were scaled as yes (3), no (1) and do not know (2). The six items were summated to derive an overall scale of the tax knowledge. The scores are interpreted as: high score (3) suggests that the respondents are well informed about tax issues, a score of 2 indicates they are uninformed about tax issues while a score of 1 means they are mis-informed about tax issues.

### 4.6.3 Perceived Tax Service Quality

Quality of interaction, quality of tax office environment and tax service outcome quality that are the dimensions under the perceived tax service quality construct were measured with twenty eight items and rated using a five-point Likert scale. Respondents were asked to indicate their agreement or disagreement to statements relating to the quality of their interaction with tax employees, tax office environment and outcome of tax service. A high score suggests that the respondents perceived their interaction with the tax office's employees, the physical environment of the tax office and tax service to be of high quality while a low score means low quality. The measuring items of the three dimensions were combined to obtain a total scale of the perceived tax service quality construct. A high score suggests a high perception about the tax service quality while a low score is an indication of low perception about the tax service quality.

### 4.6.4 Attitude towards Tax Evasion

The three dimensions of the attitude towards tax evasion were measured using a five-point Likert scale. Tax ethic was measured with three item statements to evaluate the behaviour of the subjects in respect of tax cheats. A high score is interpreted as the respondents having high ethical tax behaviour while a low score means that they have unethical tax behaviour.

Other people's tax evasion and tax fairness as well as general crime were equally measured each with three item statements to evaluate how the respondents feel about other people's tax evasion and tax fairness as well as their behaviour in respect of general crime. A high score reveals that the subjects feel bad about general crime and other people's evasion while a low score means they feel good. The overall scale of attitude towards the tax evasion construct was derived through the summation of the items of the three dimensions. In this case, a high score indicates that the respondents exhibited a less favourable attitude to tax evasion while a low score suggests that they exhibited a more favourable attitude to tax evasion.

### 4.6.5 Moral Reasoning

This observable construct was measured using ten items in which respondents were asked to state the extent of their agreement or disagreement with statements on various moral issues. The items were also rated using a five-point Likert scale. Where respondents have a high score, they were regarded as having high moral reasoning while a low score means that their moral reasoning is low.

### 4.6.6 Ethnic Diversity

Ethnic diversity was measured using ethnic groups and religions and for this purpose, dummy variables were designed for the ethnic groups and religions. The ethnic groups were categorized as (1) Hausa/Fulani, (2) Yoruba (3) Igbo, and (4) minority and three dummy variables were created for the groups while minority group was used as the base. Religion was also categorized as (1) Islamic; (2) Christianity and (3) traditional religion and two dummy variables were designed for it while traditional religion was used as the base.

### 4.6.7 Noncompliance Opportunity

Dummy variables were also created for the measurement of the variables under noncompliance opportunity just as was done in Manaf (2004). Income level was categorized into (1) low-income level, (2) middle-income level, and (3) high-income level, and two dummy variables were created for the purpose of the measurement using middle-income level as the base. Source of income was also categorized into: (1) employees in private sector, (2) employees in the public sector, and (3) sole proprietors, and two dummy variables were created for measuring the source of income using employees in the private sector as the base. Occupation was measured by designing a dummy variable of 0 and 1. The 0 is for professional which consisted of professional, manager and engineer while 1 is for non-professionals which included administrators, clerks, owner manager and others.

### 4.6.8 Public Governance Quality

Public governance quality has five dimensions and each of these dimensions was measured using a five-point Likert scale. Four item statements each were used to evaluate the perception of the respondents concerning the quality of democracy and accountability as well as government effectiveness in the delivery of public goods. Where the respondents received high score, they were considered to have perceived that the quality of democracy and accountability as well as government effectiveness is high while a low score indicates the quality is perceived as low.

Rule of law was measured with three items to evaluate the perception in respect of quality of administration of the rule of law of the country. A high score shows that the quality of administration of the rule of law is high and a low score indicates low quality. Three item statements each were used to obtain data for the measurement of the perception of the respondents concerning political stability and control of corruption in the country. A high score is an indication that there is much political stability and considerable control of corruption in the public sector. Overall, the total scale of public governance quality was derived through the summation of the items of the five dimensions and a high score indicates that the respondents perceived that public governance quality is high while a low score means the respondents perceived that public governance quality is low.

### 4.6.9 Tax Compliance Behaviour

Tax compliance behaviour was measured with four items covering the four components of tax compliance using a hypothetical scenario case. Respondents were asked to indicate (1) the Naira amount of income and deduction they would report on their tax return if they were in a similar situation to the scenario case (2) the date they would file their income tax returns if they were in a similar situation to the scenario case, (3) how many days after receiving an assessment notice it would take them to pay their income tax if they were in a similar situation to the scenario case. The scores of (1), (2) and (3) were assigned to the options under each item of the scenario case and the values were interpreted as somewhat compliant, moderately compliant and fully compliant.

#### 4.6.10 Taxpayer's Financial Condition and Risk Preference

The two moderating variables of this study were also measured using a five-point scales. The financial condition of the respondents were measured with three items statements (however, this was later converted to categorical variable, see section 5.2.2 for detail), while their risk preference was measured using five different types of risk. For personal financial condition, a high score means that the respondents are in good financial condition while a low score suggests that they are in bad financial condition. A high score for risk preference means risk seeking while a low score indicates risk aversion.

### 4.7 Data Collection

In designing this study, consideration was given to the issues of data constraints. The primary data were collected through a sampling survey of Nigeria's taxable individuals. The data were collected with the use of a questionnaire.

#### 4.7.1 Sampling

The focus of this study was on tax compliance behaviour in Nigerian personal income tax administration; for this purpose, the study was interested in individuals whose income was subject to tax under Section 2(1) (b) of Nigeria's Personal Income Tax Act P8 LFN 2004.

These individuals were the target population of this study. The samples of this study were selected using the multi-stage cluster random sampling technique. According to Cavana, Delahaye and Sekaran (2001), the multi-stage cluster random sampling technique is applied when the selection of samples involves several stages before the final sample elements are reached. For the purpose of this study, the technique was applied in three stages. In the first stage, the geographical areas covered by the study were selected while in the second stage, organizations, enterprises and government establishments that filed tax returns and PAYE to tax offices operating within the selected areas were chosen. In the final stage, the individual taxpayers used as respondents of the study were selected within the organizations, enterprises and government establishments chosen in stage two.

#### 4.7.1.1 Nigerian Federal Capital Territory

Nigeria[82] is made up of 36 states and divided into six geographical zones by the government for easy administration. In order to have representation from each state, this study focused on Nigeria's Federal Capital Territory.[83] Nigeria's Federal Capital Territory is the central meeting point for Nigerians. It has representatives from every state, tribe, religion and social status.[84] From six local governments of the Federal Capital Territory, Abuja Municipal Council Area otherwise known as Abuja city, was selected as the geographical area of the

82. Refer to Appendix 5 for the geographical map of Nigeria.
83. The plan to create Abuja was conceived by the Federal Military Government in 1976 and was built through the 1980s. It was officially commissioned on 12th December, 1991 to replace Lagos as the Federal Capital Territory of Nigeria (Obateru, 2004).
84. Abuja is a neutral capital city and a symbol of national unity in which all Nigeria's ethnic groups, tribes and religions are represented and come together in harmony (Obateru, 2004). As a proof of symbol of national unity and the central meeting point for Nigerians of different ethnical and religious backgrounds, the headquarters of all Federal Ministries and most Federal extra-ministerial departments are located in Abuja; furthermore, these ministries have a fair representation from every part of Nigeria. Refer to Appendix 6 for statistics on representatives of each Nigeria's state working in federal public service.

study. Abuja city is the seat of the Federal Government and every part of Nigeria is adequately represented in the city.[85]

#### 4.7.1.2 Nigerian Individual Taxpayers

The Nigerian individual taxpayers who pay their income tax to Federal Inland Revenue Service were the target population of this study. The individuals who pay their income taxes to the Federal Government through Federal Inland Revenue Service are defined under section 2(1) (b) as follows:

( a) Persons in the employment of the Nigerian Army, the Nigerian Navy, the Nigerian Air Force, the Nigerian Police Force.

(b) Officers of the Nigerian Foreign Service.

(c) Every individual residing in Nigeria's Federal Capital.

(d) Every individual residing outside of Nigeria who derives his /her income or profit in Nigeria.

These individuals include those under PAYE and individuals under direct assessment. The individuals under PAYE are employees whose income taxes are deducted at the end of every month and remit to the tax office while individuals who were assessed directly include self-employed individuals, such as sole trader, partnership and other non-corporate organizations. These individuals come from every spectrum of Nigerian society, and, therefore, are a truthful representation of Nigeria.

85. Refer to Appendix 5 for the map of Abuja city showing the geographical areas covered by the study.

#### 4.7.1.2.1 Sample Size of the Taxpayers

Many scholars have stressed the importance of sample size in research design and to the overall results of a study (Bartlett, Kotrilik & Higgins, 2001; Hair et al., 2007; Sekaran & Bougie, 2010). To determine the sample size, the statistical data of the population of individual taxpayers in the areas covered by the study were obtained from FIRS. The total population of individual taxpayers in Abuja city was 175,609 as at 3rd November 2010.[86] This comprised 134,495 individual taxpayers in employment and 41,114 individual taxpayers in business. The sample size for this population was determined using Krejcie and Morgan's (1970) rule of thumb. With reference to the prepared table of sample size[87] by Krejcie and Morgan (1970), as cited in Cavana et al. (2001), the sample size was 382. However, literature has indicated that in order to obtain enough data many researchers commonly increase the sample size to compensate for non-response (Bartlett et al., 2001; Sekaran & Bougie, 2010; Israel, 2009). Specifically, Israel (2009) revealed that researchers increased the sample size by at least 30% to compensate for likely non-response. Accordingly, the sample size of this study was increased to 550 or by 44% (168) to overcome the problem of likely non-response rate. The sample size was increased above the 30% suggested by Israel (2009) because the study of Adomi, Ayo and Nakpodia (2007) indicated that people are reluctant to complete questionnaires in Nigeria.

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86. The population of individual taxpayers used in this study is related to the number of individual taxpayers under the jurisdiction of the four revenue offices in charge of tax administration in Abuja city. These offices are indicated in Appendix 7. The total population of individual taxpayers under the jurisdiction of FIRS throughout Nigeria was 282,928 as at 3rd November, 2011. Refer to Appendix 7 for the summary list of the individual taxpayers.
87. Refer to Appendix 8 for list sample size for a given population size.

#### 4.7.1.2.2 Sample Selection

For the selection of the samples, the appropriate sampling frame should be the list of individual taxpayers that filed tax returns to the tax offices in the four district areas of Abuja city. This is because Nigerian income tax laws[88] assume that compliance with provisions of the income tax laws commences with the filing of the tax return. However, individual taxpayers in employment either public or private sector are not under obligation by the PAYE scheme to file a return as section 82 of PITA provides that their taxes be deducted at source of income by their employers and be remitted to the relevant tax authority, and, in this case, it is the employers that file the returns on their behalf.[89]

As a result, the researcher used the list of organizations, and government establishments that filed tax returns and PAYE to the tax offices operating in the sampling areas as the sampling frame for this study. The use of this sampling frame agrees with the suggestion of Lavelle (2007), and Xu and Lavelle (2009), which stated that where it happens that the sampling frame that corresponds directly to the target population is not available, the sampling frame that is related to the target population can be chosen. They further noted that the use of such sampling frame is still probability sampling. The studies of Idris (2002) and Saad (2011) also used the same procedure to reach their respondents. From the sampling frame, a total of 112 organizations, enterprises and government establishments were randomly drawn and

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88. Section 41(1) provides that

> "For each year of assessment, a taxable person shall, without notice or demand therefore, file a return of income in prescribed form and containing the prescribed information with the tax authority of the state in which the taxable person is deemed to be resident…."

89. However, individuals who have another source of income apart from emolument are required to file a separate tax return for that income.

between 1 and 20 individuals were selected from these organizations, enterprises and government establishments as the samples of this study.[90] The determination of sample size per variable for multiple regression purpose is considered in section 5.11.

### 4.7.2 Data Collection Procedures

The data for this survey were collected using a questionnaire and well-planned procedures were followed to obtain the data from the respondents. The procedure involved the design of the questionnaire, which contains Likert-type, dichotomous and categorical items, and then subjecting the items in the questionnaire to validity and reliability tests with the assistance of tax experts as well as a pilot study, and, finally, mobilizing resources including the logistics for the administration and retrieval of the questionnaire using the selected samples in the chosen geographical location of Nigeria.

#### 4.7.2.1 Questionnaire Design

The questionnaire[91] was designed with adequate questions to cover all the variables of the study. Most of the questions were closed questions with multi-statements designed on a five-point Likert scale. There were also a few dichotomous, categorical and numerical questions.

In writing the questionnaire, consideration was given to the educational level of the respondents in the choice of words. Generally, the multi-statements were positively and

90. Those organizations in which one individual was selected as a sample are organizations owned and operated by self-employed individuals. In some large organizations like government establishments, as many as 20 individual taxpayers were chosen for the study.
91. The questionnaire was written in the English Language, which is the official language in Nigeria. Refer to Appendix 9 for a specimen of the questionnaire.

negatively worded. This was done to discourage the tendency where the respondents will mechanically circle the points towards one end of the scale (Sekaran & Bougie, 2010).

The questionnaire was divided into a nine-part structure with each part containing questions covering the dimension(s) of a particular construct. The scenario case along with its questions was presented in the first part of the questionnaire to obtain responses on tax compliance behaviour (dependent variable). The second part was on financial condition and risk preference. Part three contained questions relating to the tax system structure, part four was on tax knowledge and the fifth part was made up of questions on perceived tax service quality. Part six contained questions measuring taxpayers' perception about public governance quality. Questions relating to taxpayer's attitude towards tax evasion were stated in part seven, while part eight consisted of items on taxpayers' moral reasoning. Finally, the items in part nine were on demographic characteristics of the taxpayer and contained items that were used to obtain categorical data for ethnic diversity and noncompliance opportunity. Table 4.12 summarizes the structure of the study's questionnaire.

**Table 4.12**
**Structure of Questionnaire**

| Part | Construct | Variables | Type of Question | Number of Items |
|---|---|---|---|---|
| 1. | Tax compliance | Dependent variable | Dichotomous | Four |
| 2. | Financial condition | Financial condition | Likert scale | Three |
| | Risk preference | Risk preference | Likert scale | Five |
| 3. | Tax system structure | Perceived detection probability, | | Four |
| | | Perceived sanction severity | | Four |
| | | Tax rate | Likert scale | Six |
| | | Complexity of tax system | | Six |
| 4. | Tax knowledge | Tax knowledge | Dichotomous | Six |
| 5. | Perceived tax service | Interaction quality | | Eight |
| | | Tax office environment quality | Likert scale | Ten |
| | | Tax outcome quality | | Ten |
| 6. | Public governance | Democracy& Accountability | | Four |
| | | Government effectiveness | | Four |
| | | Control of corrupt ion | Likert scale | Three |
| | | Political stability | | Three |
| | | Rule of law | | Three |
| 7. | Attitude | Tax ethic | | Three |
| | | People's evasion & Tax fairness | Likert scale | Three |
| | | General crime | | Three |
| 8. | Moral reasoning | Moral reasoning | Likert scale | Ten |
| 9. | Socio-demographic | Age, gender, occupation, education, ethnicity, income, religion. | Categorical | |

The survey questionnaire had a cover letter, which explained the purpose of the study and in order to encourage a candid response to the study, the letter explained that the anonymity of the respondents would be maintained. Therefore, to assure the respondents of their anonymity, no name was requested to be given on the questionnaire.

#### 4.7.2.2 Pilot Study

Prior to the main study, a pilot study was carried out, primarily to test the adequacy of the research instrument as a further means of ensuring both the face and content validity of the instrument. For the purpose of the pilot study, 170 questionnaires were prepared and administered on individual taxpayers who were students of a tertiary institution in Nigeria. The response rate from the study was 88%.

In order to obtain feedback on the instrument, the covering letter, which accompanied the questionnaire, asked the respondents to make comments and recommendations for the improvement of the instrument. The feedback received from the pilot study as well as the reliability test conducted on the instrument (see Table 4.13) highlighted the unnecessary, ambiguous and difficult questions in the instrument, and, as a result, some amendments were made to the questionnaire by way of dropping unnecessary questions, rewording and rescaling other questions.[92] This was done to eliminate ambiguity and improve the clarity of the research instrument for better understanding of the intended respondents.

**Table 4.13**
**Pilot Study Reliability Test**

| Latent Variable | Items | Alpha |
|---|---|---|
| Taxpayers' Risk Preference | 5 | .84 |
| Tax System Structure | 20 | .59 |
| Tax Knowledge | 6 | .64 |
| Perceived Tax Service Quality | 28 | .64 |
| Public Governance Quality | 17 | .71 |
| Attitude towards Tax Evasion | 9 | .63 |
| Moral Reasoning | 10 | .53 |
| Financial Condition | 6 | .57 |
| Tax Compliance Behaviour | 7 | .58 |

92. Based on the feedback from the pilot study questions on tax compliance behaviour, tax system structure, and perceived tax service quality were reworded and rescaled.

#### 4.7.2.3 Data Collection

The data of the study were collected through personal distribution and retrieval of the questionnaire from the respondents. The same method has been used in other previous studies on tax compliance in both developed and developing countries (Azmi & Perumal, 2008; Chan et al., 2000; Jabbar & Manaf, 2006; Kasipillai, 1997; Mustafa, 1997; Saad, 2011; Song & Yarbrough, 1978).

This method of questionnaire distribution was adopted in this study for a number of reasons. First, the available sampling frame of the study did not contain details of the individual taxpayers, particularly those under the PAYE scheme, as a result it was difficult to obtain direct contact addresses of some of the respondents, and, hence, the only option available was personal contact through their organizations. Second, the absence of an efficient and adequate infrastructure, such as access to the Internet and postal services in Nigeria, made self-administration of questionnaire the viable option in Nigeria. The study of Ilobube, Ubogu and Egbezor (2007) acknowledged poor access to the Internet and other telecommunications, as well as poor postal services, as a challenge in Nigeria. For this reason, the study of Adomi et al. (2007) indicated that a substantial (72%) number of respondents were served research instruments through personal contact in Nigeria while only few were served through the postal system (17%) and Internet facilities (11%). In addition, the method was chosen to improve the response rate and assure the respondents of their anonymity, because Cavana et al. (2001) and Hair et al. (2007) submitted that the method ensures a high response rate and the anonymity of respondents.

The data collection process started with obtaining letters[93] of introduction from UUM College of Business Graduate School on the 10th October 2010. The letters were addressed to the Executive Chairman of FIRS and tax controllers of the four tax offices consulted for the study. The researcher travelled back to Nigeria from Malaysia and conducted the full survey from 17th October 2010 to 6th December 2010. On arrival in Nigeria, the researcher engaged in a series of consultations with the staff of FIRS and relevant individuals including the tax controllers of the four tax offices in whose jurisdiction the study was conducted, up to 5th November 2010. As part of the outcome of the consultation, a list of organizations that filed tax returns including PAYE as well as the summary of individual taxpayers in employment and business, were obtained on 6th November 2010. This was in addition to the list of taxpayers extracted from the website of FIRS and other government websites.

Next in the data collection process was the visit to the organizations, enterprises and government establishments drawn from the list of the organizations to seek support for the study, and, for this purpose, another letter[94] was obtained from the researcher's employer, introducing the researcher to the organizations and government establishments. The researcher visited each of the organizations and government establishments, and a research assistant[95] was appointed to coordinate the distribution and retrieval of the questionnaire among the respondents in each organization. A total of 22 research assistants were appointed for the survey exercise. There is evidence in the literature that some previous studies also

93. Refer to Appendix 10 for letters obtained from COB Graduate Research Office.
94. Refer to Appendix 11 for the letter of introduction from the Researcher's employer.
95. Some of the research assistants incorporated into the study were motivated with a monetary incentive for ultimate productivity.

employed the service of research assistants to get their research instruments to the intended respondents (Abdulahi & Ahmad, 2002; Saad, 2011).

The actual distribution of questionnaires to the respondents commenced through the research assistants on the 8th November 2010 and was completed 3 days later. A total of 550 questionnaires were distributed and each questionnaire was accompanied with a covering letter stating the purpose of the study and that the respondents' anonymity would be maintained. The research assistants were given up to 25th November 2010 to retrieve the completed questionnaires from the respondents, and before the end of the period, several calls were made to the research assistants to remind them of the date and to determine the progress made in retrieving the questionnaires. As at 25th November 2010, a total of 292 questionnaires were retrieved from the respondents by the research assistants and additional days were given for follow up of the late respondents. By 30th November, 2010, an additional 54 questionnaires were collected from the respondents by the research assistants. The collection of the completed questionnaires from the research assistants continued up to 6th December 2010. Figure 4.2 summarizes the process of the data collection.

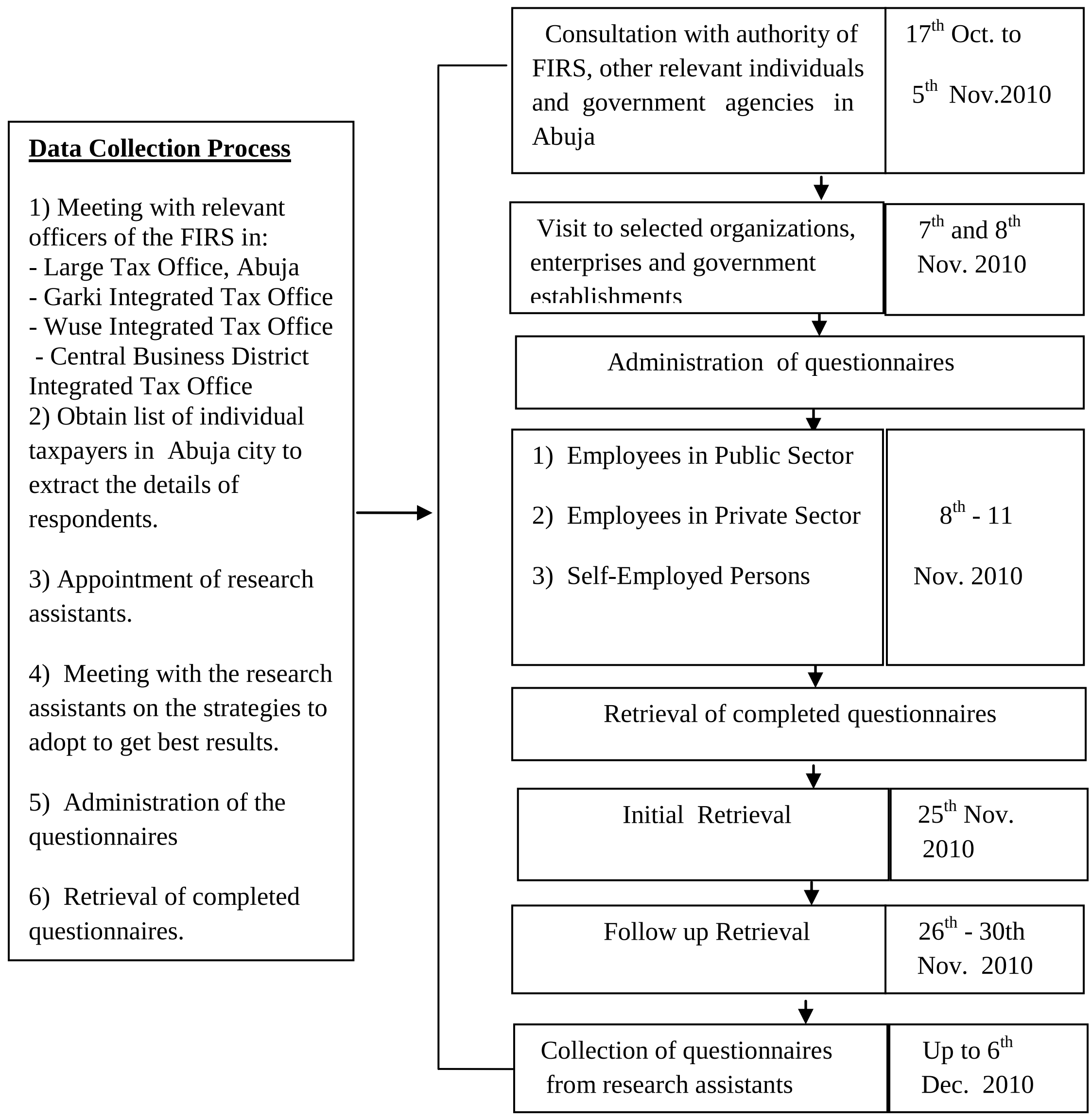


Figure 4.2
Data Collection Process

### 4.8 Data Analysis Techniques

The statistical treatment of data of this study were conducted with the SPSS program and the statistical techniques used for analysing the data include: descriptive statistics, cross tabulation analysis, reliability analysis, factor analysis, correlation analysis and multiple regression analysis.

### 4.8.1 Descriptive Statistics

Descriptive statistics was used in this study to reduce the data to a manageable size and to provide insights into the pattern of behaviour of the respondents as well as on the socioeconomic background of the respondents. The descriptive statistics techniques used in the study include mean and standard deviations. There is evidence in the literature that similar techniques were used in some studies on tax evasion and compliance (Feld & Schneider, 2007; Embaye, 2007; Manaf, 2004; Torgler et al., 2007).

The mean score and standard deviation were computed for individual items as well as weighted items of all the metric latent variables in respect of 332 valid cases of the study. For the purpose of the interpretation of the mean scores, the 50$^{th}$ percentile[96] of the range of the five-point Likert scale was calculated as 3; the mean score below 3 was treated as low (negative) and above 3 was regarded as high (positive). The same method was used in the study of Isa (2007) for interpretation of the mean score.

### 4.8.2 Cross-Tabulation Analysis

Cross tabulation was used to analyse the relationship between two or more variables. This statistical technique allows the researcher to explore the relationship that exists between two or more variables by examining the intersection of the categories of each variable to the other variable (Wagner, 2006). In this study, cross tabulation was conducted by relating each demographic factor and categorical variable to the dependent variable (tax compliance

96. Percentile is defined as the statistic tool, which provides an estimate of the proportion of the data that should fall above and below a given range (NIST, 2010). The formula recommended for calculating the percentile is $n = P/100 [N+1]$. Where n = the estimated proportion, P = percentile (50th in the case of the above calculation) and N = the number (that is 5 for the above calculation).

behaviour). This was done in order to provide further insight into the pattern of behaviour of the respondents based on their demographical background. The cross tabulation analysis was conducted using frequency, percentage and ANOVA. The analysis was interpreted on the basis of the frequency and percentage. Cross tabulation analysis was also carried out in study of the Manaf (2004).

### 4.8.3 Goodness of Measure

Following the advice offered in Cavana et al. (2001), and Sekaran and Bougie (2010), of the need for researchers to assess the "goodness" of their research instruments for accuracy in the result and the overall enhancement of the scientific quality of research, the instruments used in this study were subjected to reliability and validity tests as was done in other previous studies on tax compliance (Manaf, 2004; Murphy, 2007; Wenzel, 2004a).

#### 4.8.3.1 Reliability Analysis

There are several methods for testing the reliability of measures but in this study, the reliability of the measures was established by testing the internal consistency of the measurement items. This was done using Cronbach's alpha since Cronbach's alpha was considered to be widely used and recommended for social science research (Gliem & Gliem, 2003; Hair et al., 2010; Sekaran & Bougie, 2010) and furthermore, there is evidence in the tax compliance literature that Cronbach's alpha was commonly used in testing the internal consistency of items (Manaf, 2004; Murphy, 2007; Wenzel, 2005).

The reliability test was conducted three times in this study. The first test was carried out on the data collected in the pilot study and the test provided information on the internal consistency of the items in the instrument. Such information was useful in amending the instrument before the main study. The second reliability test was conducted after the main study before factor analysis while the third test came after construct validity (factor analysis). The reliability of the measures of the study was based on the result of the final test.

Generally, a Cronbach's alpha coefficient of at least .70 is considered sufficient and acceptable (Hair et al., 2010; Nunnally, 1978).[97] However, George and Mallery (2003) provided a rule of thumb for rating Cronbach's alpha coefficient as follows: >.90 (excellent); >.80 (good); > .70 (acceptable); >. 60 (questionable); >.50 (poor) and < .50 (unacceptable). The interpretation of the result of reliability test in this study was guided by this rule of thumb.

#### 4.8.3.2 Factor Analysis

The validity of the measures can be evaluated using one or more of these approaches: content validity, face validity, constructs validity and criterion validity (Hair et al., 2007). The first three were used to test the validity of the measure of this study. The content and face validity test were carried out through evaluation of the instrument by taxation and research experts in both Malaysia and Nigeria. The pilot study was also conducted as a means of justifying the content and face validity. In both cases, the feedback received helped to improve the instruments.

97. Cronbach's alpha coefficient of .60 is acceptable for exploratory study (Hair et al., 2010).

Furthermore, factor analysis was conducted to test the construct validity of the measures. Generally, factor analysis is used as a statistical tool to condense items from a number of original variables into a smaller set of new composite dimensions. By so doing, it defines the fundamental constructs or dimensions that make up the original variables (Hair et al., 2010). Decoster (1998) and Hair et al. (2010) identified two basic types of factor analysis: Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA). Since the instruments adapted for the purpose of this study were developed and used in a different environment, EFA was adopted as the appropriate technique and was used to evaluate the construct validity of the instruments in Nigeria's environment.

To conduct the EFA, the researcher followed the procedures recommended in Coakes and Ong (2011) and Decoster (1998). First, the assumptions[98] underlying the application of EFA were evaluated to ensure that they were met. Second, the items of each principal construct were submitted to EFA using SPSS. Third, the SPSS output was evaluated to determine the appropriateness of each principal construct for factor analysis. This was done by examining the value of the Kaiser- Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity. Furthermore, the factors extracted for each principal construct were also reviewed by examining whether the values of anti-image correlation coefficient, communality, total explained variance and the eigenvalue meet the minimum criterion of factor analysis. Finally, factors rotation was also examined to determine the structure of the factors extracted in the analysis. For the purpose of the factors rotation, the approach used

98. The assumptions underlying application of factor analysis are similar to the assumptions of multiple regressions analysis.

in this study was varimax. This approach was adopted because Decoster (1998) described it as the best orthogonal rotation and Hair et al. (2010) said that with varimax, maximum possible simplification is achieved.

Generally, the assessment of the results of the EFA of this study followed the rule of thumb provided in Coakes & Ong (2011), Hair et al. (2010), Meyers, Gamst and Guarino (2006), and Pallant (2007), which stated that: KMO should be $>.60$; Bartlett's Test of Sphericity should be significant at $P<.05$; communality $> .50$; factor Loading of $\pm.30$ to $\pm.40$, eigenvalue greater than 1 or total variance explained of at least 60% and anti- image correlation coefficient not less than .50.

### 4.8.4 Correlation Analysis

In this study, correlation was used for two reasons. First, it was used to establish the strength of the relationship between the variables of the study and, second, as suggested in Meyer et al. (2006), and Hair et al. (2010), it was used to detect the presence of multicollinearity among the variables. For the purpose of the analysis, Pearson product-moment coefficient was used because it can establish correlation between continuous variables and categorical variables (Coakes & Ong, 2011). The strength of the relationship between variables of this study was established at a statistically significant level of ($p <.01$) and ($p <.05$) and the strength of the relationship was interpreted with the rule of thumb provided in Meyer et al. (2006) in which correlation coefficients of $\pm .5$, $\pm.3$, and $\pm .1$ are regarded as large, moderate and small effect, respectively.

### 4.8.5 Multi-Regression Analysis

Apart from examining the direct relationship between perceived tax service quality, public governance quality and tax compliance as well as the difference in compliance behaviour of taxpayers of different ethnicity, this study also evaluated the moderating effects of financial condition and risk preference on tax compliance and its determinants. There is consensus in the statistics literature that the appropriate statistical technique to assess the presence of moderating effects in the relationship between two variables is (moderated) multiple regression analysis (Aguins, 2004; Aguins & Gotterdson, 2010; Aiken & West, 1991; Cohen, Cohen, Aiken & West 2003; Darrow & Kahl, 1982; Holmbeck, 1997). Furthermore, it has been confirmed to be appropriate for detecting moderating effects in a number of behavioural studies including tax compliance studies (Hite & Ireland, 1985; Murphy, 2007; Salavou, 2002; Ramanathan & Akanni, 2010; Wenzel, 2005). However, there is no agreement on the procedure for applying the technique (Aguins, 2004; Darrow & Kahl, 1982; Evan, 1987).

Moderated regression is a special technique of multiple regression analysis that produces a conservative estimate of the moderating effect of a variable on the relationship between other variables (Hitt & Ireland, 1985). Darrow and Kahl (1982) recommended that in moderated regression, the main effect may precede or be entered simultaneously with the product term (the product of independent variables and moderator) in the regression.

This study adopted the technique of multiple regressions otherwise referred to as the moderated regression as the appropriate technique to detect the presence of moderating effects of financial condition and risk preference on tax compliance and its determinants.

Taking into consideration the nature of the conceptual framework of the study, the procedures recommended by Darrow and Kahl (1982), and Hair et al. (2010), as supported by Evans (1987), was followed for the purpose of the analysis. The same procedures have been applied in some behavioural studies (Ali, Salleh & Hassan, 2008; Elangovan & Xie, 1999; Fauzi, 2010; Hitt & Ireland, 1985; Salavou, 2002; Smith, Okhomina & Mosley, 2005). In this case, tax compliance behaviour (dependent variable) was regressed on the set of predictor variables (independent variables) in the first stage to obtain the main effect while in the second stage; tax compliance behaviour was regressed on the set of predictor variables, moderator(s) and a cross product of the preceding term (the product of each independent variable and moderator).

However, the successful application of multiple regression depends on a number of assumptions and the violation of one or more of these assumptions may cause statistical results to be biased or distorted (Meyer et al., 2006; Osborne & Waters, 2002). Coakes and Ong (2011), and Pallant (2007) identified the fundamental assumptions of multiple regression to include: sample size, normality, linearity, homoscedasticity and multicollinearity. In this study, before the regression analysis was carried out, the assumptions of multiple regressions were properly assessed and were fairly complied with.

In interpreting the regression results, the F value was first considered, then followed by the $R^2$ (or adjusted $R^2$) as well as the change in $R^2$, and, finally, the weight of the contribution of each independent variable was evaluated as recommended in Hair et al. (2007). In a study with moderator(s), Hair et al. (2010) stated that the change in $R^2$ should be assessed and if it is statistically significant then the model is assumed to be significantly moderated. Equally, Baron and Kenny (1986) said that the moderating effect on the individual variable is evaluated by beta.

### 4.9 Summary

This chapter presented the various research methods and procedures applied towards realizing the objectives of the study. The conceptual model of the study, which was derived from the extended Fischer's model, comprised eight independent variables, an antecedent variable and two moderating variables. On the basis of the conceptual model, 37 hypotheses were developed to achieve the objectives of the study. The various hypothesized variables were operationally defined in dimensions and most of these variables were measured using a five-point Likert scale while a categorical scale was used for other variables.

The survey technique was adopted in data collection and for this purpose, the multi-stage cluster random sampling method was applied first to draw Abuja city as the sampling area, second, to select organizations, enterprises as well as government establishments that filed tax returns and PAYE to tax offices operating within the sampling area, and, finally, to choose the individual taxpayers who served as respondents of the study from within the selected organizations, enterprises and government establishments.

To collect the data, a nine-part questionnaire was designed and administered to the respondents with the help of research assistants. The data collected were analysed statistically using descriptive statistics, cross tabulation analysis, correlation analysis, reliability analysis, factor analysis and multiple regression analysis. The results of the various statistical analyses carried out on the data are provided in the next chapter.

# Chapter Five
# Research Findings

## 5.1 Introduction

This study applies the tax compliance model in an attempt to understand and provide an explanation of the low tax compliance phenomenon among the individual taxpayers in Nigeria. To do that, the environmental and situational peculiarity of Nigeria was given consideration, and, as a result, the model was expanded to incorporate perceived tax service quality, public governance quality and ethnic diversity. In addition, risk preference and financial condition were also introduced into the model to test whether they moderate the relationship between tax compliance and its determinants in Nigeria.

In this chapter, the statistical techniques discussed in chapter four were employed in analysing the primary data of this study. These techniques were used to test the hypotheses developed in chapter four to represent the relationship between the dependent variable, independent variables and moderating variables, as depicted by the conceptual model and in accordance with the research objectives. The results of the statistical tests provided answers to the research questions raised in chapter one. The findings of this study were based on the output of multiple regression tests carried out on the primary data in a step process, as recommended in Hair et al. (2010) and as was done in a similar study by Wenzel (2004a & 2005). However, before the multiple regression analysis, the data were properly screened and transformed where necessary, following the procedures prescribed by Meyer et al. (2006), Pallant (2007), and Coakes and Ong (2011) and the reliability as well as the validity of the data were also tested. The research findings are reported in this chapter. The chapter also reports the response rate and non-response bias. Descriptive statistics on the variables together with cross tabulation between the dependent variables and demographic factors are also reported as part of the findings.

### 5.2 Data Inspection and Transformation

The data collected for the purpose of this study were properly screened and in certain cases, transformations were carried out as became necessary. The screening and transformation were done in accordance with the procedures suggested in Coakes and Ong (2011), Hair et al. (2010), Meyer et al. (2006) and Pallant (2007).

#### 5.2.1 Missing Data and Outliers

Although opinions differ among experts concerning the technique for dealing with missing data in a research study, Hair et al. (2010) recommended that missing data less than 10% of the respondents (cases) might be replaced through any imputation method. In this study, 11 respondents did not complete all the items in the questionnaire form. Out of these respondents, 9 did not complete one item each while the remaining 2 respondents failed to complete two items each in their respective questionnaire forms. These 11 respondents represent 3.3% of the total number of respondents [99] of the study. Since the percentage of the respondents with missing items was below 10%, the median of near- by point method was used to replace the missing items as recommended in Hair et al. (2010). Table 5.1 provides details about the missing data.

99. In this case, the total number of respondents is the 332 respondents from whom usable questionnaires were retrieved.

**Table 5.1**
**Summary of Missing Data**

| Variable | Number of Missing Items | Number of Respondents | Percentage of Sample Size |
|---|---|---|---|
| Tax System Structure | 2 | 2 | .006 |
| Tax Knowledge | 1 | 3 | .009 |
| Perceived Tax Service Quality | 7 | 6 | .018 |
| **Total** | **10** | **11** | **3.300** |

In respect of outliers, Hair et al. (2010), and Meyer et al. (2006) suggested that cases (respondents) with extreme or unusual values on a single variable (univariate) or on a combination of variables (multivariate) should be detected for possible deletion. The rule of thumb provided for detecting outlier cases is: *Z* score of not more than 4 (univariate) and mahalanobis between 3 and 4 (multivariate), both for large sample sizes above 80 (Hair et al., 2010). In this study, no outlier case was detected as the highest value of mahalanobis computed for the study was 1.83 and the Z score of the items in respect of each respondent was under 3.

### 5.2.2 Data Transformation

Coakes and Ong (2011), Hair et al. (2010) and Meyer et al. (2006) suggested that variables that violated the statistical assumption might be modified. Data transformation is the mathematical procedure for modifying variables. In this study, initially, the financial condition (categorical variable) failed to meet the assumption of homoscedasticity, and, as a result, the recommendation of Hair et al. (2010) that, in this case, the dependent variable not the categorical variable should be transformed was followed. The dependent variable was transformed using the square method, and then the variable fairly (financial condition) conformed to the assumption of homoscedasticity.

Furthermore, before the transformation of the dependent variable, financial condition was collapsed from the continuous variable to the categorical variable of dichotomous expression similar to Lago-Pena and Lago-Pena (2008), and Torgler (2007). The variable was collapsed using the procedure recommended by Pallant (2007) for collapsing the continuous variable to the categorical variable. The variable was modified because after the reliability test,[100] only two items were left to measure the variable and these were below the three items recommended by Hair et al. (2010) for the continuous variable.

### 5.3 Response Rate

Following the suggestion from the literature that the common and the best prescription to minimize the effect of non- response rate on the result of a study is to increase the sample size of a study (Alreck & Robert, 1995; Bartlett et al., 2001; Grove, 2006; Israel, 2009; Sekaran & Bourgies, 2010), the sample size of this study was increased to 550 from 382 to provide for likely non- response rate, as reported in chapter four.

However, of this number, only 346 questionnaires were retrieved from the respondents. This represents approximately a 63% response rate. However, 14 out of the 346 questionnaires were badly completed, and, therefore, discarded as unusable questionnaires leaving 332 as usable. This represents 60.4% of total questionnaires administered but 87% of the desirable sample size of the study. Table 5.2 shows the distribution of the questionnaires among individual taxpayers in the public sector and private sector. The table shows that 62% of

100. The Cronbach alpha for the 3 items was .208 and it was .616 when 1 item was dropped. The financial condition was collapsed to the expression of "Satisfy" and "Dissatisfy" with dichotomous value of (1) and (0).

the 550 questionnaires were administered to individual taxpayers working in the public sector while 38% went to individuals and enterprises in the private sector. However, of the 341 questionnaire forms administered in the public sector, only 52% were returned with 2% badly completed leaving 50% as usable. In the private sector, 81% of the 209 questionnaire forms administered were retrieved but only 77% or 161of the forms were usable.

**Table 5.2**
**Distribution of Questionnaires**

| Questionnaire | Public Sector Frequency | Public Sector Percentage | Private Sector Frequency | Private Sector Percentage | Total Frequency | Total Percentage |
|---|---|---|---|---|---|---|
| Administered | 341 | 62 | 209 | 38 | 550 | 100 |
| Retrieved | 176 | 52 | 170 | 81 | 346 | 63 |
| Badly Completed | 5 | 2 | 9 | 4 | 14 | 3 |
| Usable | 171 | 50 | 161 | 77 | 332 | 60 |

Based on the rating of the response rate in the literature, which suggested that a response rate of at least 50% is adequate for analysis and reporting, and that a response rate of 60% is good and a response rate of 70% is very good (Babbie, 2007; Grove, 2006), it can be concluded that a response rate of 60% for the questionnaire forms administered or 87% of sample size recorded in this study was adequate for analysis and reporting.

### 5.4 Non-Response Bias

Non-response bias exists when respondents to a study are different from those who did not respond in terms of demographic or attitudinal variables (Couper, 2000). One of the three methods identified in the literature for estimating non-response bias is the extrapolation method (Armstrong & Overton, 1977; Grove, 2006). Under the extrapolation method, researchers equate persons who respond later in the questionnaire administration period to non-respondents and this group is then compared with those who responded early to determine the type of bias (Armstrong & Overton, 1977; Johnson, Beaton, Murphy & Pike, 2000; Sax, Gilmartin & Bryant, 2003). The extrapolation method was adopted in this study to identify the existence of non-response bias in the study as was done in the tax compliance studies of Manaf (2004) and Jabbar (2009). The basis of extrapolation in this study was time trend because according to Armstrong and Overton (1977) time trend has the advantage over the wave approach as the possibility of bias as a result of simulation is eliminated.

Statistically, to apply the extrapolation method, Pallant (2007) suggested the use of the independent *T* statistic in comparing the two groups, that is, the early respondents and late respondents. If the result under Levene's test for equality of variance indicates a significant value larger than .05 (or .01, .10), then the data did not violate the assumption of equal variance (Pallant, 2007); hence, a non-response bias can be assumed not to exist.

Accordingly, in designing this study, a period was fixed for the return of the questionnaire form by the respondents. The respondents who returned the completed questionnaire form after the time frame were considered as late respondents, which equate to non-respondents in line with the suggestion of Armstrong and Overton (1977), and Sax et al. (2003). In the course of the fieldwork, as the questionnaires were being retrieved through the research assistants they were numbered sequentially and a record of date of retrieval was also kept. At the end of the time frame (25th November 2010), a total of 288 (87%) usable questionnaire forms were retrieved and between 26th and 30th November, 2010, additional 44 (13%) usable questionnaire forms were returned. The first group was regarded as early respondents while the second group was considered as late respondents. The two groups were compared using independent *T* statistic and the result is shown in Table 5.3. The table indicates that the differences between the mean score and standard deviation of early responses and late responses are marginal, for instance, the mean score for tax compliance for early responses is 2.07 while that of late responses is 1.92 indicating a variation of 0.15 between the two groups. This implies that the differences between the two are marginal.

Table 5.3 equally indicates the result of the Levene's test of equality of variance between the two groups and the significant value for all the variables is greater than .01 ($P>.01$). Perceived tax service quality has the greatest significant value of .894 while risk preference has the lowest significant value of .011. Since significant values of all the variables are larger than .01 ($P>.01$), this suggests that the differences between early responses and late responses are not significant, hence, the assumption of equal variance between the two groups was not violated, therefore, it can be fairly assumed that non-response bias did not exist in the data for the study.

**Table 5.3**
**Levene'sTest for Response Bias**

| Variable | Early Responses M | Early Responses SD | Late Responses M | Late Responses SD | F | Sig |
|---|---|---|---|---|---|---|
| Tax System Structure | 2.40 | 0.62 | 2.67 | 0.64 | 0.87 | .351 |
| Tax Knowledge | 2.02 | 0.37 | 1.91 | 0.33 | 1.09 | .298 |
| Attitude to Tax Evasion | 3.61 | 0.91 | 3.36 | 0.82 | 0.82 | .365 |
| Moral Reasoning | 3.55 | 0.82 | 3.60 | 0.76 | 0.91 | .340 |
| Perceived Tax Service Quality | 2.72 | 0.60 | 2.71 | 0.58 | 0.01 | .894 |
| Public Governance Quality | 1.99 | 0.71 | 2.13 | 0.82 | 2.88 | .093 |
| Risk Preference | 1.89 | 1.08 | 2.05 | 1.41 | 6.61 | .011 |
| Financial Condition | 2.11 | 1.13 | 2.55 | 1.31 | 1.59 | 208 |
| Tax Compliance Behaviour | 2.08 | 0.59 | 1.92 | 0.56 | 1.04 | .310 |
| Gender | 1.39 | 0.49 | 1.39 | 0.49 | 0.00 | .981 |
| Age | 1.86 | 0.54 | 1.77 | 0.42 | 0.38 | .536 |
| Education | 4.25 | 1.09 | 4.59 | 0.76 | 6.42 | .012 |
| Occupation | 1.57 | 0.50 | 1.64 | 0.49 | 5.14 | .024 |
| Income Level | 1.45 | 0.67 | 1.32 | 0.56 | 5.74 | .017 |
| Income Source | 1.69 | 0.82 | 1.95 | 0.83 | 0.72 | .397 |
| Race | 2.33 | 1.22 | 2.57 | 1.04 | 5.87 | .016 |
| Religion | 1.74 | 0.52 | 1.75 | 0.44 | 2.16 | .143 |

A further comparative analysis of early responses and late responses on the basis of demographic factors (see Table 5.4) indicates that 88% of male respondents responded to the study early and, which is slightly more than 87% of the female respondents who also returned the research instruments within the specified period. On the basis of age grouping, all respondents within the old age bracket returned the completed questionnaire forms within the time frame while not all the respondents who were within the middle age (85%) and young age (87%) responded to the study early. All the respondents with primary education also returned the completed questionnaires on time while 93% and 85% of respondents who had secondary and higher education background, respectively, also responded to the study on time. In respect of income source, a few respondents (9%) whose source of income was from the public sector responded to the study late compared to other respondents with income from the private sector (17%) and sole proprietorship (17%). Also, more respondents (15%) with a low-income level responded to the study late compared to those respondents in the middle-income level (12%) and high-income level (6%). On occupation, more professional respondents (89%) completed and returned the research instrument early than nonprofessional respondents (85%).

From the above analysis, it could be concluded that a high number of the respondents across the demographic background completed and returned the questionnaire within the specified period. This is an indication that there was an early participation of the respondents in the study across the demographic background; hence, this is a further proof of nonexistent of non-response bias.

**Table 5.4**
**Cross Tabulation: Demographical Factors and Response Bias**

| | **Early Responses** | | **Late Response** | |
|---|---|---|---|---|
| **Demographic Factor** | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| **Gender** | | | | |
| Male | 177 | 88 | 27 | 12 |
| Female | 111 | 87 | 17 | 13 |
| **Age Grouping** | | | | |
| Younger Age | 65 | 87 | 10 | 13 |
| Middle Age | 199 | 85 | 34 | 15 |
| Older Age | 24 | 100 | - | - |
| **Education** | | | | |
| Primary Education | 7 | 100 | - | - |
| Secondary Education | 54 | 93 | 4 | 7 |
| Higher Education | 227 | 85 | 40 | 15 |
| **Income Source** | | | | |
| Public Sector | 155 | 91 | 16 | 9 |
| Private Sector | 67 | 83 | 14 | 17 |
| Sole Proprietor | 66 | 83 | 14 | 17 |
| **Income Level** | | | | |
| Low-Income | 186 | 85 | 32 | 15 |
| Middle-Income | 73 | 88 | 10 | 12 |
| High-Income | 29 | 94 | 2 | 6 |
| **Occupation** | | | | |
| Professional | 125 | 89 | 16 | 11 |
| Nonprofessional | 163 | 85 | 28 | 15 |

*Note:* Age grouped as (i) younger age 20-30 years (ii) middle age:31-50 years (iii) older age: above 50 years

## 5.5 Demographic Characteristics of the Respondents

The data collected on the socio-economic background of the respondents, as presented in Table 5.5 indicates that about 61% of the respondents were male leaving 39% as female. This is a fair representation of both genders taking into account that 54% and 46% of the population of the geographical areas[101] covered in the study are male and female, respectively, with more males in employment and business (National Bureau of Statistic, 2009).

On age grouping, 23% of the respondents were between 20 to 30 years of age and 45% were between 31 to 40 years of age. Those respondents who were between 41 to 50 years of age represent 26% of the total respondents while the remaining 7% of the respondents were above 50 years. The age distribution of the respondents fairly reflected the age distribution of the studied areas, as more people between 31 and 40 years of age are more actively involved in economic activities (National Bureau of Statistics, 2009). In respect of the education background of the respondents, the majority of the respondents (80%) had a higher education background as either graduates of polytechnic, university or other tertiary institutions having national diploma, higher national diploma, first degree or higher degree. This is followed by 18% of the respondents who had secondary education background, either as junior or senior secondary school leavers and the remaining 7 respondents (2%) had primary education.

101. The population of Abuja is estimated as 778,567 and this comprise 422,133 male and 356,434 female (National Bureau of Statistics, 2009).

**Table 5.5**
**Demographic Information of the Respondents**

| Category | Frequency (N=332) | Percentage (Total=100) |
|---|---|---|
| **Gender** | | |
| Male | 204 | 61.3 |
| Female | 128 | 38.6 |
| **Age groups** | | |
| 20 – 30 years | 75 | 22.6 |
| 31 – 40 years | 148 | 44.6 |
| 41 – 50 years | 85 | 25.6 |
| Above 50 years | 24 | 7.2 |
| **Education** | | |
| Primary education | 7 | 2.1 |
| Secondary education | 58 | 17.5 |
| Higher education | 267 | 80.4 |
| **Occupation** | | |
| Professional | 141 | 42.5 |
| Non Professional | 191 | 57.5 |
| **Source of income** | | |
| Public sector | 171 | 51.5 |
| Private sector | 81 | 24.4 |
| Sole proprietor | 80 | 24.1 |
| **Income Level** | | |
| Low income | 218 | 65.7 |
| Middle income | 83 | 25.0 |
| High income | 31 | 9.3 |
| **Race** | | |
| Hausa | 113 | 34.0 |
| Yoruba | 72 | 21.7 |
| Igbo | 61 | 18.4 |
| Minority | 86 | 25.9 |
| **Religion** | | |
| Islam | 96 | 28.9 |
| Christian | 225 | 67.8 |
| Traditional religion | 11 | 3.3 |

For occupation, the table reveals that about 58% of the respondents were nonprofessional and these individuals were employed in administrative/clerical positions or owner manager, leaving 42% of the respondents as professional. The distribution of the respondents according to occupation also truly reflected the occupation in the studied areas as the areas have more nonprofessional individuals in economic activities (National Bureau of Statistics, 2009). The source of income for a little more than half (52%) of the respondents was the public sector while each half of the remaining respondents derived their income from the private sector (24%) and sole proprietorship (24%). This demographic information on the source of income of the respondents fairly reflected the characteristics of the studied area, which is dominated by public civil servants.[102]

In respect of the level of income of the respondents, the majority (66%) of the respondents fell into the low- income bracket, that is, those respondents with an average monthly income of less than ₦ 50,000 to ₦ 99,999. This is followed by 25% of the respondents whose average monthly income fell within the middle-income level (that is, ₦ 100,000-199,999) while the remaining 9% of the respondents had an average monthly income of above ₦ 200,000 (that is higher income earners). Nigeria is a low-income country; hence, the demographic information on the level of income is a fair representation of the true income distribution in Nigeria. Table 5.5 also reveals the ethnic and religious background of the respondents. Concerning the race of the respondents, the majority (34%) of the respondents were from the Hausa race. This was followed by minority tribes (26%) from northern and southern Nigeria. The remaining respondents were of Yoruba (22%) and Igbo (18%) origins, respectively. The composition of the respondents on the basis of race fairly reflects the ethnic characteristics of Nigeria as Hausa/ Fulani is the single major (29%) race in the country followed by the Yoruba (21%) then the Igbo (18%) and other smaller tribes jointly form the minority (Wolffram Alpha, 2010). For religion, Christians (68%) were more prominent in the study, which is followed by 29% of the respondents who were of Islamic faith while the remaining 3% of the respondents belonged to traditional belief.

102. The head offices of all federal ministries and most federal corporations as well as extra-ministerial departments are located in Abuja, for this reason, the city has a large concentration of public servants.

## 5.6 Descriptive Statistics

### 5.6.1 Tax Compliance Behaviour

The compliance behaviour of the respondents towards tax rule and regulations are presented in Table 5.6. The table reveals that only 28% of the respondents fully complied with the tax rule and regulations in declaring their income for tax purposes while a greater number of the respondents (45%) moderately complied. The compliance behaviour of the remaining 27% of the respondents to income reporting was far below average. An almost similar result was obtained on tax claims reporting as only 22% of the respondents fully complied with the tax rules on deduction reporting. While the rest of the 78% of the respondents complied either moderately or slightly with the tax claims reporting rule. The differences in the results of income reporting and tax claims reporting compliance is marginal, which is expected considering that tax claims normally accompany income reporting. Moreover, the result reflected the fact that most of the respondents (52%) derived their income from salaries whose tax is withheld at the point of payment and they did not consider it necessary to report other extra sources of income for tax.

**Table 5.6**
**Descriptive statistics for Tax Compliance Behaviour**

| Component | M | SD | Noncompliance | | Compliance |
|---|---|---|---|---|---|
| | | | Somewhat Compliance | Moderately Compliance | |
| Income Reporting | 2.00 | 0.74 | 90(27) | 149(45) | 93(28) |
| Tax Claims Reporting | 1.86 | 0.75 | 120(36) | 140(42) | 72(22) |
| Return Filing | 2.19 | 0.85 | 94(28) | 80(24) | 158(48) |
| Tax Payment | 2.16 | 0.78 | 79(24) | 120(36) | 133(40) |
| Overall | 2.06 | 0.59 | 94(28) | 202(61) | 36(11) |

*Note*: 1. Percentage in parenthesis was rounded to nearest whole number.
2. M = Mean, SD = Standard Deviation

Table 5.6 also indicates that about 48% of the respondents fully complied in respect of tax return filing while the remaining 52% of the respondents did not fully comply with the rules regarding tax return filing as stipulated in the tax law. This result is not surprising considering that a great number of the respondents were salary earners and had their taxes deducted at the point of receiving salary, as a result, tax returns are filed automatically by their respective employers and perhaps this might have influenced their behaviour . Unexpectedly, the analysis on tax payment compliance indicates that 40% of the respondents fully complied with the payment of their taxes within the specified period while the remaining 60% of the respondents failed to obey the provision of tax law regarding time for tax payment. The possible explanation for the result on tax payment compliance may equally be connected with the majority of the respondents who had their income taxes deducted through the Pay As You Earn (PAYE) scheme.

However, overall, only 11% of the respondents complied fully with income reporting, tax claim reporting, return filing and tax payment simultaneously, as stipulated by the tax rules and regulations; leaving a greater number of the respondents (89%) as noncompliant. The result indicates that tax noncompliance is a considerable problem in Nigeria; this result agrees with the assertions in the literature that tax noncompliance is a critical problem in personal tax administration in Nigeria (Asada, 2005; Kiabel & Nwokah, 2009; Nzotta, 2007; Odusola, 2006; Sani, 2005).

For the mean score and standard deviation of compliance behaviour, tax return filing has the highest mean score of 2.19 while tax claims reporting has the lowest mean score of 1.86 with a standard deviation of .85 and .75, respectively. The average mean scores and standard deviation for the four components of compliance behaviour is 2.06 and .59, respectively. These descriptive statistics suggest that compliance among the individual taxpayers in Nigeria is low.

### 5.6.2 Tax System Structure

The views of the respondents on the effectiveness of the Nigeria's tax system structure are presented in Table 5.7. The results of the descriptive statistics in the table reveal that the majority of the respondents strongly expressed disagreement concerning the chances that someone would be detected and caught underreporting taxable income and overstating tax deductions by the tax authority. These views were convened in items TS1 to TS4 and of these four items; more respondents (74%) expressed disagreement to TS1 implying that the respondents were strongly of the opinion that the chances that the tax authority would detect someone who had underreported a large amount is minimal compared to a small amount. The weak mean score (1.96) of TS1 is a reflection of the negative views of the respondents concerning the item.

The respondents also expressed their opinion on the severity of tax sanctions in items TS5 to TS8. With the mean score of TS5 to TS8 being less than 3, which suggests that the different forms of tax sanctions are less severe on tax offences including tax noncompliance.

**Table 5.7**
**Descriptive Statistics for Tax System Structure**

| Code | Items | M | Std D | S A/ Agree | Neutral | S D/ Disagree |
|---|---|---|---|---|---|---|
| TS1. | There is chance that Mr A will be caught by the tax authority, If the amount he paid is ₦100,000. | 1.96 | 1.22 | 47(14) | 41(12) | 244(74) |
| TS2. | There is chance that Mr A will be caught by the tax authority, if the amount he paid is ₦10,000. | 2.14 | 1.36 | 60(18) | 46(14) | 226(68) |
| TS3. | There is a chance that Mr B will be caught by the tax authority, if the amount he claimed as deduction is ₦50,000 | 2.44 | 1.44 | 72(25) | 52(16) | 198(59) |
| TS4 | There is a chance that Mr A will be caught by the tax authority, if the amount he claimed as deduction is ₦5,000 | 2.08 | 1.24 | 50(15) | 60(18) | 222(67) |
| TS5. | Severity of sanction of pay the tax you owe with interest. | 2.79 | 1.23 | 97(29) | 99(30) | 136(41) |
| TS6. | Severity of sanction of pay substantial fine fine and pay the tax you owe with interest. | 2.83 | 1.21 | 103(31) | 94(28) | 135(41) |
| TS7. | Severity of sanction of taken to court and pay the tax you owe with interest. | 2.85 | 1.23 | 102(31) | 103(31) | 127(38) |
| TS8. | Severity of sanction of taken to court, pay substantial fine and pay the tax you owe with interest. | 2.75 | 1.34 | 103(31) | 70(21) | 159(48) |
| TS10. | It is fair that high-income earners pay proportionately more than low-income earners. | 2.32 | 1.29 | 67(20) | 68(21 ) | 197(59) |
| TS11. | The share of the total income taxes paid by high-income earners is too high. | 2.32 | 1.38 | 70(21) | 61(18) | 201(61) |
| TS16. | Too few computations must be made before tax is payable. | 2.14 | 1.24 | 54(16) | 49( 15) | 229(69) |
| TS17. | There have been no frequent changes in the tax law. | 2.91 | 1.26 | 97(29) | 99(30) | 134(41) |
| TS18. | There are excessive details in the tax laws. | 2.82 | 1.26 | 86(26) | 105(32) | 141(42) |
| TS19. | No detailed special records must be kept by taxpayers to comply with tax laws. | 2.12 | 1.30 | 57(18) | 55(17) | 220(65) |
| TS20. | The number of tax forms to be completed is numerous. | 2.09 | 1.27 | 55(17) | 54(16) | 223(67) |
| | **Overall** | **2.43** | **0.63** | | | |

*Note*: 1.Items TS9, TS12, TS13, TS14 & TS15 were not entered in descriptive statistics because they were rejected in factor analysis.
2. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree.
3.Percentage in parenthesis was rounded to nearest whole number.

However, item TS8 ("Taken to court, pay substantial fine and pay the tax you owe"), which has the lowest mean score of 2.75 together with standard deviation of 1.34 was considered by the majority of the respondents(48%) to be a less severe sanction. The respondents' views about the fairness of Nigeria's tax rate structure were expressed through items TS10 and TS11; these items have a mean score of 2.32 each together with a standard deviation of 1.29 and 1.38, respectively. These descriptive statistics suggest that the respondents were of the opinion that the tax rate structure is not fair.

Furthermore, the opinion of the respondents concerning the complexity of Nigeria's tax system was expressed in items TS16 to TS20, as documented in Table 5.7. The descriptive analysis of these items indicates that the mean scores range from 2.09 to 2.91 and the standard deviation from 1.24 to 1.38. This is an indication that the respondents considered the tax system to be complex. However, of the five items, more respondents (69%) expressed disagreement to item TS16 ("few computation must be made before tax is payable"). Overall, the mean score of 2.43 and standard deviation of 0.63 for the fifteen items on the tax system structure, indicate that the respondents had low views on the tax system structure, which suggests that the tax system structure in Nigeria is less effective.

### 5.6.3 Tax Knowledge

The descriptive statistics concerning the respondents' knowledge and understanding on tax rules are shown in Table 5.8. The results show that the mean scores concerning the respondents' knowledge on taxable income under Nigerian income tax laws range from 1.89 to 1.96 together with the standard deviation from 0.70 to 0.86 and only 23% of the respondents were well informed that interest on savings accounts is taxable income. Also 24% and 32% of the respondents were equally well informed that rent received on property as well as dividend are income subject to tax, respectively.

**Table 5.8**
**Descriptive Statistics for Tax Knowledge**

| Code | Item | M | Std D | WF | UF | MF |
|---|---|---|---|---|---|---|
| | Income taxable under Nigerian income tax law: | | | | | |
| TK1. | Interest on savings account | 1.96 | 0.70 | 76(23) | 167(50) | 89(27) |
| TK2 | Rent received from letting out a house | 1.89 | 0.76 | 80(24) | 134(40) | 118(36) |
| TK3. | Dividend received from a company | 1.90 | 0.86 | 107(32) | 85(26) | 40(42) |
| | Business./personal expenses allowed for deduction under Nigerian income tax law: | | | | | |
| TK4. | Provision for doubtful debt | 2.05 | 0.78 | 110(33) | 128(39) | 94(28) |
| TK5. | Medical expenses | 2.02 | 0.81 | 111(34) | 117(35) | 104(31) |
| TK6. | Loss on sale of company shares | 2.19 | 0.79 | 142(43) | 111(33) | 79(24) |
| | **Overall** | **2.00** | **0.37** | | | |

Note:1. WF = Well informed, UF = Uninformed, MF = Misinformed
2. Percentage in parenthesis was rounded to nearest whole number.

On expenses allowed for deduction under tax laws, the respondents indicated their knowledge and understanding on items TK4, TK5 and TK6. Each of these items has a mean score of a little above 2 together with the standard deviation ranging from .78 to .81. This suggests that the respondents had a fair knowledge of expenses allowed for deduction under Nigerian income tax law. On item by item, more respondents (43%) were well informed that a loss on the sale of company shares was not deductible item under Nigeria's tax laws while 35% and 39% of respondents were uninformed that medical expenses of workers are allowable expenses and that provision for doubtful debt is not an allowable expense. Generally, the overall mean scores and standard deviation of 2.00 and 0.37, respectively, on all the items on tax knowledge indicate that the respondents had a fair knowledge of tax rules on taxable income and expenses deductible for tax purpose.

## Perceived Tax Service Quality

The respondents' views on the quality of tax service in Nigeria were expressed through items TSQ1 to TSQ28 and presented in Table 5.9. Their perception about the quality of interaction between themselves and the tax employees were convened in items TSQ1-7 and the mean scores of these items are below 3 except for TSQ7, which is 3.01; the standard deviation of these items range from 1.22 to 1.39. Of these items, TSQ4 has the lowest mean score of 2.48 and more respondents (54%) expressed disagreement with the item (that is "tax employees respond quickly to my tax service needs") than the other five items.

Also, items TSQ9 to TSQ18 revealed the perception of the respondents on the quality of tax office physical environment. The descriptive statistics of these items, as documented in Table 5.9 indicate that the mean scores of the items range from 2.59 to 3.11, with an associated standard deviation from 1.16 to 1.35. A comparative analysis of these items, reveals that more respondents (53%) disagreed with TSQ9 ("At tax office, you rely on the good atmosphere of the environment"). This item has a mean score and standard deviation of 2.63 and 1.34, respectively. While TSQ13 with mean score of 3.11 has more respondents (44%) who agreed with the statement "Tax office's outlay serves my purpose".

**Table 5.9**
**Descriptive Statistics for Perceived Tax Service Quality**

| Code | Items | M | SD | SA/ Agree | Neutral | SD/ Disagree |
|---|---|---|---|---|---|---|
| TSQ1. | I can count on the employees of tax office as being friendly. | 2.85 | 1.33 | 103(31) | 87(26) | 142(43) |
| TSQ2. | The attitude of tax employees demonstrates their unwillingness to help me. | 2.86 | 1.33 | 112(34) | 86(26) | 134(40) |
| TSQ4. | Tax employees respond quickly to my tax service needs | 2.48 | 1.22 | 63(19) | 89(27) | 180(54) |
| TSQ5. | The behaviour of tax employees indicates to me that they do not understand my needs. | 2.70 | 1.33 | 101(30) | 69(21) | 162(49) |
| TSQ6. | I can count on tax employees knowing their tax job well. | 2.70 | 1.30 | 84(25) | 79(24) | 169(51) |
| TSQ7. | Tax employees understand that I rely on their tax knowledge to meet my needs. | 3.04 | 1.39 | 136(41) | 65(20) | 131(39) |

**Table 5.9**
**Descriptive Statistics for Perceived Tax Service Quality (Continued)**

| Code | Items | M | SD | SA/ Agree | Neutral | SD/ Disagree |
|---|---|---|---|---|---|---|
| TSQ9. | At tax office, you rely on the good atmosphere of the environment | 2.63 | 1.34 | 92(28) | 65(19) | 175(53) |
| TSQ10. | Tax office's environments have ambiance that I am looking for in any office. | 2.59 | 1.16 | 61(18) | 112(34) | 159(48) |
| TSQ11. | Tax office understands that its atmosphere is important to me. | 2.70 | 1.36 | 99(30) | 72(22) | 161(48) |
| TSQ12. | Tax office's outlay to impress me. | 2.75 | 1.35 | 101(30) | 81(24) | 150(46) |
| TSQ13. | Tax office's outlay serves my purpose | 3.11 | 1.35 | 144(44) | 71(21) | 117(35) |
| TSQ14. | Tax office understands that the design of its facility is important to me. | 2.57 | 1.23 | 74(22) | 85(26) | 173(52) |
| TSQ15. | I find that other taxpayers consistently leave the tax office with a good impression of its service. | 2.60 | 1.18 | 70(21) | 104(31) | 158(48) |
| TSQ16. | Tax office understands that the other taxpayers' patronage affect my perception of its service. | 2.87 | 1.29 | 109(32) | 86(26) | 137(42) |
| TSQ17. | I would say that tax office's physical environment is one of the best office environments in Nigeria | 2.70 | 1.33 | 71(21) | 92(28) | 169(51) |
| TSQ18. | I would rate tax office's physical environment highly | 2.70 | 1.33 | 97(29) | 82(25) | 153(46) |
| TSQ19. | Waiting time at tax office is predictable | 2.30 | 1.26 | 55(17) | 79(24) | 198(59) |
| TSQ20. | Tax office tries to keep my waiting time to a minimum | 2.68 | 1.27 | 79(24) | 90(27) | 163(49) |
| TSQ21. | Tax office does not understand that waiting time is important to me | 2.55 | 1.20 | 68(20) | 99(30) | 165(50) |
| TSQ23. | I like tax office because it has modern equipment to provide service | 3.15 | 1.31 | 143(43) | 91(27) | 98(30) |
| TSQ24. | Tax office knows the kind of the service that the taxpayers are looking for | 2.71 | 1.32 | 93(28) | 81(24) | 158(48) |
| TSQ25. | When I leave tax office I usually l feel that I had good experience | 2.79 | 1.27 | 84(25) | 104(31) | 144(44) |
| TSQ27. | I believe that tax office know the type of experience the taxpayers want | 2.85 | 1.31 | 104(31) | 80(24) | 148(45) |
| TSQ28. | I would say that tax office provides superior service | 2.59 | 1.28 | 82(25) | 82(25) | 168(50) |
| **Overall** | | **2.72** | **0.60** | | | |

Note: 1. Item TSQ3, TSQ8, TSQ22 & TSQ26 were excluded from descriptive statistics because they were rejected in factor analysis.
2. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree.
3. Percentage in parenthesis was rounded to nearest whole number.

Table 5.9 further reveals the views of the respondents on the quality of actual services rendered by tax offices in Nigeria. These views were expressed through items TSQ19 to TSQ28; these items have a mean score less than 3 except for TSQ23, which has 3.15 and the standard deviation of the items range from 1.20 to 1.32. This statistical description is an indication that the respondents perceived the quality of actual tax service as low. On item by item, TSQ23 has more respondents (43%) who expressed agreement with the item than the other seven items, and, equally, TSQ19 with the lowest mean score of 2.30 has more respondents (59%) who expressed disagreement with the statement "Waiting time at tax office is predictable". With the overall mean score of 2.72 and standard deviation of .60, the respondents generally perceived that the tax service quality in Nigeria is low.

### 5.6.5 Public Governance Quality

The views of the respondents on the quality of public governance in Nigeria were expressed through items PGQ1 to PGQ17 and the results of the descriptive analysis of the items are documented in Table 5.10. Specifically, the results reveal that the perception of the respondents about the quality of democracy and accountability in Nigeria as convened in item PGQ1, 2 & 4 was low, which is indicated in the weak mean scores of 1.92, 1.96 and 1.97 together with the standard deviation of 1.13, 1.11 and 1.18, respectively. However, in a comparison of the items, more respondents (75%) expressed strong disagreement with item PGQ2 (that is "There is free and fair elections in Nigeria") than in the other two items.

**Table 5.10**
**Descriptive Statistics for Public Governance Quality**

| Code | Items | M | Std D | S A/ Agree | Neutral | S D/ Disagree |
|---|---|---|---|---|---|---|
| PGQ1. | I trust the National Assembly in making good laws for Nigeria. | 1.92 | 1.13 | 32(10) | 55(16) | 245(74) |
| PGQ2. | There is free and fair elections in Nigeria. | 1.96 | 1.11 | 31(9) | 54(16) | 247(75) |
| PGQ4. | I have access to the published accounts and annual report of the Fed. Government. | 1.97 | 1.18 | 38(12) | 63(19) | 231(69) |
| PGQ5. | I am not satisfied with the quality of general infrastructure in Nigeria. | 2.45 | 1.35 | 76(22) | 68(21) | 188(57) |
| PGQ7. | I am satisfied with the manner the govt. is handling the health service | 2.31 | 1.22 | 60(18) | 77(23) | 195(59) |
| PGQ8. | I am satisfied with the manner the govt. is handling the education system. | 2.35 | 1.32 | 64(19) | 76(23) | 192(58) |
| PGQ9. | I trust the financial honesty of Nigerian politicians. | 2.01 | 1.19 | 40(12) | 66(20) | 226(68) |
| PGQ10. | Diversion of public funds is not a common corruption in Nigeria | 1.99 | 1.20 | 40(12) | 59(18) | 233(70) |
| PGQ12. | Political stability is declining in Nigeria | 1.97 | 1.12 | 31(09) | 73(22) | 229(69) |
| PGQ14. | Ethnic and religious conflict is not a threat to stability in Nigeria | 1.67 | 0.90 | 13(04) | 55(17) | 264(79) |
| PGQ15. | Nigeria's Judiciary is free of interference of other arms of government | 1.85 | 1.07 | 26(07) | 54(17) | 252(76) |
| PGQ16. | Justice is fairly administered in Nigeria | 1.84 | 1.08 | 28(08) | 48(15) | 256(77) |
| PGQ17. | Nigerian police force is effective in combating crime | 1.95 | 1.17 | 38(12) | 58(18) | 236(70) |
| | **Overall** | **2.01** | **0.73** | | | |

Note: 1. Items PGQ3, PGQ 6, PGQ11 & PGQ13 were not entered in the descriptive statistics because they were rejected in factor analysis.
2. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree.
3.Percentage in parenthesis was rounded to nearest whole number.

Concerning government effectiveness in the provision of public goods like education, health, etc., the perceptions of the respondents were expressed through items PGQ5, 7 & 8 and the result of analysis indicates that more than half of the respondents strongly disagreed with the statements in these items, which suggests that the respondents perceived government effectiveness in the provision of public goods as low. The weak mean scores of these items (2.45, 2.31 & 2.01 for PGQ5, 7 & 8, respectively) provide support for the low perception of government effectiveness by the respondents. Furthermore, the views of the respondents regarding corruption in Nigeria, as contained in item PGQ 9 &10, indicated that 68% of the respondents did not trust the financial honesty of Nigerian politicians while 70% disagreed that there is no diversion of public funds in Nigeria. The mean scores of 2.01 and 1.99 together with the standard deviation of 1.19 and 1.20, respectively, for PGQ 9 & 10 suggest that the respondents perceived the control of corruption in Nigeria to be low.

Table 5.10 also shows the views of the respondents on political stability in Nigeria in items PGQ12 & 14. The mean scores of these items, which are below 2, and with a standard deviation of 1.09 and .90, respectively suggest that the respondents viewed political stability in Nigeria to be low. Comparatively, the majority of the respondents (80%) disagreed that ethnic and religious conflict was not a threat to the stability of Nigeria. On the fairness of the rule of law, the views of the respondents were expressed in items PGQ15, 16 & 17; all these items have mean scores below 2. The majority of the respondents expressed disagreement with the statements in each of the three items. However, on an item-by-item comparison, more respondents (77%) disagreed with item PGQ16 (that is "Justice is fairly administered in Nigeria"). On the whole, the overall mean score of 2.01 and standard deviation of .73 on public government quality suggest that the respondents perceived that the quality of public governance is low.

### 5.6.6 Attitude towards Tax Evasion

The attitudes of the respondents towards tax evasion were evaluated with items ATT1 to ATT9 and the descriptive analysis of these items is shown in Table 5.11. ATT1 & 2 evaluated the ethical behaviour of the respondents, and, with a mean score above 3 for each of the items, which implies that the respondents had a fair ethic behaviour towards the tax system. In this regard, the majority of the respondents (59% for ATT1 and 52% for ATT2) admitted that not declaring their extra income and claiming non-existent deduction on tax return were serious offences.

**Table 5.11**
**Descriptive Statistics for Attitude towards Tax Evasion**

| Code | Items | M | Std D | S A/ Agree | Neutral | S D/ Disagree |
|---|---|---|---|---|---|---|
| ATT1. | Not declaring my extra income of ₦ 20,000 on my tax return is a serious offence. | 3.54 | 1.33 | 185(59) | 61(18) | 77(23) |
| ATT2. | Claiming a nonexistent deduction of ₦5,000 on my tax return is a serious offence. | 3.51 | 1.48 | 174(52) | 52(16) | 106(32) |
| ATT4. | A person who declares lower income than was the case on his/her tax return when there are so many others doing the same has not been criticized. | 3.43 | 1.50 | 156(47) | 63(19) | 113(34) |
| ATT5. | One can criticize others who exploit the many possibilities there are to evade taxes | 2.98 | 1.53 | 136(41) | 55(17) | 141(42) |
| ATT6. | You can defend people who evade taxes because the tax system is unfair | 3.93 | 1.59 | 215(65) | 73(22) | 44(13) |
| ATT7. | I think robbing a kiosk of ₦1,000 is a serious illegality. | 3.78 | 1.46 | 196(59) | 46(14) | 90(27) |
| ATT8. | I think embezzling ₦ 10,000 from an association which I am a member is a serious illegality | 3.52 | 1.55 | 187(56) | 44(13) | 101(31) |
| ATT9. | I think stealing a wallet containing ₦ 500 is a serious illegality | 3.93 | 1.43 | 214(65) | 34(10) | 84(25) |
| | **Overall** | **3.58** | **0.90** | | | |

Note: 1. ATT 3 was excluded in descriptive statistics as it was rejected during factor analysis.
2. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree.
3.Percentage in parenthesis was rounded to nearest whole number.

The attitude of the respondents towards tax evasion of other taxpayers and tax fairness were captured in item ATT4 to ATT6 and each of these items has a mean score above 3 indicating that the respondents felt bad about the involvement of others in tax evasions and tax fairness. On general crime, the majority of respondents considered stealing and embezzlement as serious illegalities. The attitudes of the respondents towards general crime was captured in item ATT7 to ATT9 and these items also have a mean score above 3 together with a range of standard deviations from 1.43 to 1.55. On the whole, going by the overall mean score of 3.58 and standard deviation of .90, the respondents had a less favourable attitude towards tax evasion.

### 5.6.7 Moral Reasoning

The descriptive statistics of items MR1 to MR9, as presented in Table 5.12, indicate the degree of moral thought among the respondents; these items have mean scores above 3. Specifically, MR4 has the highest mean score of 3.84 as well as a standard deviation of 1.37. For this item, the majority of the respondents (63%) strongly agreed that one should not physically or psychologically harm another person. Item MR7 has the lowest mean score of 3.04 together with a standard deviation of 1.49, and, on this item, the majority of the respondents (40%) disagreed that the decision to balance positive consequences with negative consequences of action is immoral. Generally, the overall mean score of 3.56 and standard deviation of .81 indicate that the respondents were fairly upright in their moral reasoning.

**Table 5.12**
**Descriptive Statistics for Moral Reasoning**

| Code | Items | M | Std D | S A/ Agree | Neutral | S D/ Disagree |
|---|---|---|---|---|---|---|
| MR1. | People should be certain that their action never intentionally harms another even to a degree. | 3. 47 | 1 .57 | 189(57) | 40(12) | 103(31) |
| MR2. | Risks to another should never be tolerated, irrespective of how small the risk might be. | 3.48 | 1.48 | 183(55) | 53(16) | 96(29) |
| MR3. | The existence of potential harm to others is always wrong, irrespective of the benefit to be gained | 3.64 | 1.43 | 191(58) | 60(18) | 81(24) |
| MR4. | One should not psychologically and physically harm another person. | 3.84 | 1.37 | 211(63) | 55(17) | 66(20) |
| MR5. | One should not perform an action which might in any way threaten the dignity and welfare of another individual. | 3.72 | 1.42 | 197(59) | 58(18) | 75(23) |
| MR6. | If an action could harm an innocent other, then it should not be done. | 3.78 | 1.39 | 207(62) | 56(17) | 69(21) |
| MR7. | Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral. | 3.04 | 1.49 | 127(38) | 73(22) | 132(40) |
| MR8. | The dignity and welfare of the people should be the most important concern in any society | 3.87 | 1.41 | 228(69) | 40(12) | 64(19) |
| MR9 . | It is necessary to sacrifice the welfare to others. | 3.21 | 1.51 | 155(47) | 64(19) | 113(34) |
| | **Overall** | **3.56** | **0.81** | | | |

Note: 1. Item MR10 was dropped in the descriptive statistics as the item was rejected by factor analysis.
2. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree
3. Percentage in parenthesis was rounded to nearest whole number.

## 5.6.8 Risk Preference

The preference of the respondents to take risk was appraised using item RP1to RP5 and the results of the descriptive statistics on these items (see Table 5.13) indicate that each of the items has a mean score below 2 with a standard deviation that ranges from 1.26 to 1.36. On disagreement scale, the majority of the respondents (76%) did not agree with taking a health risk by smoking, etc., (RP1) while at the agreement scale, 16% of respondents agreed to be engaged in social risk. On the whole, the overall mean score of 1.91 and standard deviation of 1.12 suggests that the respondents were risk averse.

**Table 5.13**
**Descriptive Statistics for Risk Preference**

| Code | Items | M | Std D | S A/ Agree | Neutral | S D/ Disagree |
|---|---|---|---|---|---|---|
| | Indicate the extent to which any of the following have ever applied to you. | | | | | |
| RP1 | Health risks ( e.g. smoking, poor diet, high alcohol consumption). | 1.81 | 1.26 | 37(11) | 44(13) | 251(76) |
| RP2 | Financial risks (e.g. gambling, risky investment). | 1.95 | 1.36 | 49(15) | 42(13) | 241(72) |
| RP3. | Career risks (e.g. quitting a job without another to go to) | 1.92 | 1.32 | 48(15) | 47(14) | 237(71) |
| RP4. | Safety risks ( e.g. fast driving, city cycling without a helmet) | 1.96 | 1.34 | 52(16) | 46(14) | 234(70) |
| RP5. | Social risks (e.g. standing for election, publicly challenging a rule) | 1.96 | 1.35 | 53(16) | 48(15) | 231(69) |
| | **Overall** | **1.91** | **1.12** | | | |

Note: 1. M = Mean, Std D = Standard Deviation, SA = Strongly Agree, SD = Strongly Disagree
2.Percentage in parenthesis was rounded to nearest whole number.

## 5.7 Cross Tabulation: Demographic Factors and Tax Compliance

To shed light on the behaviour of the respondents, the demographic characteristics of the respondents are related to their overall compliance behaviour.[103] This was done because demographic characteristics appear to be important in understanding behaviour (Devos, 2003; Torgler, 2007).

### 5.7.1 Gender and Tax Compliance

In a cross tabulation of the respondents' gender and tax compliance behaviour, Table 5.14 reveals that the behaviour exhibited by the majority of the female respondents (93%) were

103. The statistical significance of the differences between the demographic factors in the relationship with tax compliance behaviour was established using one-way ANOVA (F ratio). The cross tabulation analysis is just to provide further insight into the background and behaviour of the respondents. However, caution must be exercised in interpreting the result of the cross tabulation analysis, as the responses on the option (compliant) on which comparative conclusion was reached among the demographic factors were low.

not in full compliance with the tax rules, while the behaviour of the remaining 7% of female respondents were fully in compliance with tax rules. In comparison, only 13 % of the male respondents fully complied with the tax rules leaving the remaining 87% of the male respondents not fully complying with the rules. Comparatively, this suggests that more male respondents fully complied than female respondents. Although empirical evidence generally shows that female were more compliant than males (Manaf, 2004; Mason & Calvin; 1984), there are a few findings in the literature in support of this result (Friedland et al., 1978). In addition, this result is a proof of the assertion of Richardson and Sawyers (2001) that the differences in the compliance behaviour between males and females may be narrow as more non-traditional generation of women is evolving.

**Table 5.14**
**Cross Tabulation: Gender and Tax Compliance Behaviour**

| | **Male** | | **Female** | |
|---|---|---|---|---|
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 56 | 27 | 38 | 30 |
| Moderately Compliant | 122 | 60 | 80 | 63 |
| Compliant | 26 | 13 | 10 | 7 |
| **Total** | **204** | | **128** | |

Note: 1.The difference in compliance behaviour among gender of the respondents is not significant (P=.334).
2.The percentage was rounded to nearest whole number

### 5.7.2 Age and Tax Compliance

The ages of the respondents were related to their compliance behaviour and the results presented in Table 5.15 indicates that 92% of the respondents who were of younger ages did not fully follow the tax rules, and, as a result, were noncompliant, while the remaining 8% of these respondents fully complied with the rules. For the respondents within their middle ages, 88% of them were also noncompliant leaving the remaining 12% as fully compliant.

Equally, the majority of the older respondents (92%) did not comply with tax rules. In comparison, more of the middle-aged respondents fully complied with the tax rules than the respondents in the younger and older ages.

**Table 5.15**
**Cross Tabulation: Age and Tax Compliance Behaviour**

| | Age | | | | | |
|---|---|---|---|---|---|---|
| | Younger Age | | Middle Age | | Older Age | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Somewhat Compliant | 27 | 36 | 58 | 25 | 9 | 38 |
| Moderately Compliant | 42 | 56 | 147 | 63 | 13 | 54 |
| Compliant | 6 | 8 | 28 | 12 | 2 | 8 |
| **Total** | **75** | | **233** | | **24** | |

Note: 1.The difference in tax compliance behaviour based on the respondents' age grouping is not significant (P=.190).
2.The percentage was rounded to nearest whole number

### 5.7.3 Education and Tax Compliance

The respondents of different educational backgrounds exhibited different behaviour in complying with tax rules. As presented in Table 5.16, the behaviour of 71% of the respondents with primary education were not consonant with the requirements of the tax laws while the behaviour of the remaining 29 % of these respondents were in full agreement with the tax rules. Furthermore, only 16% of the respondents who had secondary education qualifications fully complied with tax rules while 84% complied with the rule either a little or moderately. The majority of the respondents (91%) with higher education background also behaved contrary to the full requirements of the tax rules whereas 9% behaved fully in accordance with the rules. Overall, more respondents with primary education fully complied with the tax rules relative to the respondents with either secondary or higher education background. This result supports the argument of Groenland and van Veldhoven (1983) that people with a better understanding (education) of tax laws have the capacity to avoid taxes.

**Table 5.16**
**Cross Tabulation: Education and Tax Compliance Behaviour**

| | Education | | | | | |
|---|---|---|---|---|---|---|
| | Primary Education | | Secondary Education | | Higher Education | |
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 2 | 29 | 17 | 29 | 75 | 28 |
| Moderately Compliant | 3 | 42 | 32 | 55 | 167 | 63 |
| Compliant | 2 | 29 | 9 | 16 | 25 | 9 |
| **Total** | **7** | | **58** | | **267** | |

Note: 1.The difference in tax compliance behaviour based on the respondents' education background is not significant (P=.321).
2.The percentage was rounded to nearest whole number

### 5.7.4 Occupation and Tax Compliance

In comparing the respondents by their occupation on the basis of tax compliance behaviour, Table 5.17 reveals that 12% of the respondents who worked as professionals fully complied with tax rules while 88% of the professional respondents complied either a little or moderately with the rules. For the nonprofessional respondents, only 10 % were compliant leaving the majority (90%) as noncompliant. Comparatively, more respondents who worked as professionals fully complied with the tax rules than the respondents who were nonprofessionals. This result is consistent with the study of Manaf (2004), which reported that compliance is high among professionals.

**Table 5.17**
**Cross Tabulation: Occupation and Tax Compliance Behaviour**

| | Occupation | | | |
|---|---|---|---|---|
| | Professional | | Non-professional | |
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 31 | 22 | 63 | 33 |
| Moderately Compliant | 93 | 66 | 109 | 57 |
| Compliant | 17 | 12 | 19 | 10 |
| **Total** | **141** | | **191** | |

Note: 1. The difference in tax compliance behaviour among the respondents' occupation grouping is significant at 1% (P=.005).
2.The percentage was rounded to nearest whole number

### 5.7.5 Income Level and Tax Compliance

Table 5.18 presents the results of the cross tabulation on the income level of the respondents and tax compliance behaviour; 10% of the respondents on low-income complied fully with the tax rules while 90% of these respondents did not fully comply with the rules. In addition, the majority of the respondents (85%) of the middle-income level did not fully obey the tax rules but the remaining 15% behaved in full compliance with the rules. Furthermore, only 7% of the high-income respondents fully complied with the tax rules while 93% did not fully follow the rules. In comparison, a greater percentage of the respondents of middle-income level fully complied with the tax rules than other respondents on the low-income and high-income level. In agreement with this result, Witte and Woodbury (1985) equally reported noncompliance among high- and low-income taxpayers while Manaf (2004) found middle-income taxpayers to be more compliant.

**Table 5.18**
**Cross Tabulation: Income Level and Tax Compliance Behaviour**

| | Income Level | | | | | |
|---|---|---|---|---|---|---|
| | Low-Income | | Middle-Income | | High-Income | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Somewhat Compliant | 68 | 31 | 16 | 19 | 10 | 32 |
| Moderately Compliant | 128 | 59 | 55 | 66 | 19 | 61 |
| Compliant | 22 | 10 | 12 | 15 | 2 | 7 |
| **Total** | **218** | | **83** | | **31** | |

Note: 1. The difference in tax compliance behaviour within the respondents' level of income grouping is significant at 10% (P=.053).
2.The percentage was rounded to nearest whole number

### 5.7.6 Income Source and Tax Behaviour

The results of the cross tabulation of the respondents' source of income and tax compliance behaviour as reported in Table 5.19, reveals that 6% of the respondents who earned their income from the public sector complied fully with the tax rules while 94% of these respondents did not fully comply with the rules. Also, the majority of the respondents (90%) who worked in the private sector did not obey the tax rules as expected but the remaining 10% complied fully with the rules. In the case of respondents who earned their income as sole proprietors, 23% of them fully complied with tax rules while the remaining 77% followed the rules either a little or moderately. On relative comparison, more respondents who worked as sole proprietors fully complied with the tax rules than the respondents who earned their income from other sources. This result is inconsistent with the findings of those studies that indicated that self-employed persons are more likely to be less compliant (Andreoni et al., 1998; Groendland & vanVeldhoven, 1983), but agrees with the study of Manaf (2004), which reported that sole proprietors are likely to be more compliant.

**Table 5.19**
**Cross Tabulation: Income Source and Tax Compliance Behaviour**

| | **Income Sources** | | | | | |
|---|---|---|---|---|---|---|
| | **Public Sector** | | **Private Sector** | | **Sole Proprietorship** | |
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 59 | 34 | 18 | 22 | 17 | 21 |
| Moderately Compliant | 102 | 60 | 55 | 68 | 45 | 56 |
| Compliant | 10 | 6 | 8 | 10 | 18 | 23 |
| **Total** | **171** | | **81** | | **80** | |

Note: 1.The difference in tax compliance behaviour among the respondents' source of income is significant at 1% (P=.000).
2.The percentage was rounded to nearest whole number

### 5.7.7 Race and Tax Compliance

Comparing respondents' compliance on the basis of ethnicity, Table 5.20 reveals that 3% of the respondents of the Hausa ethnic group exhibited full compliance behaviour leaving a substantial number of the respondents from the Hausa race not fully compliant. For the Yoruba race, 88% of respondents from that race complied with tax rules either a little or moderately while the remaining 12% fully complied with the rules. Equally, the behaviour of the majority of the respondents (83%) of the Igbo origin were not in full compliance with tax rules but 17% of the respondents from the Igbo tribe fully obeyed the rules. Furthermore, only 15% of the respondents from minor tribes fully complied with the tax rule while the rest did not fully follow the tax rules. On relative comparison, more respondents of Igbo ethnic background fully complied with tax laws than respondents of other origins.

In relationship to Hofstede's (1980) theory of culture (see section 3.8), Hausa ethnic group has collective tendency and the Yoruba's culture is to some extent characterized by collectivism. The Igbo's culture is more individualistic. Chan et al. (2000) stated that the obligation to comply with tax rules is considered as an individualistic interest in the legal sense. Theoretically, this provides explanation for why the Igbo ethnic group is relatively more compliant than the rest of the ethnic groups.

**Table 5.20**
**Cross Tabulation: Race and Tax Compliance Behaviour**

| | **Race** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Hausa** | | **Yoruba** | | **Igbo** | | **Minority** | |
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 47 | 42 | 22 | 31 | 10 | 16 | 15 | 17 |
| Moderately Compliant | 62 | 55 | 41 | 57 | 41 | 67 | 58 | 68 |
| Compliant | 4 | 3 | 9 | 12 | 10 | 17 | 13 | 15 |
| **Total** | | **113** | **72** | | **61** | | **86** | |

Note: 1.The difference in tax compliance behaviour based on the respondents' races is significant at 1% (P=.000).
2.The percentage was rounded to nearest whole number

### 5.7.8 Religion and Tax Compliance

The results of the comparison of religious beliefs of the respondents with tax compliance behaviour as documented in Table 5.21 reveals that 88% of the respondents of Islamic faith did not fully comply with tax rules but the remaining 12% fully obeyed the rules. Also, the behaviour of the majority of the respondents (89%) of Christianity belief were not in full compliance with tax rules whereas the behaviour of the remaining 11% were fully in agreement with the rules. Furthermore, none of the respondents from traditional belief fully behaved in accordance with the tax rules. On the whole, a greater percentage of the respondents who fully complied with tax rules were of Islamic faith.

**Table 5.21**
**Cross Tabulation: Religion and Tax Compliance Behaviour**

| | Religion | | | | | |
|---|---|---|---|---|---|---|
| | Islam | | Christianity | | Traditional | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Somewhat Compliant | 30 | 31 | 63 | 28 | 1 | 9 |
| Moderately Compliant | 55 | 57 | 137 | 61 | 10 | 91 |
| Compliant | 11 | 12 | 25 | 11 | - | - |
| **Total** | **96** | | **225** | | **11** | |

Note: 1. The difference in tax compliance behaviour based on the respondents' religious background is not significant (P=.533).
2.The percentage was rounded to nearest whole number.

### 5.7.9 Financial Condition and Tax Compliance

Respondents' financial condition was related to tax compliance behaviour. Table 5.22 reveals that 12% of the respondents who disclosed that they were not satisfied with their financial condition fully complied with the tax rule while 88% of these respondents failed to fully comply with the rules. Furthermore, only 10 % of respondents who said that they were satisfied with their financial condition fully followed the tax rules, leaving the majority (90%) as not fully compliant.

**Table 5.22**
**Cross Tabulation: Financial Condition and Tax Compliance Behaviour**

| | Financial Condition | | | |
|---|---|---|---|---|
| | Dissatisfy | | Satisfy | |
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| Somewhat Compliant | 35 | 19 | 59 | 39 |
| Moderately Compliant | 125 | 69 | 77 | 51 |
| Compliant | 22 | 12 | 14 | 10 |
| **Total** | **182** | | **150** | |

Note: 1. The difference in tax compliance behaviour among the respondents' financial condition is significant at 1% (P=.000).
2.The percentage was rounded to nearest whole number

## 5.8 Correlation Analysis

The results of inter-correlation between variables of the study, as documented in Table 5.23 indicate that the strength of correlation between most of the variables is weak and, consequently they produced a small effect (±.1). Of all the variables, only correlation between taxpayers' type of religion (Islam & Christianity) ($r = -.925$, $p<.05$) as well as between income source (sole proprietorship) and race (Yoruba) ($r = -.581$, $p<.05$) had a high effect (±.5). The strength of association among a few of the variables was of moderate effect (±.3).

Specifically, the dependent variable (tax compliance) was strongly correlated to almost all the main variables except tax knowledge ($r =.06$), moral reasoning ($r =.076$), race (Yoruba) ($r =.019$), low-income level ($r = -.012$) and religions [Islam ($r = -.003$) & Christianity (r =. -021) ]. In particular, tax compliance had a significant positive correlation with the tax system structure ($r = .207$, $p<.05$), perceived tax service quality ($r = .183$, $p<.05$), public governance quality ($r = .324$, $p<.05$), attitude towards tax evasion ($r = .139$, $p<.05$), risk preference (r =

**Table 5.23**

**Inter- Correlation Matrix**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dependent Variable** | | | | | | | | | | | | | | | | | | | |
| 1.Tax Compliance Behaviour | 1.000 | | | | | | | | | | | | | | | | | | |
| **Variable** | | | | | | | | | | | | | | | | | | | |
| 2 Tax System Structure | .207** | 1.000 | | | | | | | | | | | | | | | | | |
| 3. Tax Knowledge | .061. | -.037 | 1.000 | | | | | | | | | | | | | | | | |
| 4. Perceived Tax Service Quality | .183** | .178** | -.003 | 1.000 | | | | | | | | | | | | | | | |
| 5. Public Governance Quality | .324** | .545** | .006 | .109* | 1.000 | | | | | | | | | | | | | | |
| 6. Attitude to Tax Evasion | .139** | -.209** | .131** | -.047 | -.076 | 1.000 | | | | | | | | | | | | | |
| 7. Moral Reasoning | .076 | -.143** | .186** | .053 | -.114* | .216** | 1.000 | | | | | | | | | | | | |
| 8. Risk Preference | .152** | .238** | -.021 | .071 | .232** | -.084 | .004 | 1.000 | | | | | | | | | | | |
| 9. Financial Condition | -.230** | .353** | .046 | .068 | .421** | -.130** | -.059 | -.072 | 1.000 | | | | | | | | | | |
| 10. Hausa (Ethnic Group1) | -.268** | -.174** | -.008 | -.119* | -.195** | .038 | -.010 | -.163** | .000 | 1.000 | | | | | | | | | |
| 11. Yoruba (Ethnic Group2) | .019 | .128** | -.050 | .039 | .047 | -.056 | -.073 | .058 | -.037 | -.378** | 1.000 | | | | | | | | |
| 12. Igbo (Ethnic Group3) | .125* | .144** | -.076 | .054 | .119* | -.060 | .076 | .059 | .085 | -.341** | -.250** | 1.000 | | | | | | | |
| 13. Public Sector | -.210** | -.172** | .158** | -.109* | -.096* | .128** | .153** | -.089 | .118* | .176** | -.133** | -.038 | 1.000 | | | | | | |
| 14. Sole Proprietorship | .167** | .167** | -.084 | .069 | .097* | -.066 | -.153** | .022 | -.030 | -.093* | .097* | .096 | -.581** | 1.000 | | | | | |
| 15. Nonprofessionals | -.161** | .041 | -.022 | .058 | -.089 | -.073 | -.067 | -.030 | .045 | .090 | -.036 | .061 | -.151** | .242** | 1.000 | | | | |
| 16. High Income Level | -.143** | .027 | -.050 | -.092* | -.065 | -.120* | -.135* | .029 | .006 | .038 | .011 | .015 | -.054 | .037 | .277** | 1.000 | | | |
| 17. Low Income Level | -.012 | -.059 | .083 | .010 | -.070 | .053 | .036 | .014 | -.042 | -.078 | .133** | -.019 | .021 | -.011 | -.143** | -.444** | 1.000 | | |
| 18. Islam (Religion1) | -.003 | .046 | -.012 | .049 | .014 | -.008 | -.080 | -.026 | .022 | .257** | .019 | -.217** | -.006 | .045 | .024 | .013 | -.045 | 1.000 | |
| 19. Christianity (Religion 2) | -.021 | -.049 | .028 | -.042 | -.026 | .026 | .086 | -.021 | -.009 | -.226** | -.028 | .211** | .040 | -.079 | -.032 | .004 | .000 | -.925* | 1.000 |

Note:* Correlation is Significance at 0.01

** Correlation is Significance at 0.05

.152, $p<.05$), race (Igbo) ($r = .125$, $p<.05$) and income source (sole proprietorship) ($r = .167$, $p<.05$) and a significant negative correlation with financial condition ($r = -.230$, $p<.05$), race (Hausa) ($r = -.268$, $p<.05$), income source (public sector) ($r = - .210$, $p<.05$), occupation (nonprofessional) ($r = - .161$, $p<.05$) and high- income level ($r = - .143$, $p<.05$).

The result of inter-correlation among the independent variables indicates that the tax system structure showed a stronger strength of positive association with public governance quality ($r = .545$, $p<.05$) and lower strength of association with high-income level ($r = -.027$) than with other variables. Tax knowledge was only significantly correlated with attitude ($r = .131$, $p<.05$), moral reasoning ($r =.186$, $p<.05$) and income source (public sector) ($r = .158$, $p<.05$). Perceived tax service quality had a stronger correlation with public governance quality ($r = .109$, $p<.01$) and race (Hausa) ($r = - .119$, $p<.01$) while public governance quality was more highly positively related with financial condition ($r = .421$, $p<.05$) than other variables. The result also indicates that there were strong correlations between moral reasoning ($r =.206$, $p<.05$), financial condition ($r = -.130$, $p<.05$) and attitude.

Furthermore, among the moderating variables, risk preference showed a higher correlation for financial condition ($r = -.163$, $p<.05$) than other variables while financial condition was significantly associated with income source (public sector) ($r = .118$, $p<.01$). In addition, the strongest correlation among the categorical variables was between the major religions (Islam & Christianity) ($r = -.925$, $p<.01$). Overall, the result of the correlation analysis suggests that there was a fair degree of linear relationships among the variables of the study.

### 5.9 Reliability of Research Instrument

The reliability of the measures used in this study was established by testing the internal consistency of the measurement items using Cronbach's alpha and for this purpose, the reliability of the items measuring each of the latent variables was tested twice. The first test was done before factor analysis was carried out. The purpose of the first assessment was to confirm how reliable the items prescribed in theory were for measuring the latent variables.

The second test was to confirm the reliability of the items extracted for each latent variable after construct validity. Following the outcome of the construct validity, a number of items were dropped in each of the latent variables except for tax compliance behaviour, tax knowledge and risk preference in the second reliability test. For instance, the items of tax system structure dropped from 20 to 15; public governance quality from 17 to 13, etc. The result of the reliability test of the latent variables as documented in Table 5.24 reveals that the Cronbach's alpha coefficients before and after exploratory factor analysis (EFA) are all greater than the .70 recommended as acceptable level (Hair et al., 2010; Pallant, 2007). Specifically, the Cronbach alpha coefficient of risk preference is rated excellent (>.90); tax knowledge, perceived tax service quality and public governance quality, good (>.80) while the coefficients of other latent variables are within the acceptable level (>.70).

**Table 5. 24**
**Reliability of Latent Variables**

| Latent Variable | Before EFA | | After EFA | |
|---|---|---|---|---|
| | Items | Alpha | Items | Alpha |
| Tax System Structure | 20 | .728[c] | 15 | .781[c] |
| Tax Knowledge | 6 | .810[b] | 6 | .810[b] |
| Attitude towards Tax Evasion | 9 | .754[c] | 8 | .782[c] |
| Moral Reasoning | 10 | .706[c] | 9 | .728[c] |
| Perceived Tax Service Quality | 28 | .865[b] | 24 | .840[b] |
| Public Governance Quality | 17 | .842[b] | 13 | .877[b] |
| Taxpayers' Risk Preference | 5 | .907[a] | 5 | .907[a] |
| Tax Compliance Behaviour | 4 | .740[c] | 4 | .740[c] |

Note: 1. [a] the coefficients are rated excellent, [b] are rated good and [c] are acceptable (George & Mallery, 2003; Gliem & Gliem, 2003).
2. EFA= Exploratory Factor Analysis.

## 5. 10 Factor Analysis

For the purpose of the validity test, face and content validity tests were first carried out with the assistance of taxation and research methodology experts from Malaysia and Nigeria. Two of these experts were drawn from the academy and were of the rank of senior lecturer and professor with many years of instruction in taxation and research method. The other expert also had put in many years in practice and worked as Inspector of tax in the revenue office. The advices and recommendations of these experts were taken into account in drafting the final instrument used in this study. Added to the evaluation of the experts, feedback received from the pilot study also proved useful in drafting the final instrument. Apart from the face and content validity, the construct validity of the latent variables was also established by submitting the primary data of this study for exploratory factor analysis, as done in similar studies by Manaf, (2004); Murphy, (2007) and Wenzel, (2005).

### 5.10.1 Tax System Structure Factors

The values of Bartlett's Test of Sphericity (.000) and KMO (.760) suggest that the data on the tax system structure latent variable were appropriate for factor analysis (see Table 5.25). Factor analysis (Principal Component) using varimax yielded five factors contrary to the four factors theorized. This suggests that the individual taxpayers in Nigeria saw the items for measuring tax system structure different from the theory and perhaps this may be attributed to differences in situation and environment. The five factors together accounted for approximately 74% of the variance with the lowest and highest eigenvalues of 1.14 and 4.13, respectively. The items loaded in value between .715 and .890 while the lowest communality was .570. The anti-image correlation coefficient of each item was above .50. These results met the criteria set for factor analysis, and, as a result, construct validity for the tax system structure may be assumed. However, before this result was obtained, five items were deleted from the original twenty items. The five factors extracted from the analysis were combined indicators of the tax system structure. Once the factors were combined, the four dimensions of tax system structure were fairly represented. In this study, the main concern in the tax system structure construct is not on each of the dimensions but the tax system structure scale as a whole, and, for this purpose, factors extracted from the analysis were summated to obtain the total scale. This is similar to the procedure used in the studies of Alabede, Ariffin and Idris (2011a & 2011b), Elbanna and Child (2007), Fauzi and Idris (2009), and Fauzi (2010).

**Table 5.25**
**Factor Analysis for Tax System Structure**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 24.86% |
| Detection of overstating of small deductions | TS4 | .890 | .814 | .779 | |
| Detection of underreporting of large amount | TS1 | .888 | .820 | .783 | |
| Easiness in income tax computation | TS16 | 886 | .790 | .892 | |
| The extent of confusion on tax forms | TS20 | .802 | .705 | .772 | |
| Record keeping requirement | TS19 | .802 | .706 | .768 | |
| **Factor2** | | | | | 9.19% |
| Sanctions of court, and paying interest | TS7 | .886 | .804 | .749 | |
| Sanctions of court, fine and paying interest | TS8 | .842 | .729 | .770 | |
| Sanction of paying interest | TS5 | .838 | .738 | .789 | |
| Sanctions of fine and paying interest | TS6 | .832 | .729 | .819 | |
| **Factor3** | | | | | 10.58% |
| Detail of tax rules | TS18 | .879 | .793 | .569 | |
| Frequency of change in tax laws | TS17 | .873 | .790 | .611 | |
| **Factor4** | | | | | 9.78% |
| Flat tax | TS11 | .859 | .740 | .507 | |
| High-income earner tax | TS10 | .831 | .703 | .561 | |
| **Factor5** | | | | | 8.64% |
| Detection of underreporting of small amount | TS2 | .770 | .633 | .682 | |
| Detection of overstating of large deductions | TS3 | .715 | .570 | .671 | |

KMO: .760 Total Variance Explained : 73.76%
Bartlett's Test of Sphericity: Sig: .000

*Note:* 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation
2.The items dropped in the course of analysis are TS9, TS12, TS13, TS14 and TS15.

### 5.10.2 Tax Knowledge Factors

The data on tax knowledge were appropriate for factor analysis with the values of Bartlett's Test of Sphericity and KMO as (.000) and (.784), respectively. The analysis carried out on the data yielded two factors and these factors accounted for about 74% of the variance with the eigenvalues for each factor above 1. On factor loading, item TK5 gave the highest value of .847 and item TK3 gave the lowest value of .728. For the value of communality and anti-image correlation coefficient, the lowest values were .661 and .740, respectively. Overall, the result of factor analysis on tax knowledge met the minimum criteria; therefore, the analysis supports construct validity of tax knowledge. However, the study is not interested in the individual factor yielded in the analysis but on the total scale of tax knowledge, as a result all the factors were summated to obtain the total scale, as was done in Alabede et al. (2011a), Fauzi and Idris (2009). The result of the analysis is presented in Table 5.26.

**Table 5.26**
**Factor Analysis for Tax Knowledge**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 35.95% |
| Deductible Items: | | | | | |
| Medical Expenses | TK5 | .847 | .778 | .746 | |
| Doubtful Debt | TK4 | .825 | .728 | .779 | |
| Loss on Sale of Shares | TK6 | .792 | .661 | .836 | |
| **Factor2** | | | | | 33.01% |
| Income Tax Items: | | | | | |
| Rent | TK2 | .842 | .740 | .740 | |
| Interest | TK1 | .775 | .666 | .789 | |
| Dividend | TK3 | .728 | .585 | .885 | |
| KMO: .784 | | | | | Total Variance Explained : 68.96% |
| Bartlett's Test of Sphericity: Sig: .000 | | | | | |

Note: 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation

### 5.10.3 Attitude towards Tax Evasion Factors

The result of the factor analysis in respect of attitude towards tax evasion as shown in Table 5.27 reveals that the values of Bartlett's Test of Sphericity are .000 and KMO .802, thereby making the data on attitude towards tax evasion appropriate for factor analysis. In the course of the analysis, one item was deleted thereby reducing the number of items to eight and three factors were extracted using varimax rotation as stated in the theory. These factors pulled variance explained 29.09%, 24.14% and 15.81%, respectively, with the eigenvalues for each factor greater than 1. Other results of the analysis indicate that the factor loading of items of the three factors ranged from .623 to .868 while the lowest values of communality and anti-image correlation coefficient were recorded on item ATT6 (.584) and ATT1 (.596), respectively.

**Table 5.27**
**Factor Analysis for Attitude towards Tax Evasion**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 29.09% |
| Other people underreporting their income | ATT4 | .868 | .798 | .771 | |
| Taxpayer claiming nonexistent tax deductions | ATT2 | .805 | .709 | .815 | |
| Feeling about other involvement in tax evasion | ATT5 | .793 | .664 | .845 | |
| **Factor2** | | | | | 24.14% |
| Seriousness of stealing money from wallet | ATT9 | .845 | .740 | .788 | |
| Seriousness of embezzlement of funds | ATT8 | .837 | .751 | .771 | |
| Seriousness of robbing a kiosk small amount | ATT7 | .623 | .620 | .871 | |
| **Factor3** | | | | | 15.81% |
| Taxpayer not declaring extra income | ATT1 | .808 | .656 | .596 | |
| Defend evasion on tax system unfairness | ATT6 | .753 | .584 | .754 | |
| KMO: .802 | | | | | Total Variance Explained : 69.04% |
| Bartlett's Test of Sphericty: Sig: .000 | | | | | |

Note : 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation
2. Item ATT3 was deleted in analysis.

With the results of the analysis presented in Table 5.27, the assumption of construct validity may be upheld for attitude towards tax evasion. The factors extracted are a fair representation of the dimensions of attitude towards the tax evasion construct; this study is not interested in decomposed factors/ dimensions but the attitude towards tax evasion scale as a whole.

### 5.10.4 Moral Reasoning Factors

From the value of Bartlett's Test of Sphericity (.000) and KMO (.823), the appropriateness of the data in respect of moral reasoning for factor analysis was assumed. The factor analysis using varimax rotation resulted in the extraction of three factors against one factor theorized. In doing the analysis, one item was dropped for not meeting factor analysis criteria. The results of the analysis, as presented in Table 5.28, indicate that the three factors accounted for approximately 64% of the variance and the minimum eigenvalue is 1.069, while items loaded between -.708 and .866. The minimum values of communality and anti-image correlation coefficient recorded in the analysis were .515 and .578, respectively.

**Table 5.28**
**Factor Analysis for Moral Reasoning**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 33.91% |
| Harm to other person should be not done | MR6 | .866 | .762 | .829 | |
| Action that threatens the welfare of others | MR5 | .862 | .751 | .818 | |
| Harming another person psychologically | MR4 | .839 | .728 | .846 | |
| Wrongness of potential harm to others | MR3 | .727 | .575 | .886 | |
| **Factor2** | | | | | 15.26% |
| Intentional action to harm | MR1 | .869 | .767 | .622 | |
| Tolerance of risk to another person | MR2 | .652 | .554 | .838 | |
| **Factor3** | | | | | 14.46% |
| Sacrifice for the welfare of others | MR9 | .618 | .530 | .844 | |
| Concern for dignity & welfare of others | MR8 | .617 | .515 | .723 | |
| Consequences of act by individual | MR7 | -.708 | .544 | .578 | |
| KMO: .823 | | | | | Total Variance Explained : 63.63% |
| Bartlett's Test of Sphericity: Sig: .000 | | | | | |

*Note:* 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation
2. Item MR10 was deleted during analysis.

The results of the analysis equally met the criteria set for factor analysis as a result, the construct validity of moral reasoning may be assumed. The moral reasoning construct is represented by factors extracted from the analysis. However, the study is concerned with the moral reasoning scale as a whole not on the decomposed factors.

### 5.10.5 Perceived Tax Service Quality Factors

Factor analysis on items of perceived tax service quality using varimax led to the extraction of eight factors. These factors were extracted after dropping four items from the original twenty-eight for not meeting the criteria of factors analysis. The results of the analysis, as presented in Table 5.29 indicate the values of Bartlett's Test of Sphericity as.000 and KMO

.804, which implies that the data in respect of perceived tax service quality were suited for factor analysis.

**Table 5.29**
**Factor Analysis for Perceived Tax Service Quality**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 11.67% |
| Tax office layout impressiveness | TSQ12 | .742 | .615 | .867 | |
| Tax employees understand taxpayers' needs | TSQ 5 | .733 | .646 | .855 | |
| Tax employees' willingness to help taxpayer | TSQ 2 | .702 | .644 | .866 | |
| **Factor2** | | | | | 10.20% |
| Tax office provision of superior service | TSQ28 | .802 | .785 | .748 | |
| Importance of facility design to tax office | TSQ14 | .795 | .814 | .741 | |
| Impression about tax service by other taxpayers | TSQ15 | .583 | .702 | .722 | |
| Tax office knows the needs of taxpayers | TSQ24 | .504 | .638 | .883 | |
| **Factor3** | | | | | 7.89% |
| Modern equipment to provide tax service | TSQ23 | .757 | .702 | .740 | |
| Rating of tax office's physical environment | TSQ18 | .676 | .575 | .871 | |
| Reliance on tax office atmosphere | TSQ9 | .645 | .591 | .876 | |
| Tax employees' respond to tax service needs | TSQ4 | .358 | .554 | .880 | |
| **Factor4** | | | | | 7.58% |
| Taxpayer feeling after receiving tax service | TSQ25 | .780 | .675 | .680 | |
| Tax office knows taxpayer's type of experience | TSQ27 | .667 | .647 | .742 | |
| Compare tax office environment to any office | TSQ17 | .639 | .648 | .731 | |
| **Factor5** | | | | | 7.08% |
| Tax office employees friendliness | TSQ1 | .818 | .710 | .708 | |
| Minimum waiting time at tax office | TSQ20 | .584 | .629 | .835 | |
| Tax office employees knowledge of their job | TSQ6 | .469 | .641 | .859 | |
| **Factor6** | | | | | 7.34% |
| Taxpayer's patronage and perception of service | TSQ16 | .639 | .557 | .708 | |
| Reliance on tax office employees' knowledge | TSQ7 | .619 | .530 | .771 | |
| Tax office layout serving taxpayers' purpose | TSQ13 | .551 | .651 | .607 | |
| **Factor7** | | | | | 6.72% |
| Compare ambiance at the tax office to any office | TSQ10 | .812 | .712 | .659 | |
| Importance of atmosphere to tax office | TSQ11 | .499 | .653 | .856 | |
| **Factor8** | | | | | 5.89% |
| The importance of waiting time to tax office | TSQ21 | .717 | .669 | .813 | |
| Prediction of waiting time at tax office | TSQ19 | .693 | .566 | .639 | |
| KMO: .804 | | | | Total Variance Explained : | 64.80% |
| Bartlett's Test of Sphericity: Sig: .000 | | | | | |

Note: 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation
2.. Item TSQ3, TSQ8, TSQ22 and TSQ26 were deleted in the course of factor analysis.

Furthermore, the table reveals that the eight factors accounted for 64.80% of the variance with the eigenvalues for each factor being at least 1. The factor loadings of the twenty-four items were between .358 and .818 and the lowest value of communality as well as anti-image correlation coefficient were .530 and .607, respectively. With these results, the criteria of factor analysis were met and, therefore, construct validity for perceived tax service quality latent variable was assumed. Eight factors that were obtained from the analysis contained indicators or items of each of the three main dimensions of perceived tax service quality. The combination of the twenty-four items of the eight factors would give a fair representation of perceived tax service quality construct. This study is not concerned with each dimension of perceived tax service quality construct but with perceived tax service quality scale as a whole.

### 5.10.6 Public Governance Quality Factors

The values of Bartlett's Test of Sphericity (.000) and KMO (.879) suggest that the data on public governance quality were suitable for the factor analysis. The analysis carried out using varimax finally yielded four factors against the five factors in the theory (see Table 5.30). These factors were extracted after dropping four items from the original seventeen items. The final result reveals that the four factors accounted for about 84% of the variance with eigenvalues greater than 1 as well as the lowest and highest factor loading as .761 and .923, respectively. Furthermore, the lowest communality and anti-image correlation coefficient were .588 and .641, respectively. Overall, the result suggests that the criteria were met; therefore, construct validity was assumed for the public governance quality latent variable. The four factors extracted from the analysis contained indicators or items that represent each of the five dimensions of public governance quality construct, and, as a result, the combination of these factors would give a fair representation of public governance quality construct. This study is equally concerned with the public governance quality scale as a whole not on each dimension of the construct.

**Table 5.30**
**Factor Analysis for Public Governance Quality**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 28.26% |
| Free and fair election in Nigeria | PGQ2 | .905 | .949 | .875 | |
| Fairness in administration of justice | PGQ16 | .904 | .913 | .940 | |
| Trust in the parliament to make good law | PGQ1 | .900 | .934 | .889 | |
| Independence of the judiciary | PGQ15 | .891 | .912 | .917 | |
| **Factor2** | | | | | 28.05% |
| Diversion of public funds due to corruption | PGQ10 | .923 | .945 | .857 | |
| Trust of financial honesty of politicians | PGQ9 | .912 | .952 | .857 | |
| Police effectiveness in combating crime | PGQ17 | .894 | .905 | .934 | |
| Access to govt. annual report and account | PGQ4 | .858 | .824 | .964 | |
| **Factor3** | | | | | 15.98% |
| Satisfaction with quality of education | PGQ8 | .864 | .754 | .640 | |
| Satisfaction with quality of infrastructure | PGQ5 | .857 | .737 | .641 | |
| Satisfaction with quality of health service | PGQ7 | .761 | .588 | .759 | |
| **Factor4** | | | | | 11.38% |
| Decline in political authority and stability | PGQ12 | .875 | .772 | .708 | |
| Ethnic and religious conflict and stability | PGQ14 | .779 | .692 | .847 | |

KMO: .879 Total Variance Explained : 83.67%
Bartlett's Test of Sphericity: Sig: .000

Note: 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation
2.Items deleted in course of the analysis include PGQ3, PGQ 6, PGQ11 and PGQ13

### 5.10.7 Risk Preference Factor

The factor analysis on the items of risk preference yielded one factor just as provided in the theory. This factor accounted for about of 73% of the variance with an eigenvalue of 3.64 (see Table 5.31). The five items of the factor loaded at a value above .80 while the lowest value of communality and anti-image correlation coefficient were .667 and .672, respectively. The appropriateness of the data on risk preference for factor analysis was also assured with the values of Bartlett's Test of Sphericity (.000) and KMO (.846). These results also met the criteria for factor analysis; therefore, they provide evidence of construct validity on risk preference.

**Table 5.31**
**Factor Analysis for Risk Preference**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 72.89% |
| Financial risk taking | RP1 | .888 | . 667 | .837 | |
| Social risk taking | RP2 | .872 | .760 | .815 | |
| Health risk taking | RP3 | .870 | .789 | .821 | |
| Career risk taking | RP4 | .820 | .883 | .756 | |
| KMO: .846 | | | | Total Variance Explained : 72.89% | |
| Bartlett's Test of Sphericity: Sig: .000 | | | | | |

Note: 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation

### 5.10.8 Tax Compliance Behaviour Factor

With the values of Bartlett'sTest of Sphericity (.000) and KMO (.726), the appropriateness of the data collected in respect of tax compliance behaviour for the factor analysis was assumed. The analysis yielded one factor, which accounted for about 56% of the variance explained with an eigenvalue of 2.25. Item TCB4 had the lowest factor loading of .653 while the lowest value of communality and anti-image correlation coefficients were .426 and .681, respectively. These results met the minimum criteria of factor analysis, and, therefore, support the construct validity of tax compliance behaviour. Table 5.32 presents the results of factor analysis for tax compliance behaviour.

**Table 5.32**
**Factor Analysis for Tax Compliance Behaviour**

| Factor | Code | Load | Communal | Anti-Image | Total Variance |
|---|---|---|---|---|---|
| **Factor1** | | | | | 56.36% |
| Income Reporting | TCB1 | .833 | .504 | .810 | |
| Tax Deductions Reporting | TCB2 | .793 | .426 | .788 | |
| Return Filing | TCB3 | .710 | .629 | .695 | |
| Tax Payment | TCB4 | .653 | .694 | .681 | |
| KMO: .726 | | | | Total Variance Explained : | 56.36% |
| Bartlett's Test of Sphericity: Sig 000 | | | | | |

Note: 1. Load = Factor loading, Communal = Communality, Anti-image =Anti-image correlation

## 5.11 Multiple Regressions

The relationship between tax compliance and its determinants as well as the moderating effect of taxpayers' financial condition and risk preference on the relationship were analyzed using the multi-regression statistical technique.

### 5.11.1 Assumptions of Multiple Regression

For successful application of the multiple regression technique in analysing the data of the study, the fundamental assumptions of multiple regression, as identified in Coakes and Ong (2011), and Pallant (2007), were properly evaluated because Meyer et al. (2006) stated that the violation of one or more of these assumptions may cause statistical results to be biased or distorted.

#### 5.11.1.1 Sample Size

The main issue on sample size border on generalization of result. Bartlett et al. (2001) and Pallant (2007) stated that the result on a considerable small sample might lack generalization power. Miles and Shevlin (2001), and Tabachnick and Fidell (2007) proposed a formula for calculating sample size for multiple regression as follows: $N > 50 + 8M$, where M is the number of the independent variables. However, in the work of Bartlett et al. (2001), and Hair et al. (2010), the rule of thumb stated a minimum ratio of 5 cases to one independent variable (that is 5:1) while the most desirable level is between 15 to 20 cases per independent variable.

Going by the number of usable questionnaires (see Table 5.2) of 332 and the main variables of 18 and, the sample size ratio in this study was 18.44:1.  This implies that the sample size was about four times the minimum ratio and within the desirable ratio recommended in Bartlett et al. (2001), and Hair et al. (2010).

#### 5.11.1.2 Normality

In the multiple regression technique, the normality of data is assumed when the residuals are distributed about the dependent variable scores (Pallant, 2007). Normality can be assessed by statistical and graphical methods. Under the statistical method, one of the ways of checking normality is by skewness and kurtosis measures and Meryer et al. (2006) recommended that the values of skewness and kurtosis should not exceed ± 1. However, Hair et al. (2010) stated that the commonly used critical values are ±1.96 (for .05 significant level) and ± 2.58 (for .01 significant level). On graphical methods, Hair et al. (2010) and Meyers et al. (2006) submitted that the most reliable method for assessing normality is the normal probability plot. Under this method, normality is assumed if the data distribution follows the diagonal line (Hair et al., 2010).

In this study, both statistical and graphical methods were used to assess the normality of the study's data as recommended in Meyer et al. (2006). Table 5.33 shows the normality of each metric variable using skewness and kurtosis measures. The results indicate that skewness and kurtosis values of all the continuous variables lay within the recommended maximum limit of ±1 except risk preference, which is slightly above the limit. Also the normality of the whole data distribution was checked using a normal probability plot as part of the multiple regression procedure and the result as presented in appendix 12 shows the data distribution for the regression fairly followed the diagonal line, as recommended in Hair et al. (2010). On the basis of the results of the statistical and graphical assessments of the data distribution, normality of this study's data was fairly assumed.

**Table 5.33**
**Testing for Normality**

| Variable | Statistics | | | |
|---|---|---|---|---|
| | **Mean** | **Std. Deviation** | **Skewness** | **Kurtosis** |
| Tax Compliance Behaviour | 2.06 | 0..59 | - 0.33 | - 0.55 |
| Tax System Structure | 2.43 | 0.63 | 0.13 | - 0.45 |
| Tax Knowledge | 2.00 | 0.38 | 0.13 | - 0.07 |
| Perceived Tax Service Quality | 2.72 | 0.60 | -0.38 | - 0.27 |
| Public Governance Quality | 2.01 | 0.73 | 0.71 | 0.17 |
| Attitude to Tax Evasion | 3.58 | 0.90 | -0.24 | -0.60 |
| Moral Reasoning | 3.56 | 0.81 | -0.24 | -0.77 |
| Risk Preference | 1.91 | 1.12 | 1.03 | 0.09 |

### 5.11.1.3 Linearity

Multiple regression assumes that the variables in the statistical analysis are related to each other in a linear manner (Meyer, et al., 2006). However, Coakes and Ong (2011) pointed out that mild deviation from linearity is not serious in multiple regression analysis. Hair et al. (2010) and Meyers et al. (2006) declared that the common method of assessing the linearity between two variables is the use of a scatter plot. Specifically, Meyers et al. (2006) stated that variables that are related linearly produced oval shape and they also pointed out that there is downside running scatter plot. Alternatively, Pearson correlation coefficients are also used to assess the degree of linear association between two variables (Hair, et al., 2010; Meyers, et al., 2006).

In this study, the linear relationship between the variables was assessed through a matrix scatter plot and Pearson correlation coefficients. The matrix scatter plot (see appendix 12) produced a fairly oval shape as recommended in Meyers et al. (2006) and the correlation coefficients also (see Table 5.23.) indicated a fairly linear association between the variables. Second, residual scatter plot was generated as part of multiple regression analysis and the shape of the residual scatter plot (see appendix 12) also fairly depicted a linear relationship between the variables of the study.

**5.11.1.4 Homoscedasticity**

The violation of homoscedasticity assumption can be detected with statistic tests of F max and Levene's test but caution has been raised in using F max because it is extreme sensitive to normality (Meyers et al., 2006). Coakes and Ong (2011) stated that homoscedasticity assumption is not violated if the Levene's test for homogeneity is not significant (at $P< .05$, .01 or .001). In addition to Levene's test, Coakes and Ong (2011), and Pallant (2007) equally said that the assumption can be checked graphically through the residual scatter plot.

Both statistical and graphical approaches were employed in this study in testing the violation of homoscedasticity assumption. For the statistical method, Levene's test through the one-way ANOVA procedure was used, as recommended in Meyers et al. (2006) and the Levene's test was used on the dependent variable and each categorical variable, as stated in Hair et al. (2010). The result of the Levene's test, as documented in Table 5.34, indicates that each of the categorical variables is not significant at ($P<.01$), and, as a result, homoscedasticity assumption was not violated. Graphically, the shape of the residual scatter plot (see appendix 12) depicts equal dispersion across all the variables suggesting that the homoscedasticity assumption was not violated.

**Table 5.34**
**Testing for Homoscedasticity**

| | **Dependent Variable: Tax Compliance Behaviour** | |
|---|---|---|
| **Categorical Variables** | **Levene's Statistic** | **Sig** |
| **Race** | | |
| Hausa | 0.334 | 0.564 |
| Yoruba | 0.046 | 0.831 |
| Igbo | 0.638 | 0.425 |
| **Religion** | | |
| Islam | 0.396 | 0.530 |
| Christianity | 0.584 | 0.445 |
| Financial Condition | 6.063 | 0.014 |
| **Income Source** | | |
| Public Sector | 0.210 | 0.647 |
| Sole Proprietor | 2.277 | 0.132 |
| **Income Level** | | |
| Low- Income | 1.814 | 0.179 |
| High- Income | 0.389 | 0.533 |
| **Occupation** | | |
| Non professional | 1.256 | 0.263 |

#### 5.11.1.5 Multicollinearity

Multicollinearity indicates the degree of relationship existing between the independent variables. According to Pallant (2007), multicollinearity exists when the relationship between some independent variables is highly correlated. The existence of multicollinearity in analysis may reduce the predictive power of any single independent variable by the extent to which it related to other independent variables (Hair et al., 2010). Multicollinearity can be detected through the correlation between independent variables. The literature suggested that a correlation greater than .90 is an indication that multicollinearity may be a problem (Meyers et al., 2006). Furthermore, the multicollinearity of multiple variables may be assessed by the tolerance and variance inflation factor (VIF). Generally, multicollinearity with a tolerance value within the threshold of .10, which corresponds to a VIF of 10, is acceptable (Hair et al., 2010).

The assessment of multicollinearity in this study was done using tolerance and VIF values as well as Pearson correlation coefficients. The tolerance and VIF values were computed in respect of the variables in the main effect and interacting effects as part of multiple regression analysis. The results of multicollinearity for the variables in the main effect are presented in Table 5.35 and the values of tolerance and VIF for each independent variable were within the threshold of .10 and 10, respectively, as recommended by Hair et al. (2010); as such multicollinearity did not pose any problem among the variables in the main effect. In addition, the results of the correlation analysis reported in Table 5.23 indicate that correlation coefficients between variables were below .90 except the correlation coefficients between the two major religions which was slightly above the recommended .90 (Meyers et al., 2006; Tabachnick & Fidell, 2007).

**Table 5.35**
**Testing for Multicollinearity for the Main Effect**

| Variable | Tolerance | Variance Inflation Factor (VIF) |
|---|---|---|
| Tax System Structure | .632 | 1.583 |
| Tax Knowledge | .912 | 1.097 |
| Perceived Tax Service Quality | .937 | 1.067 |
| Public Governance Quality | .661 | 1.513 |
| Attitude to Tax Evasion | .892 | 1.121 |
| Moral Reasoning | .865 | 1.156 |
| **Income Source** | | |
| Public Sector | .618 | 1.617 |
| Sole Proprietor | .615 | 1.625 |
| **Income Level** | | |
| Low- Income | .718 | 1.393 |
| High- Income | .753 | 1.328 |
| **Occupation** | | |
| Nonprofessional | .835 | 1.198 |
| **Race** | | |
| Hausa | .582 | 1.719 |
| Yoruba | .650 | 1.537 |
| Igbo | .658 | 1.519 |
| **Religion** | | |
| Islam | .138 | 7.233 |
| Christianity | .140 | 7.145 |

However, the problem of multicollinearity was noted among the variables in the interacting effect. In reducing the effect of the multicollinearity to a level that did constitute a threat to the multiple regression analysis, the recommendations of Aiken and West (1991), Cohen et al. (2003) and Tabachnick and Fidell (2007) were followed as was also adopted in the moderating studies of Murphy (2007) and Wenzel (2004a & 2005). In this case, all the variables were centered[104] so as to get them close to the zero value. After all the variables of

104. To centre a variable, the overall mean of the variable is deducted from the variable.

this study were centered, the effect of multicollinearity reduced on the moderating effects of financial condition, risk preference[105] as well as in the combined moderating effect of financial condition and risk preference. From Table 5.36, the lowest value of tolerance for all the variables in the combined interacting effect of financial condition and risk preference is .139 with a corresponding VIF value of 7.174 indicating that multicollinearity was not serious among the variables in the interacting effect. However, the results of multicollinearity for the moderating effects of risk preference reveal that the values of tolerance and VIF for religions (Islam & Christianity) were slightly above the recommended limit. Since the variables with high VIF were used to measure differences in behaviour not relationship, the slight multicollinearity observed may not pose any serious analytical problem, and, moreover, Aiken and West (1991) noted that after variables have been centered any multicollinearity remaining represents essential multicollinearity, which cannot be avoided.[106]

105. For the values of tolerance and VIF on the individual moderating effects of financial condition and risk preference, refer to Appendix 12.
106. Essential multicollinearity is the multicollinearity that exists because of the relationship between variables and this multicollinearity cannot be eliminated by centering of the variables (Aiken & West, 1991).

**Table 5.36**
**Testing for Multicollinearity for the Joint Interaction Effect of Financial Condition and Risk Preference**

| Variable | Tolerance | VIF |
|---|---|---|
| Tax System Structure X Risk Preference X Financial Condition | .458 | 2.185 |
| Tax Knowledge X Risk Preference X Financial Condition | .778 | 1.270 |
| Perceived Tax Service Quality X Risk Preference X Financial Condition | .838 | 1.194 |
| Public Governance Quality X Risk Preference X Financial Condition | .369 | 2.712 |
| Attitude to Tax Evasion X Risk Preference X Financial Condition | .804 | 1.244 |
| Moral Reasoning X Risk Preference X Financial Condition | .802 | 1.248 |
| **Income Source** | | |
| Public Sector X Risk Preference X Financial Condition | .514 | 1.944 |
| Sole Proprietor X Risk Preference X Financial Condition | .551 | 1.814 |
| **Income Level** | | |
| Low- Income X Risk Preference X Financial Condition | .690 | 1.449 |
| High- Income X Risk Preference X Financial Condition | .632 | 1.581 |
| **Occupation** | | |
| Nonprofessional X Risk Preference X Financial Condition | .746 | 1.341 |
| **Race** | | |
| Hausa X Risk Preference X Financial Condition | .552 | 1.811 |
| Yoruba X Risk Preference X Financial Condition | .589 | 1.698 |
| Igbo X Risk Preference X Financial Condition | .574 | 1.742 |
| **Religion** | | |
| Islam X Risk Preference X Financial Condition | .139 | 7.174 |
| Christianity X Risk Preference X Financial Condition | .139 | 7.200 |

### 5.11.2 Regression Models

Following the recommendation of Hair et al. (2010), that the researcher in studies involving moderator(s) should follow a step process, the data for this study were regressed in four steps in accordance with the objectives. A similar step-process was adopted in the studies of Chen et al. (2009), Murphy, (2007) and Wenzel, (2004a & 2005).

In this study, the first step involved regression of all the variables in the extended Fischer's model together with the new variables added to the model. The regression in this step was done to estimate the predictive power of the main effect of this study, as recommended in Aiken and West (1991), Hair et al. (2010) and Meyer et al. (2006). In addition, the step was necessary to ascertain the effect of predictive power of the new variables and this was also done to meet the first three objectives of the study. The results of the multiple regression obtained in this step were used to evaluate the validity of hypotheses $H_3$, $H_6$, $H_7$ and $H_{11}$. The variables in this step were combined to form regression model 1, as presented in equation 5.1 below and model 1 served as the base model on which regression model, 2, 3 and 4 were compared.

Tax Compliance = $\beta_0 + \beta_1$Tax System Structure + $\beta_2$ Tax Knowledge + $\beta_3$ Taxpayer's Moral Reasoning + $\beta_4$ Attitude to Tax Evasion + $\beta_5$ Income Source + $\beta_6$Income Level + $\beta_7$Occupation + $\beta_8$Perceived Tax Service Quality + $\beta_9$Public Governance Quality + $\beta_{10}$Race+ $\beta_{11}$Religion+U ……………….…………..5.1

Where $\beta_0$ is the intercept , $\beta_1 - \beta_{11}$ are coefficient and U is the error.

In accordance with the fourth objective of this study, the moderating effects of financial condition and risk preference on tax compliance and its determinants were determined in the remaining three steps. In the second step, the moderating effect of financial condition on the relationship of the independent variables and dependent variable was determined while the other moderator (risk preference) was held constant. For this to be done, financial condition as well as the product term of financial condition and each of the independent variables were introduced into equation 5.1 to form equation 5.2 and this represents regression model 2. The results of multiple regressions on the moderating effects of financial condition were used to test hypotheses $H_{1a}$, $H_{2a}$, $H_{3a}$, $H_{4a}$, $H_{5a}$, $H_{6a}$, $H_{7a}$, $H_{8a}$, $H_{9a}$, $H_{10a}$ and $H_{11a.}$ Regression model 2 is presented in the next page.

Tax Compliance = $\beta_0 + \beta_1$Tax System Structure + $\beta_2$ Tax Knowledge + $\beta_3$ Taxpayer's Moral Reasoning + $\beta_4$ Attitude to Tax Evasion + $\beta_5$ Income Source + $\beta_6$Income Level + $\beta_7$Occupation + $\beta_8$Perceived Tax Service Quality + $\beta_9$Public Governance Quality + $\beta_{10}$Race+ $\beta_{11}$Religion + $\beta_{12}$ Financial Condition + $\beta_{13}$Tax System Structure*Financial Condition + $\beta_{14}$ Tax Knowledge* Financial Condition + $\beta_{15}$ Moral Reasoning* Financial Condition + $\beta_{16}$ Attitude* Financial Condition + $\beta_{17}$ Income Source*Financial Condition + $\beta_{18}$Income Level*Financial Condition + $\beta_{19}$Occupation*Financial Condition+ $\beta_{20}$Perceived Tax Service Quality* Financial Condition + $\beta_{21}$Public Governance Quality*Financial Condition + $\beta_{22}$Race * Financial Condition + $\beta_{23}$Religion*Financial Condition +U…………………..……….....5.2

Where $\beta_0$ is the intercept , $\beta_1 - \beta_{23}$ are coefficient and U is the error.

Just as in the second step, the interacting effect of only risk preference was also determined in the third step while holding financial condition constant. This was done by expanding the main effect in equation 5.1 to include risk preference and the product term of risk preference and each independent variable, which resulted in equation 5.3 and represents regression model 3. The multiple regression results on model 3 were used to evaluate the validity of hypotheses: $H_{1b}$, $H_{2b}$, $H_{3b}$, $H_{4b}$, $H_{5b}$, $H_{6b}$, $H_{7b}$, $H_{8b}$, $H_{9b}$, $H_{10b}$ and $H_{11b.}$ Equation 5.3 is presented below.

Tax Compliance = $\beta_0 + \beta_1$Tax System Structure + $\beta_2$ Tax Knowledge + $\beta_3$ Taxpayer's Moral Reasoning + $\beta_4$ Attitude to Tax Evasion + $\beta_5$ Income Source + $\beta_6$Income Level + $\beta_7$Occupation + $\beta_8$Perceived Tax Service Quality + $\beta_9$Public Governance Quality + $\beta_{10}$Race+ $\beta_{11}$Religion+ $\beta_{12}$Risk Preference + $\beta_{13}$Tax System Structure*Risk Preference + $\beta_{14}$ Tax Knowledge*Risk Preference + $\beta_{15}$ Moral Reasoning*Risk Preference + $\beta_{16}$ Attitude* Risk Preference + $\beta_{17}$ Income Source*Risk Preference + $\beta_{18}$Income Level* Risk Preference + $\beta_{19}$Occupation*Risk Preference + $\beta_{20}$Perceived Tax Service Quality*Risk Preference + $\beta_{21}$Public Governance Quality* Risk Preference+$\beta_{22}$Race*Risk Preference+ $\beta_{23}$Religion*Risk Preference + U……….………..……………………………………………………………………………..….5.3

Where $\beta_0$ is the intercept, $\beta_1 - \beta_{23}$ are coefficient and U is the error

In the fourth step, the combined interacting effects of the two moderating variables were determined by incorporating financial condition, risk preference and the product term of both financial condition and risk preference with each independent variable in equation 5.1 to obtain equation 5. 4, which gives regression model 4. The regression model 4 represents the theoretical framework provided in chapter four and the statistical results of model 4 were used to test hypotheses: $H_{1c}$, $H_{2c}$, $H_{3c}$, $H_{4c}$, $H_{5c}$, $H_{6c}$, $H_{7c}$, $H_{8c}$, $H_{9c}$, $H_{10c}$ and $H_{11c}$. Equation 5.4 is presented below.

Tax Compliance = $\beta_0$ + $\beta_1$Tax System Structure + $\beta_2$ Tax Knowledge + $\beta_3$ Taxpayer's Moral Reasoning + $\beta_4$ Attitude to Tax Evasion + $\beta_5$ Income Source + $\beta_6$Income Level + $\beta_7$Occupation + $\beta_8$Perceived Tax Service Quality + $\beta_9$Public Governance Quality + $\beta_{10}$Race+ $\beta_{11}$Religion+ $\beta_{12}$Financial Condition+ $\beta_{13}$ Risk Preference + $\beta_{14}$Tax System Structure*Financial Condition*Risk Preference + $\beta_{15}$ Tax Knowledge* Financial Condition* Risk Preference + $\beta_{16}$ Moral Reasoning*Financial Condition*Risk Preference + $\beta_{17}$ Attitude*Financial Condition*Risk Preference + $\beta_{18}$Income Source*Financial Condition*Risk Preference + $\beta_{19}$Income Level*Financial Condition*Risk Preference + $\beta_{20}$Occupation*Financial Condition*Risk Preference + $\beta_{21}$Perceived Tax Service Quality* Financial Condition* Risk Preference + $\beta_{22}$Public Governance Quality* Financial Condition* Risk Preference + +$\beta_{23}$Race* Financial Condition* Risk Preference + $\beta_{24}$Religion* Financial Condition*Risk Preference + U………..…..….5.4

Where $\beta_0$ is the intercept, $\beta_1 - \beta_{24}$ are coefficient and U is the error.

### 5.11.3 Multiple Regression Results

The relationships between the main independent variables and the dependent variable and the extent to which the relationships are moderated in the presence of financial condition and risk preference were determined statistically using multiple regression analysis. As stated in Section 5.11.2, the statistical analyses were carried out in a step process, as recommended by Hair et al. (2010), and was done in a number of studies including Chen et al. (2009), Murphy (2007) and Wenzel (2004a & 2005). The results of the analyses are shown in Tables 5.37, 5.38 and 5.39.

Table 5.37 reports the results of multiple regressions[107] on the variables for the main effect and moderating effect of financial condition. The statistical analyses revealed that model 1 and model 2 were statistically significant as indicated by the F ratio of 7.329 (P=.000)

107. Detailed SPSS output of multiple regression on each model is available in Appendix 12

**Table 5.37**
**Multiple Regression Result for the Main Effect and Interacting Effect of Financial Condition**

| Variable | Model 1 | Model 2 |
|---|---|---|
| Constant | 1.063(3.262)*** | -.180(-.141) |
| Tax System Structure | .051(.848) | .141(2.384)** |
| Tax Knowledge | .056(1.120) | .066(1.392) |
| Attitude to Tax Evasion | .164(3.227)*** | .101(2.061)** |
| Moral Reasoning | .072(1.395) | .079(1.588) |
| **Income Source** | | |
| Public Sector | -.158(-2.577)** | -.092(-1.553) |
| Sole Proprietor | .085(1.391) | .079(1.327) |
| **Income Level** | | |
| Low-Income | -.082(-1.451) | -.80(-1.496) |
| High-Income | -.071 (-1.289) | -.085(-.619) |
| **Occupation** | | |
| Nonprofessional | -.152(-2.880) *** | -. 120(-2.386)** |
| Perceived Tax Service Quality | .098(1.976)** | .105 (2.135)** |
| Public Governance Quality | .220(3.712)*** | .383(6.076)*** |
| **Race** | | |
| Hausa | -.204(-3.231)*** | -.173(-2.867)*** |
| Yoruba | -.084(-1.411) | -.073(-1.290) |
| Igbo | .012(.200) | .035(.632) |
| **Religion** | | |
| Islam | -.069(-.533) | -.114(-.905) |
| Christian | -.127(-.985) | -.154(-1.231) |
| Financial Condition | | -.380(-7.228)*** |
| Tax System Structure X Financial Condition | | -.158(-2.806)*** |
| Tax Knowledge X Financial Condition | | .056(1.183) |
| Perceived Tax Service Quality X Financial Condition | | .024(.490) |
| Public Governance Quality X Financial Condition | | .015(.258) |
| Attitude to Tax Evasion X Financial Condition | | -.069(-1.416) |
| Moral Reasoning X Financial Condition | | -.126(-2.599)** |
| **Income Source** | | |
| Public Sector X Financial Condition | | -.053(-.900) |
| Sole Proprietor X Financial Condition | | - .051(-.850) |
| **Income Level** | | |
| Low- Income X Financial Condition | | .046(.866) |
| High-Income X Financial Condition | | -.044(-.829) |
| **Occupation** | | |
| Nonprofessional X Financial Condition | | -.101(-2.018)** |
| **Race** | | |
| Hausa X Financial Condition | | -.044(-.719) |
| Yoruba X Financial Condition | | .069(1.214) |
| Igbo X Financial Condition | | -.017(-.305) |
| **Religion** | | |
| Islam X Financial Condition | | .003(-.024) |
| Christianity X Financial Condition | | -.073(-.576) |
| $R^2$ | .271 | .411 |
| Adjusted $R^2$ | .234 | .346 |
| Change $R^2$ | .231 | .411 |
| F Value | 7.329 | 6.308 |
| P Value | .000 | .000 |

Note: 1.*T* Statistics in parenthesis. 2. Significant levels are:*** P<.01, ** P<.05 and * P<.10

and 6.308 (P=.000), respectively. This suggests that both models have a significant ability to predict taxpayers' behaviour in Nigeria. The table also reveals that model 2 has $R^2$ .411 compared to $R^2$ .271 for model 1, which is an indication that all the study's variables in the presence of the moderating effect of financial condition would account for 41.10% of the variance for the dependent variable (tax compliance behaviour) while holding the other moderator (risk preference) of the study constant. This represents approximately a 34% increase over the account of tax compliance behaviour offered by model 1. However, a conservative estimate provided by the adjusted $R^2$ indicates that model 1 and model 2 could only explain about 23% and 35% of the compliance behaviour of the taxpayers, respectively. On the impact of moderating effect of financial condition on model 2 as a whole, the increased value of change $R^2$ from .271 in model 1 to .411 in model 2 is significant(P=.000), as recommended in Hair et al. (2010), as a result, financial condition moderated model 2 significantly.

On the contribution of each variable, six variables made a significant contribution to model l while the contributions of other variables were marginal. Among the variables that made significant contributions, are three new variables incorporated in the Tax Compliance Model. Specifically, the regression result of model 1 indicates that perceived tax service quality (β=.098; P<. 05) and public governance quality (β=.220; P<.01) were significant and that they also related to tax compliance behaviour positively. In addition, race [Hausa (β= -.204; P<.01) ] was also significant, which means that individual taxpayers of Hausa ethnic background who believe that the quality of tax service provided by the revenue office as well as the quality of public governance may exert an influence on their behaviour may likely exhibit a favourable behaviour towards complying with tax laws and rules holding other variables constant. Other variables that made a significant impact in model 1 included attitude, income source and occupation.

In model 2, six main variables were significant and three of these variables were among the control variables. In addition, financial condition moderated the relationship between three independent variables and the dependent variable significantly. Surprisingly, the presence of the moderator in model 2 greatly increased the impact of the tax system structure ($\beta$=.141; $P<.05$) significantly compared to model 1. However, unlike in model 1, the weight of income source from the public sector ($\beta$=-.093; $P>.10$) in model 2 was weakened to the extent that it became insignificant. The possible reason for this may be connected to the substantial number of the respondents who expressed dissatisfaction with their financial situation from the public sector, which clearly shows the interference of financial condition between the tax compliance and income sourced from public sector. Just as in model 1, the contributions of the new variables were equally significant in model 2. Specifically, perceived tax service quality ($\beta$=.105; $P<.05$) and public governance quality ($\beta$=.383; $P<.01$) still showed a strong positive association with tax compliance behaviour while race also showed a significant contribution to the value of ($\beta$= -.173; $P<.01$) for Hausa. This also suggests that those taxpayers who are Hausa who believe that the quality of tax service and public governance can exert influence on their behaviour may likely behave favourably in complying with tax laws and rules.

For the variables moderated in model 2, financial condition moderated the relationship between tax system structure (β=.-.158; P<.01) as well as moral reasoning (β=.-126; P<.05) and tax compliance behaviour significantly and altered the direction of the relationship to negative from positive. This suggests that the financial condition of the taxpayers may unfavourably intervene with the impact of tax system structure and moral reasoning on compliance behaviour. Nonprofessional occupation (β= -.101; P<.05) was also significantly moderated by the effect of taxpayer's financial condition.

In step 3, risk preference, the product term of risk preference and each independent variable were entered into the regression analysis to form model 3 and the results of the moderating effect of risk preference on these variables together with model 1 for comparative purpose are documented in Table 5.38. As revealed by the result, model 3 as a whole was also fit statistically (F ratio = 4.151; P=.000) in predicting tax compliance behaviour. However, comparatively, the model is not as good a fit as model 1 in the prediction of the dependent variable as the predictive power of model 1 (F ratio=7.329) is about 43% greater than model 3. However, with an $R^2$ value of .315, all the variables in model 3 with a moderating effect of risk preference (holding the other moderator constant) could explain 31.5% of variation in tax compliance behaviour and this is greater than the 27.10% explanation provided by all the variables in model 1 but far below the 41.10% in model 2. Even, the adjusted $R^2$ of model 3 (.239) is slightly above the adjusted $R^2$ of model 1 (.234), which also suggests, that conservatively, model 3 provided a little more account of the dependent variable than model 1. Concerning the impact of the moderating effect of risk preference on model 3, as a whole,

**Table 5.38**
**Multiple Regressions Result for the Main Effect and Interacting Effect of Risk Preference**

| Variable | Model 1 | Model 3 |
|---|---|---|
| Constant | 1.063(3.262)*** | 1.000(2.747)*** |
| Tax System Structure | .051(.848) | .044(.679) |
| Tax Knowledge | .056(1.120) | .045(.872) |
| Attitude to Tax Evasion | .164(3.227)*** | ·173(3.310)*** |
| Moral Reasoning | .072(1.395) | .066(1.246) |
| **Income Source** | | |
| Public Sector | -.158(-2.577)** | -.156(-2.499)** |
| Sole Proprietor | .085(1.391) | .060(.951) |
| **Income Level** | | |
| Low-Income | -.082(-1.451) | -.089(-1.537) |
| High-Income | -.071 (-1.289) | -.066(-1.173) |
| **Occupation** | | |
| Nonprofessional | -.152(-2.880) *** | -.135(-2.474) ** |
| Perceived Tax Service Quality | .098(1.976)** | .093 (1.724)* |
| Public Governance Quality | .220(3.712)*** | .208(3.288)*** |
| **Race** | | |
| Hausa | -.204(-3.231)*** | -.176(-2.672)*** |
| Yoruba | -.084(-1.411) | -.085(-1.393) |
| Igbo | .012(.200) | .008(.124) |
| **Religion** | | |
| Islam | -.069(-.533) | -.013(-.078) |
| Christian | -.127(-.985) | -.59(-.366) |
| Risk Preference | | .072(1.256) |
| Tax System Structure X Risk Preference | | -.053(-.747) |
| Tax Knowledge X Risk Preference | | .046(.887) |
| Perceived Tax Service Quality X Risk Preference | | -.014(-.244) |
| Public Governance Quality X Risk Preference | | -.41(-.569) |
| Attitude to Tax Evasion X Risk Preference | | -.111(-2.073)** |
| Moral Reasoning X Risk Preference | | .021(.401) |
| **Income Source** | | |
| Public Sector X Risk Preference | | .117(1.782) * |
| Sole Proprietor X Risk Preference | | .027(.411) |
| **Income Level** | | |
| Low-Income X Risk Preference | | .047(.811) |
| High-Income X Risk Preference | | -.028(-.481) |
| **Occupation** | | |
| Nonprofessional X Risk Preference | | -.080(-1.420) |
| **Race** | | |
| Hausa X Risk Preference | | .074(1.141) |
| Yoruba X Risk Preference | | .019(.317) |
| Igbo X Risk Preference | | .046(.730) |
| **Religion** | | |
| Islam X Risk Preference | | -.139(-.923) |
| Christianity X Risk Preference | | -.102(-.667) |
| $R^2$ | .271 | .315 |
| Adjusted $R^2$ | .234 | .239 |
| Change $R^2$ | .271 | .315 |
| F Value | 7.329 | 4.151 |
| P Value | .000 | .000 |

Note: 1.*T* Statistics in parenthesis. 2. Significant levels are: *** P<.01, ** P<.05 and *P<.10

the increment value of Change $R^2$ between model 1 and model 3 was from .271 to .315 (P=.000), which is an indication that the risk preference moderated model 3 significantly. Furthermore, the values of standardized beta from Table 5.38 indicate that model 3 has six variables that were significant just like model 1. The difference between the two models is that perceived tax service quality, which had a beta value (.098, P<.05) in model 1 was weakened in model 3 but still remained significant with a beta value of (.093, P<.10). In addition, nonprofessional occupation was weakened as the beta value dropped from (-.152, P<.01) in model 1 to (-.135, P<.05) in model 3. The beta values of attitude slightly improved in model 3 but both remained significant at (P<.01) as in model 1 while the beta values of public governance quality and race dropped slightly but both remained significant at (P<.01). Furthermore, no change was observed in the beta value of the income source from the public sector, which, as such, remained significant at (P<.05). Surprisingly, the tax system structure did not have a strong weight in model 3, just as in model 1, as expected. This is an indication that the presence of risk preference in model 3 did not influence the tax system structure to have a significant impact on taxpayers' compliance behaviour.

Although risk preference moderated the various independent variables to a different degree as indicated by the values of their respective beta, only two variables were moderated significantly. Specifically, the statistical result provides evidence showing that the risk preference had a significant moderating effect on the relationship between the attitude of the taxpayers and tax compliance behaviour (β= -.111; P<.05) and the moderating effect altered the direction (as was reported in model 1) of the relationship between the two variables from positive to negative. This means that taxpayers' preference to risk is likely to affect their attitude to tax evasion negatively and, in turn, their compliance behaviour. In addition, the relationship between income source from public sector and tax compliance behaviour was also moderated by risk preference significantly. The relationship between the two variables also changed from negative, as previously reported in model 1 to positive, which suggests that the risk preference of the taxpayers who source their income from the public sector may likely exert a positive influence on their compliance behaviour.

The statistical results of the joint moderating effects of financial condition and risk preference on the individual variables, as represented in model 4, are documented in Table 5.39. The results were obtained in the fourth step and model 4 represents the conceptual model of the study. From Table 5.39, the F ratio (5.923; P=.000) indicates that the conceptual model (4) as a whole is significantly fit to predict the dependent variable just like model 1. The model has also $R^2$ (.404) and adjusted $R^2$ (.336), which is greater than the $R^2$ (.271) and adjusted $R^2$ (.234) in model 1 and also greater when compared with the $R^2$ (.315) and adjusted $R^2$ (.239) in model 3 but slightly less than the $R^2$ (.411) and adjusted $R^2$ (.346) in model 2. The statistical result of the $R^2$ in model 4 suggests that the conceptual model could explain 40.4% of variance in tax compliance behaviour in Nigeria but conservatively (adjusted $R^2$) 33.60%. Furthermore, the increase in value of Change $R^2$ between model 1 and model 4 was from .271 to .404 (p=.000), which is an indication that financial condition and risk preference jointly moderated the conceptual model (4) significantly.

**Table 5.39**
**Multiple Regression Result for the Main Effect and Joint Interacting Effect of Financial Condition and Risk Preference**

| Variable | Model 1 | Model 4 |
|---|---|---|
| Constant | 1.063(3.262)*** | .173(.135) |
| Tax System Structure | .051(.848) | .120(2.042)** |
| Tax Knowledge | .056(1.120) | .046(.948) |
| Attitude to Tax Evasion | .164(3.227)*** | .097(1.991)** |
| Moral Reasoning | .072(1.395) | .064(1.259) |
| **Income Source** | | |
| Public Sector | -.158(-2.577)** | -.046(-.774) |
| Sole Proprietor | .085(1.391) | .095(1.606) |
| **Income Level** | | |
| Low-Income | -.082(-1.451) | -.075(-1.372) |
| High-Income | -.071 (-1.289) | -.059(-1.106) |
| **Occupation** | | |
| Nonprofessional | -.152(-2.880) *** | -.088(-1.743) * |
| Perceived Tax Service Quality | .098(1.976)** | .125 (2.637)*** |
| Public Governance Quality | .220(3.712)*** | .369(5.993)*** |
| **Race** | | |
| Hausa | -.204(-3.231)*** | -.182(-3.005)*** |
| Yoruba | -.084(-1.411) | -.118(-1.998)** |
| Igbo | .012(.200) | - .008(-.149) |
| **Religion** | | |
| Islam | -.069(-.533) | -.032(-..254) |
| Christian | -.127(-.985) | -.079(-.626) |
| Risk Preference | | -.118(1.939)* |
| Financial Condition | | -. 389(-6.950)*** |
| Tax System Structure X Risk Preference X Financial Condition | | -.049(.739) |
| Tax Knowledge X Risk Preference X Financial Condition | | -.057(-1.136) |
| Perceived Tax Service Quality X Risk Preference X Financial Condition | | .121(2.472)** |
| Public Governance Quality X Risk Preference X Financial Condition | | -.008(-.114) |
| Attitude to Tax Evasion X Risk Preference X Financial Condition | | .015(.299) |
| Moral Reasoning X Risk Preference X Financial Condition | | -.021(-.418) |
| **Income Source** | | |
| Public Sector X Financial Condition X Risk Preference | | .100(1.606) |
| Sole Proprietor X Financial Condition X Risk Preference | | -.099(-1.642) |
| **Income Level** | | |
| Low-Income X Financial Condition X Risk Preference | | -.006(-.104) |
| High-Income X Financial Condition X Risk Preference | | .048(.859) |
| **Occupation** | | |
| Nonprofessional X Financial Condition X Risk Preference | | .132(2.548)** |
| **Race** | | |
| Hausa X Financial Condition X Risk Preference | | -.029(-.488) |
| Yoruba X Financial Condition X Risk Preference | | -.055(-.950) |
| Igbo X Financial Condition X Risk Preference | | -.088(-1.481) |
| **Religion** | | |
| Islam X Financial Condition X Risk Preference | | .086(.720) |
| Christianity X Financial Condition X Risk Preference | | .065(.543) |
| $R^2$ | .271 | .404 |
| Adjusted $R^2$ | .234 | .336 |
| Change $R^2$ | .271 | .404 |
| F Value | 7.329 | 5.923 |
| P Value | .000 | .000 |

Note: 1.*T* Statistics in parenthesis. 2. Significant levels are: *** P<.01, ** P<.05 and * P<.10

However, of all the variables in model 4, six main variables were significant as was the case for model 1 and the difference between the two models is income source from public sector, which had a significant impact (β=.- 158; P<.05) in model 1 but marginal impact(β=.-046; P>.10) in model 4. In addition, the tax system structure, which was reported as not significant (β=.051; P>.10) in model 1 was strengthened in model 4 and became significant with a beta value of (β= -.120; P<.05). A similar result was obtained for race (Yoruba), which was previously reported to have a weak impact (β=.- 084; P>.10) in model 1 but had a strong impact (β= - .118; P<.05) in model 4. Furthermore, attitude was slightly weakened as its beta value dropped from (β= - .164; P<.01) in model 1 to (β= -. 097; P<.05) in model 4. The beta values of nonprofessional occupation and race (Hausa) slightly dropped in model 4 but both variables remained significant at (P<.01), as was the case in model 1. Other variables with slight changes in model 4 include perceived tax service quality and public governance quality. Specifically, the beta values of perceived tax service quality and public governance quality increased from (β=.098; P<.05) and (β=.220; P<.01) in model 1 to (β=.125; P<.01) and (β=.369; P<..01) in model 4, respectively.

The impact of the joint moderating effect of financial condition and risk preference on the relationship between the dependent variable and each independent variable is indicated by the value of beta. Table 5.39 shows that financial condition and risk preference jointly moderated the variables to a different degree, however, they moderated the relationship between perceived tax service quality (β=.121; P<.05) and tax compliance behaviour significantly. This suggests that taxpayers' financial condition as well as preference to risk may exert a positive effect on their perception about the quality of tax service provided by the revenue authority and in turn on their compliance behaviour. In addition, financial condition and risk preference jointly exerted a significant positive effect on the relationship between occupation as represented by nonprofessional ($\beta$=.132; $P<.05$) and tax compliance behaviour. The joint effect of financial condition and risk preference transformed the direction of the relationship between occupation (nonprofessional) and tax compliance behaviour from negative to positive and this is an interesting finding, considering that the relationship between the two variables was reported as negative in models 1, 2 and 3. This suggests that the financial condition as well as risk preference of taxpayers in nonprofessional occupation may exert positive influence on their compliance behaviour.

Finally, the regression results reveal that three of the new variables incorporated in Fischer's model (perceived tax service quality, public governance quality and race) remained significant in all the regression models, which is an indication that these variables are important in understanding tax compliance behaviour in Nigeria and some other developing countries.

## 5.12 Testing of Hypotheses

The hypotheses developed on the relationship between the independent variables and dependent variable as well as the moderating effects of financial condition and risk preference, as depicted in the conceptual model in chapter four, are tested in this section. The validity of the hypotheses is evaluated with the result of multiple regressions, as recommended by Hair et al. (2010) and Cavana et al. (2001). For this purpose, the hypotheses of the study are classified into four groups as hypotheses on the main effects;

hypotheses on the moderating effects of financial condition; hypotheses on the moderating effects of risk preference; hypotheses on the joint moderating effects of financial condition and risk preference.

### 5.12.1 Hypotheses on the Main Effects

The hypotheses on the new variables introduced in the Tax Compliance Model are tested in this subsection.

$H_3$: The perception of taxpayer about quality of tax service has a positive relationship with his/her compliance behaviour.

The statistical evidence documented in Table 5.39 indicates that the impact of perceived tax service quality on tax compliance behaviour was positive and significant with a beta value of .125 ($P<.01$) in model 4. A similar result is also reported in model 1($\beta=.098$; $P<.05$), in model 2 ($\beta=.105$; $P<.05$) and in model 3 ($\beta=.093$; $P<.10$). This result supports the prediction in hypothesis $H_3$ that the perception of the taxpayers about quality of tax service is positively related to their tax compliance behaviour. Furthermore, the result also suggests that a unit improvement in the taxpayers' perception about the quality of service offered by the revenue authority, holding other variables constant will enhance their compliance behaviour positively by 12.5% (Beta coefficient).

$H_6$: The people of different race are more likely to exhibit different tax compliance behaviour.

The statistical result reports differences in the tax compliance behaviour among the three major races in Nigeria in all the regression models (models 1, 2, 3 & 4) of the study.

Specifically, the beta values of each of the races [Hausa ($\beta$ = -.182; P<.01); Yoruba ($\beta$ = -.118; P<.05) and Igbo ($\beta$ = -.008; P>.10)] in the model (4) provide evidence indicating that there were significant differences in the compliance behaviour of these races. This result, therefore, supports hypothesis ($H_6$).

$H_7$: The people of different type of religion are more likely to exhibit different tax compliance behaviour.

Although the statistical results, as presented in Tables 5.37, 5.38 and 5.39, indicate differences in tax compliance behaviour among taxpayers of different religious belief, however, these differences were not statistically significant. Specifically, the results in model 4 (see Table 5.39) indicate the beta values of Islam as ($\beta$= -.032; P>.10) and Christianity as ($\beta$= -.079; P>.10), which suggests that there were just slight differences in the tax compliance behaviour of the two major religious groups in Nigeria. Therefore, the statistical result rejects hypothesis ($H_7$).

$H_{11}$: The perception of taxpayer about the quality of public governance has a positive relationship with his/her compliance behaviour.

The statistical evidence, also documented in Table 5.39, indicates that public governance quality had a beta value of .369 (P<.01) and, furthermore, the statistical results of regression model 1, 2 and 3 also reveal that the influence of public governance quality on tax compliance was positive and significant (P<.01). Therefore, the statistical result is consistent with the prediction in hypothesis ($H_{11}$) that taxpayers' perception about public governance quality is significantly positively related to their tax compliance behaviour. The result suggests that an improvement in the perception of individual taxpayers about public governance quality by one unit, holding other variables constant will enhance taxpayers' compliance behaviour positively by 36.90% (Beta coefficient).

### 5.12.2 Hypotheses on the Moderating Effect of Financial Condition

The hypotheses developed to measure the moderating effect of financial condition were tested holding the other moderator (risk preference) constant. These hypotheses were evaluated using the statistical result of the analysis on regression model 2, as reported in Table 5.37.

$H_{1a}$: The taxpayer's financial condition moderates the relationship between tax system structure and tax compliance behaviour.

The result in Table 5.37 reveals that the taxpayers' financial condition had a significant negative moderating effect on the relationship between tax system structure and tax compliance behaviour, which is evidenced in the beta value of -.158($P<.01$). This result supports hypothesis ($H_{1a}$)

$H_{2a:}$ The taxpayer's financial condition moderates the relationship between his/her knowledge on tax matters and compliance behaviour.

From Table 5.37, the relationship between tax knowledge and tax compliance behaviour was positively but slightly moderated by taxpayers' financial condition. The result of the moderating effect of financial condition on the relationship between the two variables was ($\beta= .056$; $P>.10$), however, this result does not support hypothesis ($H_{2a}$).

$H_{3a:}$ The taxpayer's financial condition moderates the relationship between his/her perception about tax service quality and tax compliance behaviour.

The statistical result reported in Table 5.37 reveals that the moderating effect of financial condition on the relationship between taxpayers' perception about tax service quality and tax compliance behaviour was positive but not significant ($\beta$= .024; P>.10). Therefore, the result fails to provide evidence in support of hypothesis ($H_{3a}$)

$H_{4a}$: The taxpayer's financial condition moderates the relationship between his/her attitude towards tax evasion and tax compliance behaviour.

From the statistical result, the moderating effect of financial condition concerning the relationship between taxpayer's attitude towards tax evasion and compliance behaviour was negative and marginal ($\beta$= -.069; P>.10). This result suggests that the moderating effect of financial condition on the relationship between the two variables was weak, hence, the result fails to support hypothesis ($H_{4a}$).

$H_{5a}$: The taxpayer's financial condition moderates the relationship between his/her moral reasoning and tax compliance behaviour.

The result of regression on the moderating effect of financial condition on the relationship between the taxpayer's moral reasoning and tax compliance behaviour reveals the standardized beta value as - .126 (P <.05), which suggests that financial condition had a significant negative effect on the relationship between the two variables. Therefore, this is an indication that the regression result supports hypothesis ($H_{5a}$)

$H_{6a:}$ The financial condition moderates the differences in compliance behaviour of taxpayers of different race.

The result of multiple regression, as presented in Table 5.37, indicates that financial condition had a positive effect on the compliance behaviour of taxpayers of the Yoruba race (β= .069) but negative effects on the compliance behaviour of taxpayers of both the Hausa race (β= -.044) and Igbo race (β= -.017). In all three cases, the moderating effects were marginal, and, in this respect, the result fails to support hypothesis ($H_{6a}$).

$H_{7a:}$ The financial condition moderates the differences in compliance behaviour of taxpayers of different religious faith.

The regression result from Table 5.37 indicates that financial condition moderated the compliance behaviour of taxpayers of Islamic faith (β= -.003) positively and moderated the compliance behaviour of Christian taxpayers (β= -.073) negatively. In both cases, the moderating effects were not significant and, therefore, regression analysis fails to support hypothesis ($H_{7a}$).

$H_{8a:}$ The taxpayer's financial condition moderates the relationship between his/her type of occupation and tax compliance behaviour.

The statistical result on the test of the moderating effect of financial condition on the relationship between type of occupation and tax compliance behaviour indicates that financial condition had a negative and significant effect on the relationship between the two variables. The moderating effect is evidenced in the beta value for nonprofessional (β= -.101; $P<.05$). Therefore, the result provides evidence in support of the prediction in hypothesis ($H_{8a}$).

$H_{9a:}$ The taxpayer's financial condition moderates the relationship between his/her source of income and tax compliance behaviour.

Table 5.37 reveals that financial condition had a negative effect on the relationship between the taxpayer's source of income and tax compliance behaviour, which is represented by the effects on both public sector (β= -.053) and sole proprietorship (β= -.051). However, the moderating effects in both cases were reported at a statistical insignificant level and for this reason, the result does not support hypothesis ($H_{9a}$).

$H_{10a:}$ The taxpayer's financial condition moderates the relationship between his/her income level and tax compliance behaviour.

The effect of financial condition on the relationship between the taxpayer's income level and tax compliance behaviour was reported positive for low-income level (β=.046) and negative for high-income level (β= -.044). However, the moderating effects in both cases were marginal; as a result, the statistical evidence fails to uphold the prediction in hypothesis ($H_{10a}$).

$H_{11a:}$ The taxpayer's financial condition moderates the relationship between his/ her perception about quality of public governance and tax compliance behaviour.

The regression result reveals that financial condition had a slight positive effect on the relationship between taxpayer's perception about the quality of public governance and tax compliance behaviour (β= .015; P>.10). Therefore, the result does not support hypothesis ($H_{11a}$).

### 5.12.3 Hypotheses on the Moderating Effect of Risk Preference

The statistical results for testing the moderating effect of risk preference on the relationship between the independent variables and dependent variable were extracted from table 5.38

and they related to regression model 3. In testing these hypotheses, the other moderator (financial condition) was held constant.

$H_{1b}$: The taxpayer's risk preference moderates the relationship between tax system structure and tax compliance behaviour.

Regarding the relationship between tax system structure and tax compliance behaviour, the regression result provides evidence ($\beta$= -.053; P>.10) indicating that the relationship between the two variables had been moderated insignificantly and negatively by the effect of taxpayer's risk preference. This suggests that the result fails to support hypothesis ($H_{1b}$).

$H_{2b:}$ The taxpayer's risk preference moderates the relationship between his/her knowledge on tax matters and compliance behaviour.

The statistical result also provides evidence indicating that risk preference has an insignificant positive effect on the relationship between taxpayer's knowledge on tax matters and compliance behaviour ($\beta$= .046; p<.10). The result is inconsistent with hypothesis ($H_{2b}$).

$H_{3b:}$ The taxpayer's risk preference moderates the relationship between his/her perception about tax service quality and tax compliance behaviour.

The moderating effect of risk preference on the relationship between the taxpayer's perception about tax service quality and compliance behaviour is indicated by the value of standardized beta of -.014. This result suggests that the effect was negative but not significant and, therefore, it fails to support hypothesis ($H_{3b}$).

$H_{4b}$: The taxpayer's risk preference moderates the relationship between his/her attitude towards tax evasion and tax compliance behaviour.

The taxpayer's risk preference had a strong negative effect on the relationship between his/her attitude towards tax evasion and compliance behaviour as indicated by the beta value of -.111(P<.05). Accordingly, this regression result provides evidence in support of hypothesis ($H_{4b}$).

$H_{5b}$: The taxpayer's risk preference moderates the relationship between his/her moral reasoning and tax compliance behaviour.

The relationship between the taxpayer's moral reasoning and his tax compliance behaviour was positively moderated by the effect of his risk preference. However, with a beta value of (β= .021), Table 5.38 reveals that the effect of risk preference on the relationship between the two variables was not significant, and, for this reason, the study does not support hypothesis ($H_{5b}$).

$H_{6b:}$ The risk preference moderates the differences in compliance behaviour of taxpayers of different races.

The results documented in Table 5.38 also indicate that risk preference had a positive moderating effect on the differences in tax compliance behaviour among the three major races in Nigeria. However, the standardized beta coefficients [Hausa [(β= .074; P>.10); Yoruba (β= .019; P>.10) and Igbo (β= .046; P>.10)] indicate that the effect of risk preference on the differences in tax compliance behaviour among these races were not significant and, therefore, the evidence from the statistical analysis rejects hypothesis ($H_{6b}$).

$H_{7b:}$ The risk preference moderates the differences in the compliance behaviour of taxpayers of different religious faith.

Table 5.38 indicates that risk preference had a negative effect on the differences in compliance behaviour between taxpayers of Islamic faith (β= -.139; P>.10) and Christian taxpayers (β= -.102; P>.10). However, the beta values of the two religions reveal that the moderating effect was not significant, and, for this reason, this study fails to support hypothesis ($H_{7b}$).

$H_{8b}$: The taxpayer's risk preference moderates the relationship between his/her type of occupation and tax compliance behaviour.

Risk preference moderated the relationship between taxpayer's type of occupation and tax compliance behaviour negatively but evidence provided by a beta value of (β= -.80; P>.10), indicates that the moderating effect of risk preference on the relationship was not significant. Therefore, the statistical result does not support hypothesis ($H_{8b}$).

$H_{9b}$: The taxpayer's risk preference moderates the relationship between his/her source of income and tax compliance behaviour.

The regression result reports that risk preference had a significant positive effect on the relationship between the taxpayer's source of income from the public sector and tax compliance behaviour (β= .117; P<.10) but an insignificant positive effect on the relationship between the taxpayer's source of income from sole proprietorship and tax compliance behaviour (β= .027 ; P>.10). This result provides evidence partly in support of hypothesis ($H_{9b}$).

$H_{10b}$: The taxpayer's risk preference moderates the relationship between his/her income level and tax compliance behaviour.

The statistical result reported in Table 5.38 shows that the effect of risk preference on the relationship between the taxpayer's income level and his/her tax compliance behaviour was not strong, however, this effect was positive for low-income level (β= .047 ; P>.10) and negative for high-income (β= -.028 ; P>.10). With this statistical result, the study fails to support hypothesis ($H_{10b}$).

$H_{11b}$: The taxpayer's risk preference moderates the relationship between his/her perception about the quality of public governance and tax compliance behaviour.

The statistical results in Table 5.38 reveal that risk preference had a negative effect on the relationship between the taxpayer's perception on quality of public governance and tax compliance behaviour. The beta value (β= -.041; P>.10) indicates that the moderating effect on the relationship between the two variables was not significant. Therefore, this result provides evidence not supporting hypothesis ($H_{11b}$).

### 5.12.4 Hypotheses on the Joint Moderating Effect of Financial Condition and Risk Preference

Table 5.39 provides statistical results on the joint moderating effect of both financial condition and risk preference on the relationship between the independent variables and dependent variable, as depicted in the conceptual model (4) of the study.

$H_{1c}$: The Financial condition and risk preference moderate the relationship between the tax system structure and tax compliance behaviour.

The statistical result reveals that the financial condition and risk preference jointly exerted a negative but insignificant effect on the relationship between the tax system structure and tax compliance behaviour (β= -.049; P>.10). The evidence from the result does not support the prediction in hypothesis ($H_{1c}$).

$H_{2c:}$ The Financial condition and risk preference moderate the relationship between the taxpayer's knowledge on tax matters and compliance behaviour.

Financial condition and risk preference had a joint negative effect on the relationship between taxpayer's knowledge on tax matters and compliance behaviour. The weak beta value (-.057) of this joint effect, as reported in Table 5.39, indicates that the impact of this effect on the relationship between the two variables was not significant and, therefore, this suggests that the statistical result does not support hypothesis ($H_{2c}$).

$H_{3c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about tax service quality and tax compliance behaviour.

The relationship between taxpayer's perception about tax service quality and compliance behaviour was positively moderated by the combined effect of financial condition and risk preference. Table 5.39 shows the standardized beta coefficient of the joint effect as .121 (P<.05). This result suggests that the joint effects on the relationship between the two variables was significant as predicted in hypothesis ($H_{3c}$), hence, the result supports the hypothesis.

$H_{4c}$: The financial condition and risk preference moderate the relationship between taxpayer's attitude towards tax evasion and tax compliance behaviour.

The regression result indicates that the joint effect of financial condition and risk preference on the relationship between the taxpayer's attitude towards tax evasion and compliance behaviour was positive. However, the impact of the joint effect as indicated by the beta value ($\beta$= .015; P>.10) was not significant. Therefore, based on the available statistical evidence, hypothesis ($H_{4c}$) is rejected.

$H_{5c}$: The financial condition and risk preference moderate the relationship between taxpayer’s moral reasoning and tax compliance behaviour.

Table 5.39 reveals that the financial condition and risk preference had a joint negative effect on the relationship between the taxpayer’s moral reasoning and tax compliance behaviour, however, the beta value ($\beta$= -.021; P>.10) indicates that the joint effect did not exert any significant impact on the relationship between the two variables. Therefore, this result does not support hypothesis ($H_{5c}$).

$H_{6c:}$ The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different races.

Financial condition and risk preference had a marginal joint moderating effect on the differences in compliance behaviour among the three major races in Nigeria. Specifically, Table 5.39 reveals that the joint effect was negative for all three [Hausa ($\beta$= -.029; P>.10), Yoruba ($\beta$= -.055; P>.10) and Igbo ($\beta$= -.088; P>.10)]. Therefore, this result fails to support hypothesis ($H_{6c}$).

$H_{7c:}$ The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different religious faith.

The statistical result provides evidence indicating that financial condition and risk preference jointly exerted a positive moderating effect on differences in compliance behaviour between the taxpayers of the two major religions in Nigeria. The evidence provided by the values of beta coefficient [Islam ($\beta$=.086) and Christianity ($\beta$=.065)], indicates that the joint effect was not significant. Based on this result, this study also rejects hypothesis ($H_{7c}$).

$H_{8c:}$ The financial condition and risk preference moderate the relationship between taxpayer's type of occupation and tax compliance behaviour.

The result documented in Table 5.39 also indicates that the joint moderating effect of financial condition and risk preference on the relationship between the taxpayer's type of occupation and tax compliance behaviour was positive and significant at beta value of .132 (P<.05) . Therefore, this statistical result provides evidence in support of hypothesis ($H_{8c}$).

$H_{9c:}$ The financial condition and risk preference moderate the relationship between the taxpayer's source of income and tax compliance behaviour.

The regression result indicates that the joint moderating effect of financial condition and risk preference on the relationship between income source and tax compliance behaviour was positive for the public sector ($\beta$= .100; P>.10) and negative for sole proprietorship ($\beta$= -.099; P>.10). However, the statistical evidence suggests that the joint moderating effect of financial condition and risk preference on the relationship between the two variables was not significant. For this reason, this result fails to support hypothesis ($H_{9c}$).

$H_{10c:}$ The financial condition and risk preference moderate the relationship between taxpayer's income level and tax compliance behaviour.

Financial condition and risk preference showed a positive joint effect on the relationship between high-income level ($\beta$= .048; P>.10) and tax compliance behaviour but a negative joint effect on the relationship between low-income level ($\beta$= -.006; $P>.10$) and tax compliance behaviour. In both cases, the value of beta coefficient suggests that the joint effects were not significant. This result indicates that this study also rejects hypothesis ($H_{10c}$).

$H_{11c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about the quality of public governance and tax compliance behaviour.

The statistical result in Table 5.39 reports that financial condition and risk preference jointly moderated the relationship between the taxpayer's perception about the quality of public governance and tax compliance behaviour negatively. With a beta coefficient of -.008 ($P>.10$), this implies that financial condition and risk preference jointly exerted an insignificant impact on the relationship between the two variables. Therefore, this statistical result fails to support hypothesis ($H_{11c}$).

### 5.13 Summary of Hypothesis Findings

The results on the test of the hypotheses in section 5.12 indicate that the regression results documented in Table 5.37, 5.38 and 5.39 support ten of the thirty seven hypotheses developed in chapter four. Specifically, on the direct relationship between independent variable and dependent variable, the regression provides evidence that support hypothesis $H_3$, $H_6$ & $H_{11}$ while on the moderating effect of financial condition, it supports hypothesis $H_{1a}$, $H_{5a}$ & $H_{8a.}$

Similarly, the regression also supports hypothesis $H_{4b}$, & $H_{9b}$ on the moderating effect of risk preference and hypothesis $H_{3c}$ & $H_{8c}$ on the joint moderating effect of financial condition and risk preference. The summary of the hypothesis findings is presented in Table 5.40.

**Table 5.40**
**Summary of Hypothesis Findings**

| Hypotheses | Result |
|---|---|
| $H_{1a}$: The taxpayer's financial condition moderates the relationship between tax system structure and tax compliance behaviour. | Supported |
| $H_{1b}$: The taxpayer's risk preference moderates the relationship between tax system structure and tax compliance behaviour. | Not Supported |
| $H_{1c}$: The financial condition and risk preference moderate the relationship between tax system structure and tax compliance behaviour. | Not Supported |
| $H_{2a:}$ The taxpayer's financial condition moderates the relationship between his/her knowledge on tax matters and compliance behaviour. | Not Supported |
| $H_{2b:}$ The taxpayer's risk preference moderates the relationship between his/her knowledge on tax matters and compliance behaviour. | Not Supported |
| $H_{2c:}$ The financial condition and risk preference moderate the relationship between taxpayer's knowledge on tax matters and compliance behaviour. | Not Supported |
| $H_3$: The perception of taxpayer about quality of tax service has a positive relationship with his/her compliance behaviour. | Supported |
| $H_{3a:}$ The taxpayer's financial condition moderates the relationship between his/her perception about tax service quality and tax compliance behaviour. | Not Supported |
| $H_{3b:}$ Taxpayer's risk preference moderates the relationship between his/her perception about tax service quality and tax compliance behaviour. | Not Supported |
| $H_{3c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about tax service quality and tax compliance behaviour. | Supported |
| $H_{4a}$ :The taxpayer's financial condition moderates the relationship between his/her attitude toward tax evasion and tax compliance behaviour. | Not Supported |
| $H_{4b}$ : The taxpayer's risk preference moderates the relationship between his/her attitude towards tax evasion and tax compliance behaviour. | Supported |
| $H_{4c}$ :The financial condition and risk preference moderate the relationship between taxpayer's attitude towards tax evasion and tax compliance behaviour. | Not Supported |
| $H_{5a}$: The taxpayer's financial condition moderates the relationship between his/her moral reasoning and tax compliance behaviour. | Supported |
| $H_{5b}$ The taxpayer's risk preference moderates the relationship between his/her moral reasoning and tax compliance behaviour. | Not Supported |
| $H_{5c}$ The financial condition and risk preference moderate the relationship between taxpayer's moral reasoning and tax compliance behaviour. | Not Supported |
| $H_6$: The people of different race are more likely to exhibited different tax compliance behaviour. | Supported |
| $H_{6a:}$ The financial condition moderates the differences in compliance behaviour of taxpayers of different races . | Not Supported |
| $H_{6b:}$ The risk preference moderates the differences in compliance behaviour of taxpayers of different race. | Not Supported |
| $H_{6c:}$ The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different race. | Not Supported |

**Table 5.40**
**Summary of Research Findings (Continued)**

| Hypotheses | Result |
| --- | --- |
| $H_7$: The people of different type of religion are more likely to exhibit different tax compliance behaviour. | Not Supported |
| $H_{7a:}$ The financial condition moderates the differences in compliance behaviour. of taxpayers of different religious faith. | Not Supported |
| $H_{7b:}$ The risk preference moderates the differences in compliance behaviour of taxpayers of different religious faith. | Not Supported |
| $H_{7c}$: The financial condition and risk preference moderate the differences in compliance behaviour of taxpayers of different religious faith.. | Not Supported |
| $H_{8a:}$ The taxpayer's financial condition moderates the relationship between his/her type of occupation and tax compliance behaviour. | Supported |
| $H_{8b:}$ The taxpayer's risk preference moderates the relationship between his/her type of occupation and tax compliance behaviour. | Not Supported |
| $H_{8c:}$ The financial condition and risk preference moderate the relationship between taxpayer's type of occupation and tax compliance behaviour. | Supported |
| $H_{9a:}$ The taxpayer's financial condition moderates the relationship between his/her source of income and tax compliance behaviour. | Not Supported |
| $H_{9b:}$ The taxpayer's risk preference moderates the relationship between his/her source of income and tax compliance behaviour. | Supported |
| $H_{9c:}$ The financial condition and risk preference moderate the relationship between taxpayer's source of income and tax compliance behaviour. | Not Supported |
| $H_{10a}$ The taxpayer's financial condition moderates the relationship between his/her income level and tax compliance behaviour. | Not Supported |
| $H_{10b:}$ The taxpayer's risk preference moderates the relationship between his/her income level and tax compliance behaviour. | Not Supported |
| $H_{10c:}$ The financial condition and risk preference moderate the relationship between taxpayer's income level and tax compliance behaviour. | Not Supported |
| $H_{11}$: The perception of taxpayer about quality of public governance has a positive relationship with his/her compliance behaviour. | Supported |
| $H_{11a:}$ The taxpayer's financial condition moderates the relationship between his/her perception about quality of public governance and tax compliance behaviour. | Not Supported |
| $H_{11b:}$ The taxpayer's risk preference moderates the relationship between his/her perception about quality of public governance and tax compliance behaviour. | Not Supported |
| $H_{11c:}$ The financial condition and risk preference moderate the relationship between taxpayer's perception about quality of public governance and tax compliance behaviour. | Not Supported |

Note: Any hypothesis supported by the study is statistically significant.

## 5.14 Summary

The detailed results of various analyses conducted on the data collected in the course of this study are presented in this chapter. In the descriptive statistics, tax system structure, perceived tax service quality, public governance quality and risk preference had a low overall mean score while attitude and moral reasoning had a high overall mean scores. This suggests that the respondents had negative and positive views about these variables, respectively. For the reliability analysis, all variables have a Cronbach's alpha above the minimum .70 in the reliability tests conducted before and after the factor analysis, which suggests that the items of measures of the study are internally consistent. In respect of factor analysis, the minimum criteria were met after a number of items in each latent variable were deleted except tax compliance behaviour, tax knowledge, and risk preference. By meeting the minimum criteria, the construct validity of the measures adopted in the study was also assumed.

For the purpose of the multi regression analysis, four regression models were developed. The first regression model (1) measured the relationship between the independent variables and dependent variable (main effect), as suggested in the statistical literature and with this model the first three objectives of the study were achieved. The second and third regression models (2) & (3) were designed to assess the moderating effects of financial condition and risk preference individually while the fourth regression model (4) tested the joint moderating effects of financial condition and risk preference on tax compliance and its determinants. Regression models 2, 3 and 4 were designed for the purpose of the fourth objective of the study.

Evidence from the regression analysis indicated that perceived tax service quality and public governance quality had a strong positive relationship with tax compliance behaviour and at the same time, it also revealed that there were significant differences in the tax compliance behaviour of taxpayers of different races. The results on the moderating effects provide proof that financial condition had a significant effect on the influences of tax system structure, moral reasoning and nonprofessional occupation while risk preference also had a significant effect on the influence of attitude as well as income source from the public sector on tax compliance. Finally, the evidence also showed that financial condition and risk reference jointly moderated perceived tax service quality and nonprofessional occupation significantly. The discussion and conclusion on these findings are presented in chapter six.

# Chapter Six
# Discussion, Implications and Conclusion

## 6.1 Introduction

This study further expands the tax compliance model by incorporating some other relevant factors to proffer more explanation and better understanding of taxpayer's compliance behaviour. The expansion of the model followed the suggestions in the literature that some factors other than those considered in the basic model may influence taxpayer's compliance decision (Alm, 1999; Jackson & Millron, 1986).

Using Fischer's tax compliance model, together with further expansion to the model by researchers, as the foundation (Chan et al. 2000; Chau & Leung, 2009; Manaf, 2004; Mustafa, 1997), this study specifically expanded the model to include perceived tax service quality, public governance quality, taxpayers' ethnic diversity as well as the moderating effects of taxpayer's financial condition and risk preference. Evidence from the study suggests and confirms previous observations from the literature that, apart from economic factors (as assumed in the deterrence theory), a number of sociological and psychological factors influence taxpayer's compliance decisions.

In this chapter, the findings of the study are discussed. The theoretical and policy implications of the findings are also discussed and recommendations are made for possible future research area in tax compliance. Finally, the limitations of the study are considered.

## 6.2 Discussion of Results

This study primarily determined the perception of the taxpayer about tax service quality and public governance quality in Nigeria as well as the relationship between these factors and their compliance behaviour. Furthermore, it examined the moderating effects of taxpayer's financial condition and risk preference individually and jointly on the relationship between tax compliance and its determinants. It also ascertained whether the multi ethnic background of Nigerian taxpayers causes differences in their compliance behaviour. Based on the underlying objectives, this study suggests answers to the research questions raised in chapter one. The regression results in support of the research questions are presented in the preceding chapter in detail. In this section, the research findings are discussed to answer each of the research questions.

### 6.2.1 Research Question 1: Do Quality of Tax Service, Multi-Ethnic Background and Public Governance Quality Play a Significant Role in Tax Compliance Behaviour

The test performed on hypotheses $H_3$, $H_6$, $H_7$ and $H_{11}$ provides evidence concerning the relationship between tax compliance behaviour and perceived tax service quality, ethnic diversity, and public governance quality.

#### 6.2.1.1 Relationship between Perceived Tax Service Quality and Tax Compliance

In the first place, the descriptive statistics on the data of this study provide strong evidence indicating that individual taxpayers have a low perception about the quality of tax services provided by the revenue authorities in Nigeria. This finding is in accord with the general opinion among Nigerians that the quality of public service delivery is poor and below internationally accepted standards (Ewenpu, 2010; Thomson, 2004). This result is equally consistent with the early study on the perception of Nigerians on the quality of public service, which reported that most households rated quality of public service (which include tax service) poor (Institute for Development Research, 2001). It was the growing concern about the continuous fall in the quality of public service delivery that prompted Nigeria's Federal Government in 2004 to establish the Service Compact office (SERVCOM) to monitor the quality of public service provided by Nigerian public organizations.

Furthermore and as hypothesized, the regression result on the relationship between perceived tax service quality and tax compliance behaviour ($H_3$) established a strong positive relationship between the two variables. In line of Kirchler (2007), OECD (2007) and Torgler (2007), this result suggests that an improvement in the quality of tax service provided by the revenue authorities would enhance taxpayer's compliance behaviour. Equally, the finding follows the theoretical prediction concerning the influence of service quality provided by experts on compliance behaviour. Although studies measuring the direct relationship between the perceived tax service quality and tax compliance behaviour are rare, indirectly, this study lends support to the findings reported in the studies of Feld and Frey (2006) and Wallschutzky (1984) that improper treatment of taxpayers in the course of the provision of service in the tax office influences future compliance behaviour. This result is also not far from the findings in a number of studies in marketing, which established a linkage between the quality of service and behavioural intention (Bloemer et al., 1998; Sivada & Baker, 2000; Wong & Sohal, 2003; Zeithmal et al., 1996).

In recognizing the influence that the quality of tax service could exert on taxpayer' compliance behaviour, many revenue authorities including those in Australia, France, Sweden, the UK, the US, etc., have reconstructed their approaches to taxpayers and are more friendly in tax service provision. Some revenue authorities have even gone to the extent of establishing a special unit commonly referred to as "Taxpayers' Assistance Centre (TAC)" to handle taxpayers' complaints and other tax matters.[108]

Although a few revenue authorities in Nigeria have a customer care unit (SERVCOM)[109] to ensure that taxpayers get prompt action in service delivery, as pointed out in Odusola (2006) and Odinkonigbo (2009), not all those in charge of the provision of tax service are professionals. As such, many are not properly trained to provide tax services quickly, in a friendly and courteous manner to the satisfaction of the taxpayers. This is in addition to the lack of commitment on the part of some tax officers. In addition, as was also reported by the Study Group on the Nigerian Tax System (FGN, 2003), the equipment for providing a quality tax service is inadequate in most tax offices in Nigeria. However, a change in work attitude brought about as a result of the establishment of SERVCOM/ customer care unit in the tax offices cannot substitute for inadequate equipment and a conducive working environment in these offices. As suggested by Brady and Cronin Jr (2001), Parasuraman et al. (1985), and Stuart and Tax (1996), adequate working equipment and a conducive environment are also vital components of service quality.

108. IRS has about 400 TAC throughout the US to handle taxpayers' complaints and other matters relating to tax (IRS, 2005).
109. The customer care units in some tax offices particularly in FIRS offices are the product of SERVCOM, which do not possess the characteristics of a true TAC like the ones in the US.

The evidence from this study suggests that a low perception of Nigerian taxpayers about the quality of tax service provided by revenue authorities may have contributed significantly to the low tax compliance level in the country. Therefore, quality of tax service plays a significant role in tax compliance behaviour and this provides the answer to part of the first research question.

#### 6.2.1.2 Relationship between Public Governance Quality and Tax Compliance

The result from the descriptive statistics also indicates that individual taxpayers have a low perception about public governance quality in Nigeria. This result is equally not surprising considering that available indicators of public governance quality in Nigeria are pointing in that direction.

Available statistics on world governance index and African governance index ranked public governance quality in Nigeria low over the year. Specifically, in the 2009 governance index for Africa, Nigeria’s scores for most of the governance quality indicators were below the continental average and in aggregate the country scored 43% and was ranked in 40th position out of 53 countries (Ibrahim, 2010; Rotberg & Gisselquist, 2009). This finding also corresponded with the findings reported in other studies indicating that Nigerians are broadly not satisfied with the performance of the government, particularly in the areas of corruption control, provision of infrastructure, accountability and provision of security (Lewis, 2006; Lewis & Alemika 2005; Madueke, 2008). Furthermore, this result confirmed the opinion of some Nigerians that the quality of public governance is not satisfactory in Nigeria (Naufa, 2006; Oluba, 2008).

On the relationship between public governance quality and tax compliance behaviour, the study's regression result supports hypothesis ($H_{11}$) and established that public governance quality was significantly positively related with tax compliance behaviour. This finding is consistent with the prediction of the social exchange theory concerning the role of reciprocity in enforcement of compliance in social relationship. This evidence also agrees with the argument in the literature that positive behaviour by government may be reciprocated by the taxpayers through enhanced compliance behaviour (Torgler, 2003 & 2007).

More importantly, the finding of this study on the relationship between public governance quality and tax compliance concurs indirectly with the observations reported in some past studies that generally indicated that taxpayers seem to be more willing to comply with tax rules and regulations including paying their taxes where they can observe a direct relationship between their contributions and the quality of public service (governance) provided by the government (Alm et al. 1992; Alm & Gomez, 2008; Fjeldstad & Semboja, 2001; Wallshutzky, 1985). Furthermore, the positive association between public governance quality and tax compliance behaviour generally reflects the norm of reciprocity, which suggests that both government and taxpayers are in a contract of exchange of value, that is, the taxpayers pay taxes in exchange for political goods, which in sum, is represented by public governance quality. The continuity of this relationship, particularly on the part of taxpayers depends on among other things, the ability of the government to maintain or improve the quality of public governance. Hence, on the premise of the assertion advanced in the work of Levi (1988) and Lassen (2003), it can be argued that where the taxpayers perceived that the rate of transformation from their tax payment to political goods, as captured by public governance quality is low, they may feel that government is not keeping its obligations of the contract, and, as a result, they will be disenchanted causing voluntary tax compliance to decline.

In line with the findings of this study, it can be stated that the low perception about Nigeria's public governance quality, as reflected in the perceived lack of control over corruption, lack of accountability and transparency, government ineffectiveness in the provision of public infrastructure, such as education, electricity, health, etc., and unfair administration of the rule of law, had contributed significantly to the shrinking level of tax compliance among individual taxpayers in Nigeria. Therefore, as part of the answer to the first research question, the findings of this study provide proof that public governance quality is a significant determinant of tax compliance behaviour.

#### 6.2.1.3 Ethnic Diversity and Tax Compliance Behaviour

In accordance with the suggestion of Okediji (2005), the impact of ethnic diversity on tax compliance behaviour was reported on the basis of taxpayers' race and religious belief. The regression result on taxpayers' race and tax compliance behaviour provides evidence in support of hypothesis ($H_6$), indicating that taxpayers of different races exhibited significantly different tax compliance behaviour. This finding agrees with the ANOVA result, which also shows significant difference in tax compliance behaviour among respondents of different races (see Table 5.20), and consistent with the theoretical prediction that people of different cultural and environmental background, behave differently from others (Hofstede, 1980).

The result also agrees with a number of empirical studies on taxpayers' race/culture and tax compliance behaviour. Specifically, the findings in the studies of Aitken and Bonneville (1980), Chan et al. (2000), Cummings et al. (2006), Lewis et al. (2009) and Manaf (2004) all indicated significant differences in the behaviour of taxpayers of different races and cultural background,which is consistent with the finding of this study. However, this is in contrast with the results of Kasipillai and Jabbar (2006), and Song and Yarbrough (1978), which reported a marginal difference in tax compliance of different races.

For Nigeria, this finding is expected and it generally reflects the ethnic fragmentation and the polarized nature of the country. Within about 167 million Nigerians, there are 250 ethnic groups speaking about 500 languages with different cultural backgrounds and linkage, some more highly individualistic than others. With this type of background, Nigerian taxpayers will be expected, as reported in this study, to behave differently in complying with the tax rules and regulations. In line with the findings reported in Lassen (2003) and Kimenyi (2003), that ethnic diversity is characterized with mistrust and that tax compliance decreases in the presence of low trust, Nigeria's ethnic fragmentation, which accounts for differences in the taxpayers' behaviour, equally accounts significantly for the low compliance level in the country. This is basically due to distrust in the government, which is headed by an ethnic group other than the taxpayer's ethnic group.

However, in the case of taxpayers' religious belief, the result emanating from the regression analysis on the hypothesis ($H_7$) indicates that the difference in tax compliance behaviour of taxpayers of diverse religious belief was not significant. Similar evidence was obtained in the

ANOVA result on the difference in tax compliance behaviour based on respondents' religious faith (see Table 5.21). This finding is in contrast to the finding of Torgler (2003) who reported that attendance to religious worship places influence compliance behaviour. However, this finding is not surprising for a country like Nigeria where no particular region is completely dominated with a single religious belief. This implies that the prominent three religious groupings in Nigeria are present in each major region to some extent; hence, there is no strong religious distinction among the regions as is the case with race.

With the support from the finding in the study of Lewis (2007), which reported that most Nigerians would like to identify themselves in terms of their race and from the result of this study, it can be deduced that race provides a more significant explanation for the differences in the compliance behaviour of Nigerian taxpayers than religious belief. Therefore, the finding that difference in taxpayers' race causes a difference in tax compliance behaviour partly provides evidence that ethnic diversity is also a determinant of tax compliance behaviour.

### 6.2.2 Research Question 2: Do Taxpayers' Financial Condition and Risk Preference Moderate the Relationship between Tax Compliance and its Determinants

In line with the fourth objective of this study, taxpayers' financial condition and risk preference were introduced as moderators into the extended Fischer's compliance model. However, the moderating effect of the financial condition on the relationship between tax compliance and its determinants was first tested and this was followed by the test of the moderating effect of risk preference. The test was concluded with joint moderating effects of financial condition and risk preference on compliance and its determinants.

#### 6.2.2.1 The Moderating Effect of Financial Condition on Tax Compliance and its Determinants

The regression result in chapter five indicates that the inclusion of taxpayers' financial condition in the compliance model as a moderator increased the adjusted $R^2$ from about 23% to 35%, which suggests that the presence of financial condition in the model had strengthened the predictive capacity of the compliance model. However, the moderating impact of financial condition on the relationship between compliance and each of its determinants produced some results in support of the hypotheses.

In the first place, without the interacting effects of financial condition, the results indicate that among the control variables, tax system structure, attitude and occupation exerted a significant influence on tax compliance behaviour while the new variables, perceived tax service quality, public governance quality and taxpayers' race were strongly associated with tax compliance behaviour.

For the moderating effect of financial condition, the regression result provides evidence in support of hypothesis ($H_{1a}$) indicating that taxpayers' financial condition significantly moderated the influence of tax system structure on tax compliance behaviour. The interesting aspect of this finding is that the presence of the taxpayers' financial condition on the relationship between the tax system structure and compliance behaviour transformed the relationship between the two variables from positive to negative. This indicates that the effect of financial condition had weakened the influence of the tax system structure on taxpayers' compliance behaviour, and, accordingly, it suggests that in the presence of financial condition, with an increase in the tax system structure effectiveness, taxpayers are likely to be less compliant. This finding came in the direction and statistical significance expected, indicating that a great number (see Table 5.22) of the respondents who were noncompliant were also not satisfied with their financial situation. Hence, the tax system structure had less influence on their compliance behaviour.

The finding of this study on the moderating effect of the financial condition on tax system structure and compliance behaviour is not surprising for developing countries like Nigeria with a high poverty rate (Rotberg & Gisselquist, 2009). This is in addition to the ineffective tax system structure linked with the embryonic stage of the development of the tax system in most developing countries. This argument lends support to the study of Carroll (1986), which reported that the lack of money makes individuals search for an opportunity for engaging in crime as well as the studies of Bloomquist (2003), and Ritsema and Thomas (2003) that discovered that individual taxpayers with meagre financial resources may be tempted by bad financial conditions to be less compliant.

Furthermore, in line with the prediction in hypothesis ($H_{5a}$), the result of this study reports that financial condition had a strong moderating impact on the influence of moral reasoning on tax compliance behaviour. However, the relationship between moral reasoning and tax compliance behaviour, which was previously positive, changed to negative as a result of the interaction of the taxpayers' financial condition. This evidence indicates that the effect of financial condition had altered the direction of the influence of moral reasoning on tax compliance behaviour. Therefore, the result suggests that in the presence of financial condition, with increased moral reasoning, taxpayers are likely to be less compliant. The evidence from the descriptive statistics in chapter five reveals that the moral development of the respondent is not too strong and, in addition, a great number of the respondents were not satisfied with their financial condition (see Table 5.22). This possibly explains why the presence of the financial condition transformed the direction of the relationship between moral reasoning and tax compliance behaviour unfavourably. The possible explanation for this negative interaction is suggested in the result of the study of Fakinlede (2008). The author found that poverty (financial condition) has an inverse impact on moral reasoning in Nigeria. This suggests that a country where majority of the citizens are trapped in poverty as the case with Nigeria, such citizens may sacrifice morality on the altar of bad financial situation. The finding of this study demonstrates the fact that in Nigeria, the financial condition plays an important moderating role in shaping the taxpayers' compliance behaviour with little influence from the moral development of the individual. Therefore, this study shows that moral reasoning cannot have a positive impact on tax compliance behaviour in the presence of financial condition, which supports the report in the study of Bobek and Hatfied (2003) that morals alone may not fully eliminate tax noncompliance behaviour.

The regression analysis also provides evidence that is consistent with hypothesis ($H_{8a}$) indicating that taxpayers' financial condition demonstrated a strong negative moderating effect on the influence of nonprofessional occupation on tax compliance behaviour. This implies that taxpayers in nonprofessional occupations such as artisans, owner managers, etc., are likely to be less compliant in the presence of their financial condition. Although, there is no evidence in the literature concerning the moderating effect of financial condition on relationship between occupation and tax compliance behaviour, however, the finding on the relationship between occupation and tax compliance behaviour in the presence of financial condition restated previous findings that taxpayers who are in nonprofessional occupations are more likely to be less compliant (Andreoni et al., 1998; Groenland & van Veldhoven, 1983). This finding is equally not surprising for countries like Nigeria where large part of the economy is dominated by the informal sector. This result renders support to the suggestion of Asada (2005) that the majority of those who do not comply with tax laws in Nigeria are in the informal sector.

Unlike the tax system structure, moral reasoning and nonprofessional occupation, the regression results failed to support other hypotheses concerning the moderating effects of financial condition on the relationship between tax compliance and each of the other determinants. For perceived tax service quality and public governance quality, the moderating impact of financial condition on their influences on tax compliance behaviour is positive but not significant. This suggests that the presence of financial condition did not significantly moderate the influence of perceived tax service quality and public governance quality on tax compliance. This is an indication that whatever the financial condition of the taxpayers may be, their perception about tax service quality and public governance quality still has a positive impact on their compliance behaviour.

In summary, the evidence from the study indicates that taxpayers' financial condition had a strong moderating effect on the influence of tax system structure, moral reasoning and nonprofessional occupation on tax compliance behaviour but marginal effects on the other determinants of tax compliance behaviour.

#### 6.2.2.2 The Moderating Effect of Risk Preference on Tax Compliance and its Determinants

Evidence from the regression analysis in chapter five indicates that the inclusion of taxpayers' risk preference as a moderator in the compliance model while taxpayers' financial condition was held constant also strengthened the capacity of the model to predict taxpayers' compliance behaviour. The impact of such strength is, however, marginal as the adjusted $R^2$ only increased slightly from 23.4% to 23.9%. This suggests that taxpayers' risk preference did not have a strong moderating effect on Nigerian taxpayers' compliance behaviour and its determinants compared to financial condition. The possible reason for weak effect of risk preference in the compliance model may be explained from the direct relationship between taxpayers' risk preference and tax compliance behaviour, which though positive as expected, was not statistically significant (p=.210).

Moreover, the result emanating from the descriptive statistics (see Tables 5.13 & 5.6) provide evidence that the respondents of the study were generally risk averse and noncompliant. This finding provides no support for the view of risk preference as predicted by the prospect theory. The theory proposes that people are risk averse in gain situations and risk seeking in loss situations (Kahneman & Tversky, 1979). Empirical evidence in tax compliance literature in support of the prospect theory indicates that individuals that are risk averse in gain situations are more tax compliant (Alm et al., 1992; Elffer & Hessing, 1997; Yaniv, 1999). However, the possible reason for this finding may be due to the low perception of respondents about the gain to be derived from complying with tax law, particularly from public governance. This argument lends support from the submission of Kirchler (2007) who stated that risk avoidance in gain situations is unlikely when it is perceived that the gain is very small.

With respect to the moderating effect of risk preference on the relationship between tax compliance and its determinants, the regression result provides strong evidence in support of hypotheses ($H_{4b}$) and ($H_{9b}$). The result for hypothesis ($H_{4b}$) indicates that taxpayers' risk preference significantly moderated the influence of attitude to tax evasion on tax compliance behaviour. Surprisingly, the moderating effect of risk preference altered the direction of the relationship between attitude to tax evasion and tax compliance behaviour from positive as previously reported in the result on the main effect to negative. This finding suggests that in the presence of risk preference, an increased in the taxpayers' attitude against tax evasion is likely to make them less compliant. This is an indication that the moderating effect of risk preference renders the influence of taxpayers' attitude towards tax evasion on tax compliance behaviour weak and unfavourable. This result equally suggests that in Nigeria, individual's risk preference causes the taxpayer's attitude to have a negative influence on the tax compliance behaviour.

Furthermore, the result on the test of hypothesis ($H_{9b}$) suggests that taxpayers' risk preference had a significant positive effect on the influence of income source from the public sector on tax compliance. This means that taxpayers' whose source of income is from the public sector and who are risk averse, are likely to be more tax compliant. This finding is expected for the possible reason that great number of the taxpayers who sourced their incomes from the public sector are risk averse. In addition, the finding also demonstrates the positive effect of Pay As You Earn (PAYE) that is operating in the public sector under the Nigerian Tax System. PAYE is a scheme of third party reporting under which taxes are deducted at the source of income by a third party and remitted to appropriate revenue authorities.

Other results from the regression analysis, however, failed to provide support to other hypotheses on the moderating effect of risk preference on the influences of tax system structure, tax knowledge, moral reasoning, and other categorical variables on tax compliance behaviour. This implies that taxpayers' risk preference did not provide a strong moderating effect on the relationship between tax compliance and these determinants. The same results were obtained on the moderating effect of risk preference on the influences of perceived tax service quality, public governance quality, taxpayers' race and religion on tax compliance behaviour. Descriptive statistics evidence, which indicates that the respondents generally had low perceptions on these factors, especially perceived tax service quality, and public governance quality as well as the respondents' risk choice may provide an explanation for this finding. This suggests that Nigerian taxpayers' choice of risk did not interfere in a significant way with the influence of some factors including perceived tax service quality, public governance quality on tax compliance behaviour.

In summary, the evidence from the findings of this study indicates that taxpayers' risk preference had a strong moderating effect on the influence of attitude to tax evasion as well as income source from public sectors on tax compliance behaviour but a marginal moderating effect on other determinants of tax compliance behaviour. Therefore, these findings provide an answer, in part, to research question two.

#### 6.2.2.3 The Joint Moderating Effects of Financial Condition and Risk Preference on Tax Compliance and its Determinants

The regression result, which tested the joint moderating effects of taxpayers' financial condition and risk preference on the relationship between tax compliance and its determinants, provides evidence indicating that the compliance model (4) was strengthened in predicting tax compliance behaviour from about 23% (adjusted $R^2$) to 34%. This represents a considerable difference from about 24% predictive capacity of the model when only risk preference was introduced into the model (3) as moderator. However, there is a slight variation in the capacity of the model to predict tax compliance behaviour when only financial condition (adjusted $R^2$ 35%) was used as a moderator from the predictive capacity of the model when financial condition and risk preference (adjusted $R^2$ 34%) were used as combined moderators.

This implies that the presence of financial condition as a moderator in the compliance model strengthened the predictive capacity of the model better and provided a better understanding and explanation of tax compliance behaviour, most especially in some developing countries and Nigeria in particular. This finding demonstrates the importance of the moderating role of taxpayers' financial condition in compliance behaviour. This finding gives credence to the fact that complying with tax laws; especially payment of taxes depends on the financial condition of the taxpayers.

Tax payment as an obligation entails financial commitment and performance, however, an individual's financial condition has a considerable impact on their ability and capacity to meet financial commitment. Evidence from other behavioural studies lends support to this argument. The studies of Brett et al. (1995), Doran et al. (1991), Mathieu and Zajac (1990) provide proof that financial requirement (condition) moderated the individual commitment and performance.

For a country where a great number of its population are below the poverty line, financial condition may be expected to greatly moderate behaviour including tax compliance behaviour. Therefore, the finding in this study on the moderating effect of financial condition is consistent with the characteristic of Nigeria, which has a large number of its citizens entrapped in poverty and this has a connection with why a large number of the respondents in this study are not satisfied with their financial condition (see Table 5.22).

However, relating to the joint moderating effects of financial condition and risk preference on the relationship between tax compliance and its determinants, the regression result is only consistent with the prediction in the hypothesis ($H_{3c}$) and ($H_{8c}$). The regression result indicates that financial condition and risk preference jointly moderated the relationship between perceived tax service quality and tax compliance behaviour ($H_{3c}$). Just as expected, the joint moderating effect was positive and significant on the relationship between the two variables, which suggests that in the presence of both financial condition and risk preference, an improvement in perceived tax service quality by a unit is likely to enhance taxpayers' compliance behaviour ( by 12.10%). The improvement in the taxpayers' compliance behaviour as a result of the joint effects of financial condition and risk preference was slightly greater than the direct impact of perceived tax service quality on compliance behaviour as previously reported ( 9.8%) in regression model 1.

Furthermore, the impact of the joint moderating effects of financial condition and risk preference on the influence of perceived tax service quality on compliance behaviour was equally greater than the marginal impact of the effect of only financial condition (2.4%) as well as the effect of only risk preference (-1.4%) on the relationship between perceived tax service quality and compliance behaviour respectively. This demonstrates the importance of the joint effect of financial condition and risk preference on the influence of perceived tax service quality on compliance behaviour. The possible reason for this finding may be connected with the large number of respondents who were risk adverse (72%) as well as respondents who were satisfied with their financial condition as this might have jointly exerted a large positive effect on perceived tax service quality, and, in turn, on the compliance behaviour.

In addition, the result also indicates that financial condition and risk preference jointly had a strong and positive moderating effect on the influence of nonprofessional occupation on tax compliance ($H_{8c}$). This result is in contrast with the finding reported in subsection (6.2.2.1), which indicated that financial condition had a negative moderating effect on the influence of nonprofessional occupation on tax compliance. Unlike the case in regression model 2, the analysis in regression model 4 altered the direction of the relationship between nonprofessional occupation and tax compliance from a negative to a positive in the presence of the combined moderator of financial condition and risk preference. This suggests that the joint moderating effect of financial condition and risk preference is likely to make taxpayers with a nonprofessional occupation to be more compliant. This finding is equally important in light of the evidence in the compliance literature suggesting that individuals in nonprofessional occupations such as self-employed persons are likely to be less compliant (Andreoni et al., 1998; Groendland & van Veldhoven, 1983).

Contrary to the predictions in other hypotheses, the regression results provide evidence that, jointly, financial condition and risk preference did not exert a significant moderating effect on the relationship between the tax system structure, tax knowledge, attitude, moral reasoning, other categorical variables and tax compliance behaviour. The combination of financial condition and risk preference as a moderator equally failed to exert a significant effect on the influence of public governance quality as well as ethnic diversity on tax compliance behaviour. Similar to the suggestion in Elbanna and Child (2007) on moderators, the lack of joint moderating role of financial condition and risk preference on the relationship between tax compliance behaviour and these determinants possibly may be due to high level of the joint moderators as evidenced in the strong relationship between tax compliance and each of the moderators (see Table 5.39). Perhaps there is a threshold of association between the joint moderators and each of these determinants, which in turn would greatly influence the tax compliance behaviour. It may be that the joint moderators was not within this threshold, hence, the variation in the joint moderators was not sufficient to significantly influence the relationship between tax compliance behaviour and these determinants. This evidence suggests that financial condition and risk preference jointly do not play moderating role in relationship between individual tax compliance behaviour and these determinants in Nigeria.

Overall, the results on the joint moderating effect of financial condition and risk preference on the relationship between tax compliance behaviour and its determinants provide evidence that the combination of financial condition and risk preference significantly moderated the relationship between perceived tax service quality as well as nonprofessional occupation and tax compliance behaviour. However, the findings indicate that a combination of financial condition and risk preference did not significantly moderate the influence of other determinants on tax compliance behaviour.

### 6.3 Implications of the Study

The findings of this study have some theoretical and policy implications, which are discussed in this section.

#### 6.3.1 Theoretical Implications

A substantial amount of effort has been devoted to identify factors influencing taxpayers' compliance decisions. Initially, most of the research studies viewed problems of tax compliance from the theoretical perspective of economic deterrence models (Allingham & Sandmo, 1972; Dubin & Wilde, 1988; Riahi-Belkaoui, 2004). However, based on the suggestion that economic variables alone do not provide a complete explanation and understanding for taxpayers' compliance behaviour (Alm, 1999; Riahi-Belkaou, 2004), researchers began to pay attention to the influences of sociological and psychological factors on tax compliance behaviour (Mason & Calvin, 1984; Recker et al., 1994). Fischer's tax compliance model is one of the outcomes of these research efforts. Fischer's model integrates economic, sociological and psychological variables into a comprehensive model for a better understanding of tax compliance behaviour. Chan et al. (2000) recommended Fischer's model as a viable conceptual framework for the study of taxpayer compliance behaviour.

Taking into account the past and recent theoretical development on the model (Chan et al., 2000; Chau & Leung, 2009; Manaf, 2004; Mustafa, 1997), this study further expanded Fischer's model to incorporate perceived tax service quality, public governance quality, ethnic diversity as well as the moderating effects of taxpayers' financial condition and risk preference. The findings from the study have some interesting theoretical implications. The study contributed to tax compliance literature in a number of ways.

As contributions to the literature, the study identified other behavioural factors not currently in the extended Fischer's model as significant determinants of tax compliance behaviour. The discovery of other determinants of tax compliance behaviour in this study has proven the assertion of Alm (1999), and Jackson and Millron (1986) right that other factors outside the basic model may be relevant in understanding compliance decisions. In the first place, the study provided evidence of a strong positive association between taxpayers' perception of quality of tax service delivery by the revenue authority and compliance behaviour. This indicates that perceived tax service quality exerts considerable influence on tax compliance behaviour. Another contribution to the literature is the findings on the relationship between public governance quality and tax compliance behaviour. The study also established that the taxpayers' perception about the quality of governance in the public sector had a strong impact on tax compliance behaviour. Third, the study reaffirmed the finding of the previous studies concerning the impact of culture on compliance behaviour, however, this time in a more ethnically fragmented[110] and polarized society (Nigeria) than was previously tested.

Other key contributions of the study are on the presence of moderators in the relationship between tax compliance and its determinants. The findings in this area satisfied the suggestion from the literature that the relationship between tax compliance behaviour and its determinants may be moderated by certain variables (Kirchler et al., 2007). The evidence from the study shows that taxpayers' financial condition, as well as their risk preference, had a strong moderating impact on tax compliance and some of its determinants individually and jointly. Specifically, the study found that the presence of only financial condition in the tax compliance model significantly moderated the influence of tax system structure (1% significant level), taxpayers' moral reasoning (5% significant level) and nonprofessional occupation (5% significant level) on tax compliance behaviour. The study also provided evidence that when only taxpayers' risk preference was added to the tax compliance model, risk preference exerted a strong moderating impact on the influence of taxpayers' attitude (5% significant level) and income sourced from the public sector (10% significant level) on

110. Previous studies on culture and compliance behaviour were conducted in less ethnically fragmented countries. Nigeria is a highly ethnic fragmented and polarized society with Ethno-Linguist Fractionalisation (ELF) index of .87 and this is higher than ELF of most countries (Australia 32, US, 50), (Okediji, 2005). Country with ELF index of between 80 and 100 is considered to be highly ethnically fractionalized society. Other countries with very high ELF index include: India, Cameroon, Chad, Ivory Coast, Kenya, Liberia, Tanzania, Ugandan and South Africa (Okediji, 2005).

tax compliance behaviour. Finally, the study's findings revealed that, jointly, financial condition and risk preference had a significant moderating effect on the influence of perceived tax service quality (5% significant level) and nonprofessional occupation (5% significant level) on tax compliance behaviour. The distinctive findings on the moderating effect of financial condition and risk preference is the alteration of the direction of the relationship between tax system structure, moral reasoning, attitude and tax compliance from positive as reported in the main effect to negative as well as income source and occupation from negative to positive.

However, comparatively, the findings from the study indicated that the presence of only financial condition (adjusted $R^2$35%) as a moderator in tax compliance model strengthened the capacity of the model to predict taxpayers' compliance behaviour better than the presence of only risk preference (adjusted $R^2$ 24%) or even a combination of financial condition and risk preference (adjusted $R^2$34%) . Therefore, the findings of this study suggest that the further extension of the tax compliance model, particularly Fischer's model, to incorporate perceived tax service quality, public governance quality, ethnic diversity as well as the moderating effect of financial condition would further strengthen the predictive capacity of the model for better understanding taxpayers' compliance behaviour.

All in all, the findings from the study have enriched the tax compliance literature, particularly concerning factors influencing tax compliance behaviour in developing countries thereby narrowing the research gap between developed and developing countries further as advised in Chau and Leung (2009) and Torgler (2003 & 2007).

### 6.3.2 Policy Implications

The findings in the study suggest that some changes in the public policy are necessary to improve tax compliance behaviour particularly among individual taxpayers in Nigeria. In the first place, the finding of the study, which revealed a positive association between perceived tax service quality and tax compliance behaviour, is an indication that the quality of tax service provided by the revenue authorities significantly influences tax compliance behaviour in Nigeria. However, evidence from the descriptive statistics of this study revealed that Nigerian taxpayers had a low perception about the quality of tax service delivery in Nigeria. This suggests that public policy makers must map out strategies to improve the quality of tax service in Nigeria. Improvement of the quality of the tax service in Nigeria requires a shift in policy direction on the three core components of quality of tax service of information, interaction and transaction as identified by Jenkin and Forlemu (1993), and the OECD (2005). In the provision of timely tax information to the taxpayer and to carry out other tax administration functions efficiently, policy makers should seek to improve tax compliance by harnessing the vast resources and opportunities provided by information and communication technology (ICT). Technology has been suggested to be crucial for the delivery of a quality tax service by the revenue authorities (OECD, 2005).

The policy focus should be on completely transforming the tax administration in Nigeria to electronic tax administration consisting of mainly e-filing, and e-tax payment. Such a policy would greatly improve tax service quality since it would speed up the tax transaction process, quicken the tax information accessibility and process as well as reduce personal interaction between the taxpayers and the officials. Studies have shown that information technology such as the Internet is becoming a significant tool for the delivery of a quick and quality service to taxpayers in some countries[111] (OECD, 2005 & 2007). Also relating to tax service quality, the indication from the descriptive statistics (see Table 5.9) suggests that tax employees are not properly trained in the act of tax administration and that there is a shortage of working equipment, such as computers. Revenue authorities in Nigeria require a larger financial allocation to address the challenges of staff training, recruitment of professionals and provision of adequate equipment and facilities, such as computers in tax offices. In the case of the FIRS, this can be done through changing the policy concerning the amount to be retained from tax revenue collected for running costs.[112]

In addition, the transformation of the present SERVCOM customer care unit in some tax offices, particularly FIRS offices, into a special unit with the same characteristics of TAC would equally improve the quality of tax service delivery. In line with the suggestion of Jenkin and Forlemu (1993), such a unit should be well equipped and staffed with professionals to handle any issue relating to filing, and provide taxpayers with information for the preparation of tax returns as well as handling public outrage programme, which should be a permanent feature of the Nigerian Tax System. Public outrage programme, which is not presently part of the Nigerian Tax System, involves extensive use of the media, such as the television, radio, and community-wide-talk for informing taxpayers how to comply with the tax laws and changes in tax legislation (Jenkin & Forlemu, 1993).

111. Countries, such as Australia, Ireland, Norway, the US, etc., carryout most of the tax transactions through the use of information technology tools like websites, email, etc. (OECD, 2007).
112. It was the 2002 Study Group on the Nigerian Tax System that recommended, as part of the autonomy granted to tax authorities, that they should retain part of their revenue collection to cover their running cost. At present, the Federal Inland Revenue Service retains 4% of the revenue it collects to cover its costs.

Another aspect of the findings that has policy implications is the finding, which indicated that public governance quality is a significant determinant of tax compliance behaviour in Nigeria. This suggests that the direction of public policy towards improving the low perception of taxpayers about the quality of public governance in Nigeria would greatly enhance tax compliance behaviour. Every aspect of public governance quality requires a policy focus and direction with some having short run implications while others have long run implications. However, policies on issues relating to accountability and transparency, control of corruption, public infrastructure as well as political stability are closer to the heart of most Nigerians. As a result, these public governance indicators require a policy focus for them to have an impact on the overall public governance quality and, consequently, on compliance behaviour.

Strict observance of the provision of section 24 of the Finance (Control and Management) Act of 1958 as well as section 13(1) and 14(1) of the Audit Act of 1956 in respect of the preparation and audit of government financial statements in Nigeria would help to uphold accountability and transparency in the public sector. Amendment to these Nigerian public financial laws to include a more severe penalty for failure to produce public accounts and other financial documents should be contemplated by Nigerian legislators for the benefit of the overall promotion of accountability and transparency in the public sector. Such a policy direction would be in line with the suggestion of Fagbadebo (2007) that to ensure good public governance in Nigeria, accountability and transparency must be guaranteed.

Furthermore, the effort to combat the nuisance of corruption in Nigeria through the establishment of a number of anti-graft agencies prominent among which are the Economic and Financial Crime Commission (EFCC) and Independent Corrupt Practice and Related Offences Commission (ICPC)[113] have not yielded expected result[114] (Odinkonigbo, 2009). Although a number of reasons have been offered for the persistent acts of corruption in Nigeria, the lack of coordination and overlapping of responsibilities among the many anti-graft agencies is also important. Hence, for better coordination of the fight against corruption, the number of anti-graft agencies should be reduced and more power given to the agencies left for prompts prosecution of offenders. Such a policy would increase the confidence of taxpayers about the seriousness of the government in the fight against corruption, which may have an impact on their compliance behaviour because the studies of Picur and Riahi-Belkaoui (2006) and Uslaner (2007) showed a positive link between successful control of corruption and tax compliance behaviour.

In Nigeria, the provision of public infrastructure such as water, road network, power supply as well as social amenities, such as education, health, etc., which have been identified as having a direct positive impact on compliance behaviour have not been satisfactory (Akpo, 2009; Odinkonigbo, 2009). Furthermore, Nigerian government should be dedicated to pursuing the policy of Public-Private Partnership (PPP) in the provision of key public infrastructure such as electricity and the construction of roads, as it is done in some

113. ICPC was established through Corrupt Practice and other Related Offences Act, No 5 of 2000 and EFCC came to exist through the Economic and Financial Crime Commission (Establishment) Act, No 1 of 2004. Other government agencies involved indirectly the fight of corruption includes the Due Process Office, Bureau for Code of Conduct etc.

114. The factors that cause corruption to persist in Nigeria include: great disparity in the distribution of wealth, moral decadence and weak enforcement of law against corruption (Dike, 2005).

developed and developing countries,[115] as a long-term measure but the immediate policy option is the mass investment in public infrastructure, as contained in Vision 2020. To do this, policy makers may have to allocate a substantial part of the public expenditure to capital expenditure[116] as against recurrent expenditure. The implication of such a policy is that Nigerian taxpayers would feel the immediate and direct impact of their tax contributions.

Political instability with a particular emphasis on security of life and poverty is an obvious current challenge to public governance in Nigeria. Policies have to be directed to address the causes of political instability in Nigeria, especially poverty, election rigging, ethnic and religious crises, because evidence indicates that political stability is an indicator of good public governance that influences the willingness of taxpayer to pay tax (Damania et al., 2004; Tedds, 2007). However, it is hoped that the recent enactment of the Anti–Terrorism Act 2011 by Nigerian legislation would enhance the confidence of the taxpayers in the political stability of the country.

Another finding with policy implication is the differences observed in the tax compliance behaviour of Nigerian taxpayers of different race and cultural background. This finding calls into question the existing uniform tax administration policy operating in the country. Different regions of Nigeria have different cultural background, which greatly influence the

115. In some countries, the development of public infrastructure is largely carried out through public-private investment. In Belgium, France and Germany, public-private investment in infrastructure was 96.5%, 98.7% and 98.5% of the total investment in infrastructure between 2001and 2006 respectively (Engel, Fischer & Galetovic, 2011) .

116. Some state governments in Nigeria allocate a substantial part of their revenue for recurrent expenditure leaving little for capital expenditure .For instance, in 2000, Abia state's recurrent expenditure was 83% of the total expenditure (CBN 2000).

behaviour of the people. There is an element of collectivism in the Hausa/Fulani region. The Yoruba's culture is based, to some extent, on collectivism while the Igbo nation is more individualistic. In line with the assertion of Coleman and Freeman (2002), that voluntary compliance is the function of cultural environment, given consideration to cultural background of taxpayers in tax administration would enhance tax compliance behaviour in Nigeria. The style of tax administration should be mapped out by each state to match the cultural background of its people, and, to this end, the relevant sections relating to filing returns, assessment, tax collection, composition of revenue board as well as power and duty of the boards, etc., of the Personal Income Tax Act 2004 may require amendment to allow the states to legislate on the issues contained therein in accordance with the culture of their respective people.

Furthermore, the regression analysis of this study indicated that taxpayers' financial condition had a significant moderating impact on the relationship between tax compliance behaviour and some of its determinants, and, at the same time, the descriptive statistics provided evidence indicating that the majority of the respondents were not satisfied with their financial situation, this emphases the need for a strong policy on poverty reduction in Nigeria. Policy should be directed towards job creation, improving the welfare of employees in both private and public sector, giving of more tax concessions in the form of allowances and relief. The recent effort of the Federal Government of setting up the Job Creation

Committee to create 15 million jobs in 5years[117] and the review of National Minimum Wages[118] are policies in the right direction.

Going by the findings of this study, the model depicted in figure 6.1 below provides a better explanation and understanding of individual taxpayers' compliance behaviour in Nigeria. The model consists of only the factors that have direct significant influence on tax compliance behaviour and/or are significantly moderated by the effect of taxpayer's financial condition (see Table 5.37).[119] Therefore, public policy makers should take steps to formulate strategies and policies aimed at influencing the factors depicted in the model favourably for the overall enhancement of compliance behaviour among individual taxpayers in Nigeria.

117. Nigeria's National Economic Management set up a committee in 2011 to create 15 million jobs in the next 5 years under the chairmanship of Aliko Dangote.
118. Nigeria's national minimum wage was raised from ₦ 7,500 to ₦18, 000 through the National Minimum Wage Act of 2011.
119. Tax knowledge was excluded from the recommended model because the factor had no direct significant influence on tax compliance behaviour in Nigeria neither was it moderated significantly by the effect of the taxpayer's financial condition.

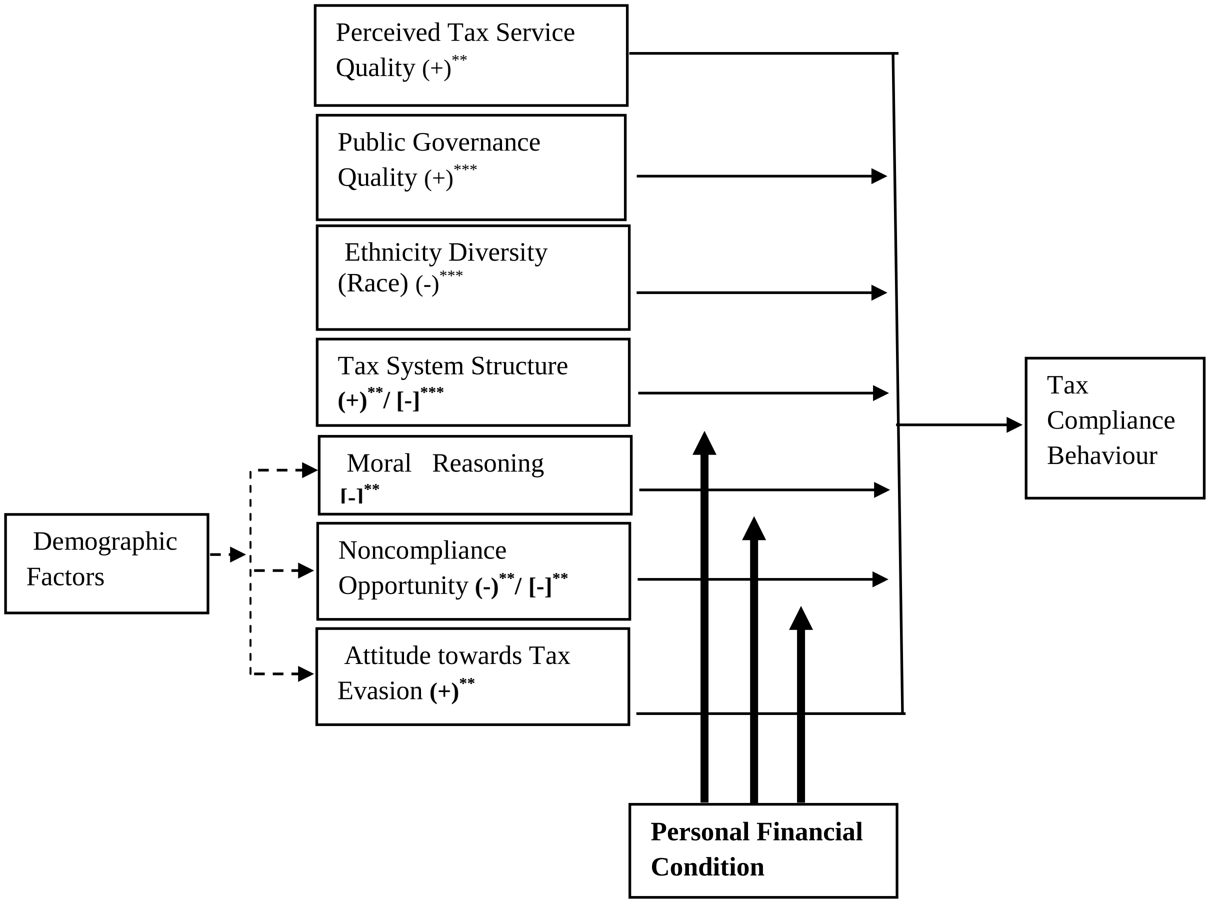


Figure 6.1: Recommended Tax Compliance Model for Nigeria.

*Note:*

**( )** ——→ Indicates direct effect/influence

- - - - - - - -→ Indicates indirect effect/ influence

**[ ]** ━━➔ Indicates moderating effect

* p < .10
** p < .05
*** p < .01

## 6.4 Limitations of the Study

A number of limitations are associated with this study. The first limitation of this study is the measurement adopted. The study relied on self-reported behaviour of the taxpayers like most compliance researches; however, scholars have pointed out that the behaviour that taxpayers portray under such a method may not be a truthful representation of their actual behaviour (Hessing et al., 1988; van Djike & Verboon, 2010). Therefore, drawing conclusion from this study's findings with respect to actual behaviour must be done with caution.

The second limitation is in connection with the sampling method. As with other behavioural research, this study was carried out by sample representation but conducting a study with a sample representative of the population is problematic and in this case, generalization is an important issue. However, conducting this study at the national level as well as the use of taxpayers from different parts of Nigeria enhances the external validity of the study. Furthermore, the respondents of this study particularly the employees in the public and private sectors were drawn from the list of employers instead of the list of taxpayers. The accuracy and the inclusiveness of such list are not sure.

Also in respect of the sampling method, based on the population of taxpayers in Abuja, large number of the samples were drawn from employment (76%) with a few representation from the informal sector especially the self-employed individuals. However, it is acknowledged in the literature that individuals operating in the Nigeria's informal sector exhibit the greatest problem of tax noncompliance (Asada, 2005).

Similarly, a fair representation of the sample on a demographic basis, such as gender, race, religion, etc., was difficult due to the fact that the list from which the samples of the study were drawn did not specify the taxpayers on a demographic basis. In addition, despite efforts to minimize the common limitations associated with the use of the survey method, it is also acknowledged that this study may not be completely free from some survey limitations such as non-response bias and bias in completing of the questionnaires.

Other limitations are concerning the focus of the study. The focus of this study was on only individual taxpayers residing in Abuja city, perhaps, behaviour of individual taxpayers in other parts of Nigeria may be influenced differently by social, economic and political environment as well as style of tax administration existing in that other parts of Nigeria. For this reason, generalization of the findings in this study must be done carefully. Similarly, the study was conducted with respondents drawn from among individual taxpayers residing in urban areas (Nigeria's Federal Capital), and, as a result, the study did not capture the compliance behaviour of individual taxpayers in the rural areas. Demographic characteristics, of which geographical location is a factor, are mentioned in the literature as an important factor that influences behaviour (Torgler, 2007).

Finally, there are other factors that may be relevant in understanding tax compliance behaviour not considered in this study. The factors incorporated in the model of this study are not exhaustive. Therefore, the study has not exhausted the likely factors that may influence tax compliance behaviour in Nigeria; no single study can capture the numerous factors that have an effect on tax compliance behaviour (Alm, 1999).

### 6.5 Recommendations for Future Research

The findings and the observed limitations of this study provide insight into possible fruitful areas of tax compliance that may demand researchers' attentions in the future, particularly in Nigeria. First, more researches are needed into the relationship between perceived tax service quality, public governance quality, ethnic diversity and tax compliance behaviour as well as the moderating effect of taxpayers' financial condition on the relationship between tax compliance and its determinants. Such a follow up research is necessary to check the consistency of the results produced on these compliance determinants and moderators.

Furthermore, it is desirable that research efforts are also concentrated on identifying other economic, social, psychological and cultural factors that may influence taxpayers' compliance behaviour particularly in developing countries. This recommendation is premised on suggestions in the literature indicating that tax compliance behaviour is yet a largely underdeveloped area of research ( Andreoni, et al 1998; Chau & Leung, 2009). Similarly, following the evidence in this study and other similar studies (Murphy, 2007; Wenzel, 2004 & 2005), which lend support to the suggestion of Kirchler et al. (2007) that the relationship between tax compliance and its determinants may be moderated by certain factor(s), researchers should consider investigating possible moderating effect of some social, psychological or cultural factor(s) on the relationship between tax compliance and its determinants. Such investigations would provide further information concerning taxpayers' behaviour for a better understanding of their compliance decisions.

In addition, future researchers may want to consider extending tax compliance studies to rural areas, especially in developing countries, and Nigeria in particular, where there is a great disparity in the development between the rural and urban areas, and, which is likely to cause a difference in the behaviour of the folk in the two geographic areas. Other than that, research that focuses only on tax compliance behaviour in the informal sector is desirable in the future since greater opportunities for noncompliance exist in the informal sector than the formal sector especially in Nigeria.

To minimize the limitation of measurement, researchers in the future should exploit the possibilities of conducting more research on tax compliance using mixed methods consisting of both qualitative and quantitative research. Mixed methods approach allows researchers to reduce personal bias of respondents (Creswell, 2009). Also, future researchers may want to decompose perceived tax service quality as well as public governance quality and test the relationship between each dimension and tax compliance behaviour separately; such research will provide further information about the possible effects of each dimension on tax compliance behaviour.

Finally, as a restatement of the advice of certain scholars (Chau & Leung, 2009; Torgler, 2007) more studies on tax compliance in developing countries are desirable to bridge the research gap between developing and developed countries in this area.

## 6.6 Conclusion

This study provides empirical evidence on the interaction among economic, social, psychological and cultural factors competing to exert influence on Nigerian taxpayers towards complying with tax rules and regulations. This complex relationship is as advanced in the extended Fischer's tax compliance model, which was further extended to incorporate perceived tax service quality, public governance quality, ethnic diversity as well as the moderating effect of taxpayers' financial condition and risk preference to take account of the environmental and cultural peculiarities of Nigeria. The study basically set out to provide answers to two questions: "Do quality of tax service, multi ethnic background and public governance quality play a significant role in tax compliance behaviour?" and "Do taxpayers' financial condition and risk preference moderate the relationship between tax compliance and its determinants?"

In general, the findings of the study suggest that quality of tax service, and public governance quality play a significant positive role in tax compliance behaviour. The findings also provide evidence to show that there is a significant difference in the compliance behaviour of taxpayers of diverse ethnicity. The results on the moderating variables suggest that the introduction of taxpayers' financial condition in the tax compliance model strengthened the capacity of the model in predicting taxpayers' compliance behaviour in Nigeria better than when only taxpayers' risk preference was incorporated into the model or when financial condition and risk preference were jointly entered into the model as moderators. However, the evidence from the regression result indicates that taxpayers' financial condition could only exert a significant effect on the influence of the tax system structure, moral reasoning and nonprofessional occupation on tax compliance behaviour.

A tax compliance model that incorporates taxpayers' financial condition as a moderator is recommended to policymakers for a better understanding of the compliance behaviour of individual taxpayers in Nigeria in order to formulate policies that positively enhance such behaviour.

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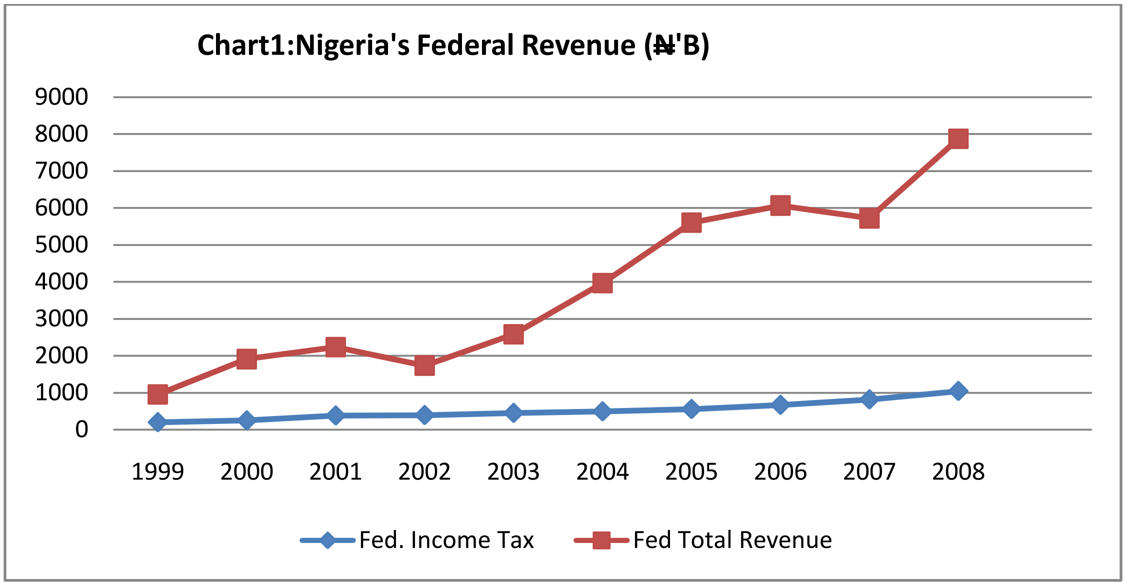
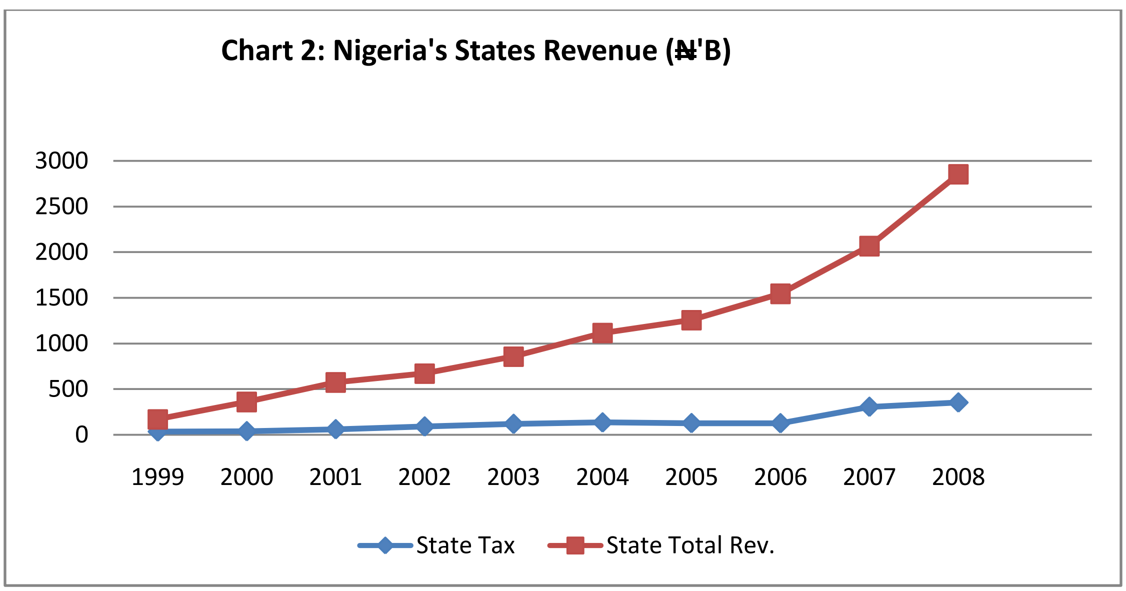
# Appendix 1

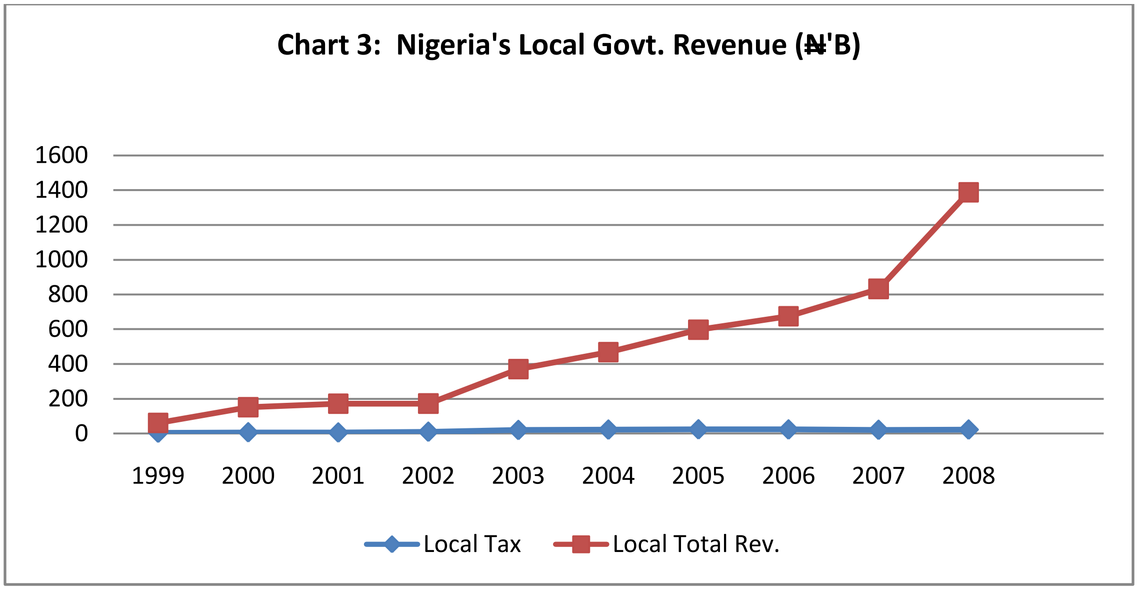
## Graphic Presentation of Tax Revenue Performance in Nigeria



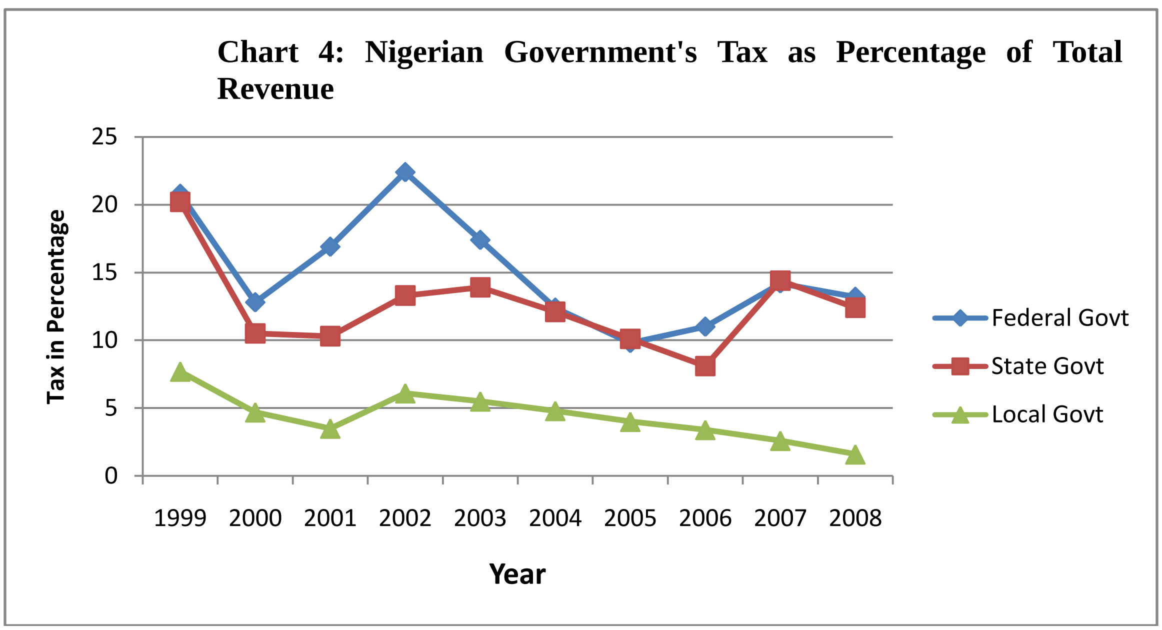

Source: Data for chart 1 was derived from Central Bank of Nigeria (2008).




Source: Data for chart 2 was derived from Central Bank of Nigeria (2008).




Source: Data for chart3 was derived from Central Bank of Nigeria (2008).




Source: Data for chart4 was derived from Central Bank of Nigeria (2008).

# Appendix 2

**Revenue Authorities Responsible for Personal Income Administration in Nigeria**

## Revenue Authorities Responsible for Personal Income Administration in Nigeria

### 1. State Internal Revenue Service

i) Abia State Board of Internal Revenue,
Headquarters,
(Behind Aguiyi Ironsi Conference Centre),
Finbarr's Road,
Umuahia, Abia State.

ii) Adamawa State Board of Internal Revenue,
Former Accountant General Office, Near Post office.
Yola, Adamawa State.

iii) Akwa-Ibom State Board of Internal Revenue,
Block 9,
State Secretariat Headquarter,
Uyo, Akwa-Ibom State.
Website: www.akwaibomrevenue.com

**iv)** Anambra State Board of Internal Revenue,
Government House,
Awka, Anambra State.

v) Bauchi State Board of Internal Revenue,
Ahmadu Bello Way,
Bauchi, Bauchi State.

vi) Bayelsa State Board of Internal Revenue,
Revenue House,
Lambert Eradiri Road,
Onopa – Yenagoa,
Yenagoa, Bayelsa State.

vii) Benue State Board of Internal Revenue,
State Secretariat,
Makurdi, Benue State.

viii) Borno State Board of Internal Revenue,
Jos Road,
Maiduguri, Borno State.

ix) Cross-River State Internal Revenue Service,
New Secretariat Complex,
Calabar, Cross-River State.

x) Delta State Board of Internal Revenue Headquarters,
64, Okumagba Avenue,
Warri, Delta State.
Website : www.deltabir.com

xi) Edo State Board of Internal Revenue,
80 New Lagos Road,
Benin City, Edo State.

xii) Enugu State Board of Internal Revenue,
7 Ridgeway Road,
Government Secretariat,
Enugu, Enugu State.

xiii) Ekiti State Board of Internal Revenue,
Ado-Ekiti, Ekiti State.
Website: http;//www.ekitinigeria.net/ministry-of-finance/

xiv) Ebonyi State Board of Internal Revenue,
BIR Headquarters,
Abakaliki, Ebonyi State.

xv) Gombe State Board of Internal Revenue,
Jeka-da-Fari Road,
Gombe, Gombe State.
Website: www.birgombe.com

xvi) Imo State Board of Internal Revenue,
Block 4 (3rd Floor),
New Secretariat,
Port Harcourt Road,
Owerri, Imo State.

xvii) Jigawa State Board of Internal Revenue,
Dutse Old Secretariat,
Dutse, Jigawa State.
Website: www.mfepjigawa.gov.ng

xviii) Kaduna State Board of Internal Revenue,
Olusegun Obasanjo House,
Yakubu Gowon Way,
Kaduna, Kaduna State.
Website: www.kadunabir.gov.ng

xix) Kano State Board of Internal Revenue,
Bank Road, Kano, Kano State.

xx) Katsina State Board of Internal Revenue,
Justice Mahammadu Bello Road G. R. A.
Katsina, Katsina State.

xxi) Kebbi State Board of Internal Revenue,
Sultan Abubakar Road,
Birnin Kebbi, Kebbi State.

xxii) Kogi State Board of Internal Revenue,
Along Marie Road,
Lokoja, Kogi State.

xxiii) Kwara State Board of Internal Revenue,
No. 2 Layonrin Street
Adjacent Police Hqtrs.
Ilorin, Kwara State.

xxiv) Lagos State Board of Internal Revenue,
The Good Shepherd Building,
Block H, Plot H1,
Central Business District,
Opposite Lagos State Secretariat Main Gate,
Alausa, Ikeja, Lagos State.
Website: www.lirs.net

xxv) Nasarawa State Board of Internal Revenue,
BIR Office Opposite Emir's Palace,
Lafia, Nasarawa State.

xxvi) Niger State Board of Internal Revenue,
Niger State Old Secretariat,
Minna, Niger State.
Website: www.niger-bir.com

xxvii) Ogun State Internal Revenue Service,
Oke-mosan,
Abeokuta, Ogun State.
Website: www.irs-ogun.org

xxviii) Ondo State Board of Internal Revenue,
Ministry of Finance & Econ. Planning,
Alagbaka, Akure, Ondo State.
Website: www.ondostate-bir.com

xxix) Osun State Board of Internal Revenue,
New Governor's Office,
Gbongan Road,
Osogbo, Osun State.

xxx) Oyo State Board of Internal Revenue,
Government Secretariat,
Agodi
Ibadan, Oyo State.

xxxi) Plateau State Board of Internal Revenue,
7 Beach Road,
Jos, Plateau State.

xxxii) Rivers State Board of Internal Revenue,
22, William Jumbo Street, Old GRA
Port Harcourt, Rivers State.

xxxiii) Sokoto State Board of Internal Revenue,
Ibrahim Dasuki Road,
Sokoto, Sokoto State.

xxxiv) Taraba State Board of Internal Revenue,
56, Hamaruwa Way,
Jalingo, Taraba State.

xxxv) Yobe State Board of Internal Revenue,
Kano Road,
Damaturu, Yobe State.

xxxvi) Zamfara State Board of Internal Revenue,
Sani Abacha Way,
Opposite Tudun Wada, Juma'a Mosque,
Gusau, Zamfara State.

## 2. Federal Inland Revenue Services

**i) Large Tax Office***
NACB Building,
Airport Road, Central District, Abuja.
Tax coverage areas:
- PIT/PAYE of all Ministries, Departments and Agencies within Abuja.
- PIT/PAYE of senior officers of the Armed Forces resident in FCT, Abuja.
- PIT/PAYE of staff of the Nigerian Police in Abuja, including FCT Command.
- PIT/PAYE remittance from employees (local and expatriate) of Companies
- PIT/PAYE remittance from non-residents earning income from FCT, Abuja.

**ii) Garki Integrated Tax Office (ITO)***
City Plaza, Ahmadu Bello Way, By Old CBN, Garki – Abuja.
Tax coverage areas:
- PIT/PAYE remittance from employees of Companies
- PIT/PAYE remittance from individuals/self-employed persons resident

operating within Asokoro, Nyanya, Karu, Jikwoyi, Garki Area 1-11, Garki II, Apo and Durumi.

**iii) Wuse ITO***
Plot 48, Sudan Street, Zone 6, Wuse Abuja.
Tax coverage areas:
- PIT/PAYE remittance from employees of Companies
- PIT/PAYE remittance from individual/self-employed persons resident

operating within Wuse Zones 1 – 7, Wuse II, Mabushi, Life Camp, Utako, Jabi, Kado, Gwagwa, Idu-Karimu and Dei-dei.

**iv) Central ITO***
Owena House, Central Business District, Abuja
Tax coverage areas:
- PIT/PAYE remittance from employees of companies
- PIT/PAYE remittance from individuals/self-employed persons.

operating within Central Business District, Airport Road, Lugbe, Dutse, Maitama, Bwari, Kubwa and Gwarimpa.

v) Gwagwalada ITO
FCT Secretariat, Gwagwalada.
vi) Lagos Region
LTO (Non-oil)
214, Broad Street, Elephant Building, Lagos.

vii) Western Region
a) Ibadan I ITO
Adeoyo.
45, New Adeoyo, Hospital Road, Ibadan.
b) Abeokuta ITO Oke Mosan, Opp. Govt. Office, IBB Boulevard, Abeokuta.
c) Ilorin ITO
1, Obbo Road, Behind 1st Bank Plc, Off Unity Road, Ilorin.
d) Akure ITO Alfred Revenue Rd, Alagbaka, Akure.
e) Ado-Ekiti ITO 79, Iyin Road, Basiri Area, Ado-Ekiti.
f) Oshogbo ITO Ibadan/Gbongan Road, Oshogbo. • PIT/PAYE remittance from the staff of the Nigerian Police in Oyo State.

viii) East Region
a) Enugu ITO 7, Ridgeway Rd, P.M.B. 1093, Enugu.
b) Awka ITO 43, Nnamdi Azikwe Avenue, Behind Union Bank, Awka.
c) Abakaliki ITO 37 Ogoja Road, Abakaliki.
d) Umuahia ITO 108, Aba Road, Umuahia.
e) Owerri ITO Km 3, Owerri/ Onitsha Road, Owerri.
ix) South – South Region
a) Benin ITO 53, Airport Road, Benin.
b) Calabar ITO 7, IBB Road, Uyo
c) Yenagoa ITO Otiotio Street, Yenagoa.
d) Uyo ITO 149, Ikot Ekpene Road, Uyo.
e) Asaba ITO Plot 4, Govt. House, Anwal Road, Asaba,

x) North-Central Region
a) All ITO within FCT, (Garki, Central, Wuse & G/Lada)
b) Bauchi ITO Federal Low Cost Housing Estate, Bauchi.
c) Jos ITO Adjacent to Federal Secretariat Complex, Jos
d) Lokoja ITO Ganaja Junction, P.M.B1116 Lokoja.
e) Lafia ITO Lubuna House, Makurdi Rd, Lafia.
f) Makurdi ITO Jonah Jang Crescent Road, Makurdi.
g) Minna ITO Adjacent to NACB Building Minna.

xi) North-West Region
a) Kaduna (North) ITO No.3, Broadcasting Road, Kaduna.
b) Katsina ITO
254A,IBB Way, Katsina.
c) Sokoto ITO Kano Road, Sokoto.
d) Gusau ITO 1, Park Road, Gusau.
e) Birni-Kebbi ITO Opp. Adamu Aleiro Housing Est., Gwadagaji Area.
f) Dutse ITO 9, Bagudu Road, Dutse.

x) North-East Region
a) Maiduguri ITO Airport Road, P.M.B 11175, Maiduguri.
b) Yola ITO Galadima Aminu Way, P.M.B 2115, Jimeta Yola.
c) Damaturu ITO Potiskum Rd, Opp. NTA, P.M.B 1095, Damaturu.
d) Gombe ITO Sabon Line, Opp. Chimax Inter-biz, Gombe.
e) Jalingo ITO No.7, Barde Way, P.M.B 1108, Jalingo

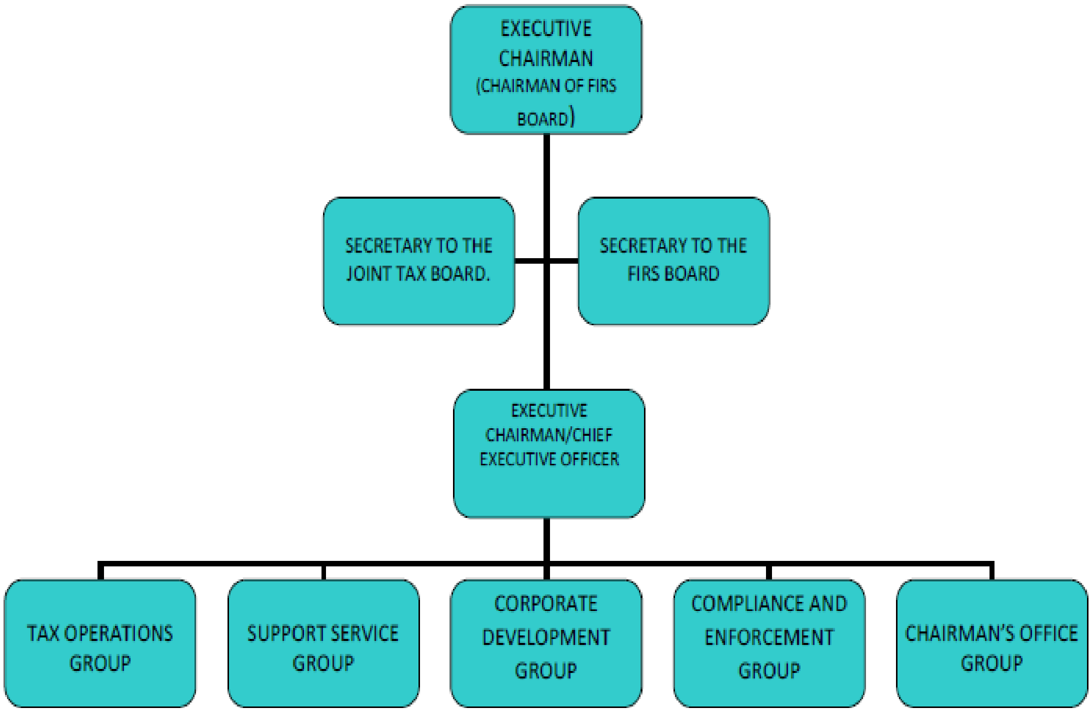
* Tax offices operating in the geographical areas covered by the study

Sources: 1. http://www.jtb.gov.ng/node/45 2. http://www.firs.gov.ng/employers/.aspx

# Appendix 3

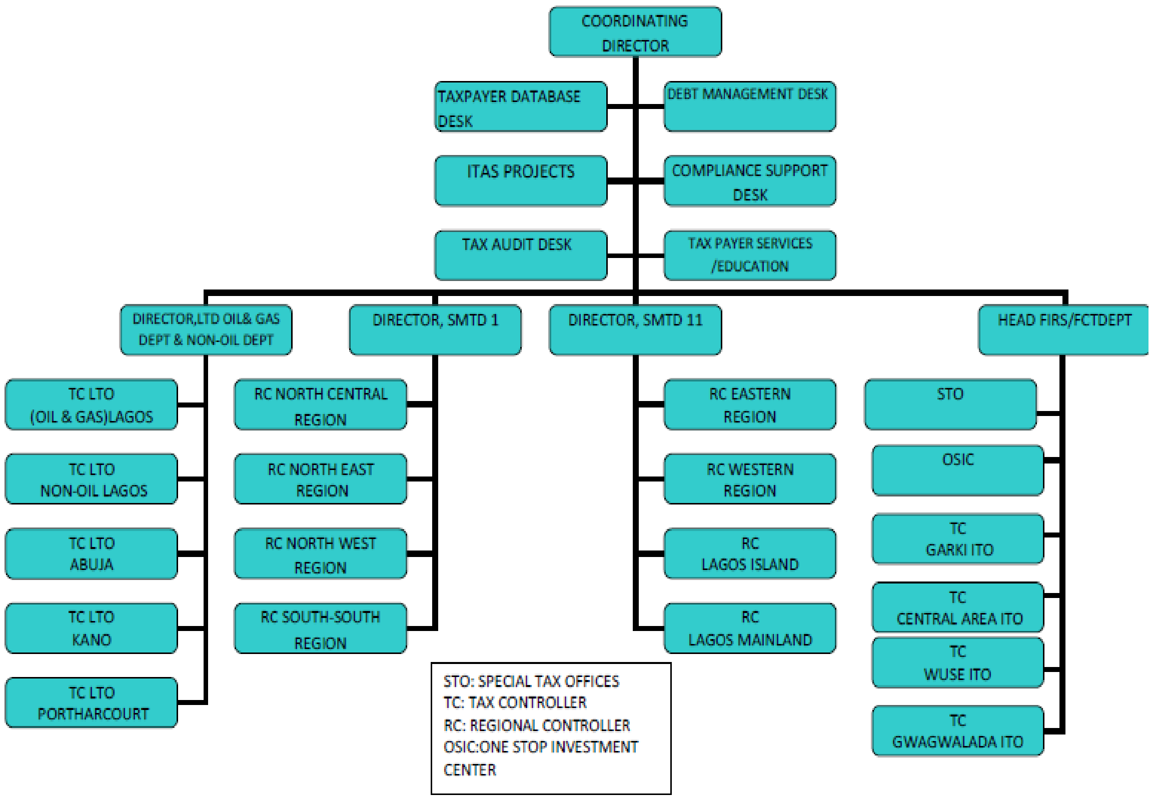
## Federal Inland Revenue Service Organization Structure

**FIRS ORGANIZATION STUCTURE**



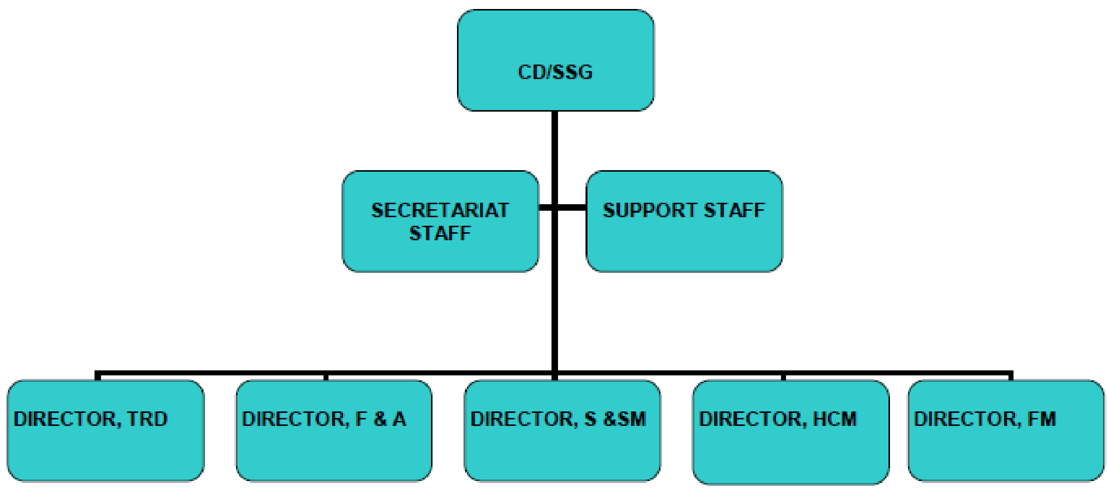

Source: www.firs.gov.ng

**TAX OPERATIONS GROUP ORGANOGRAM**



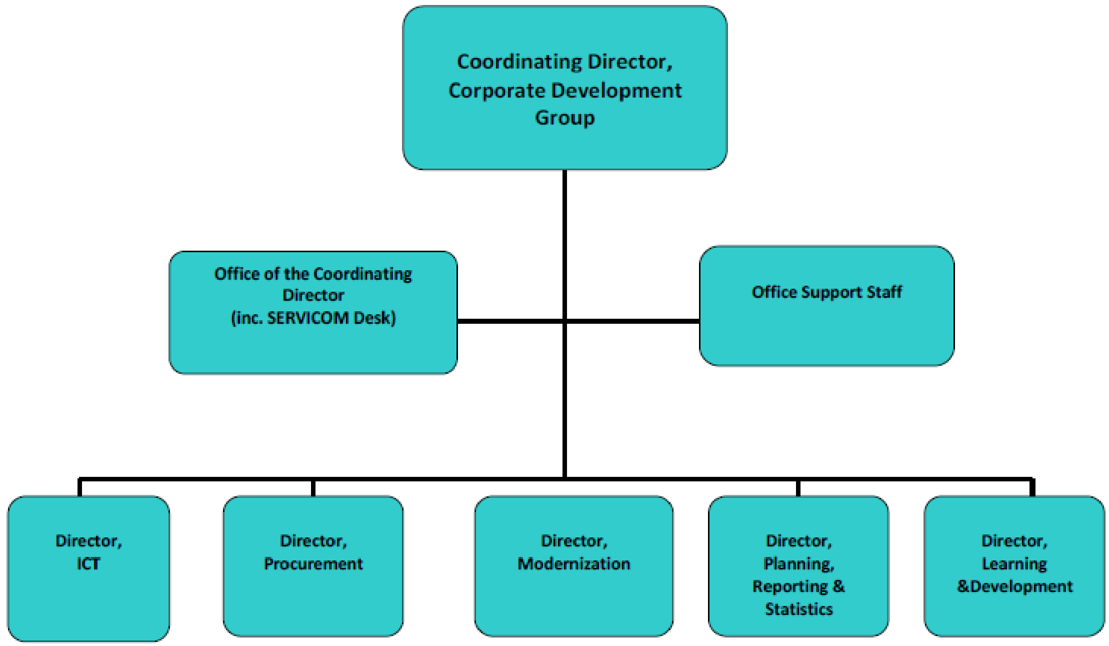

Source: www.firs.gov.ng

**SUPPORT SERVICE GROUP ORGANOGRAM**



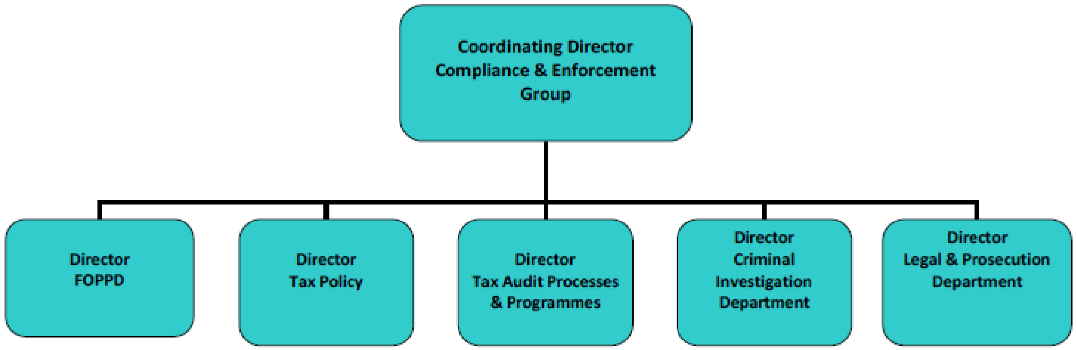

Source: www.firs.gov.ng

CDG ORGANOGRAM



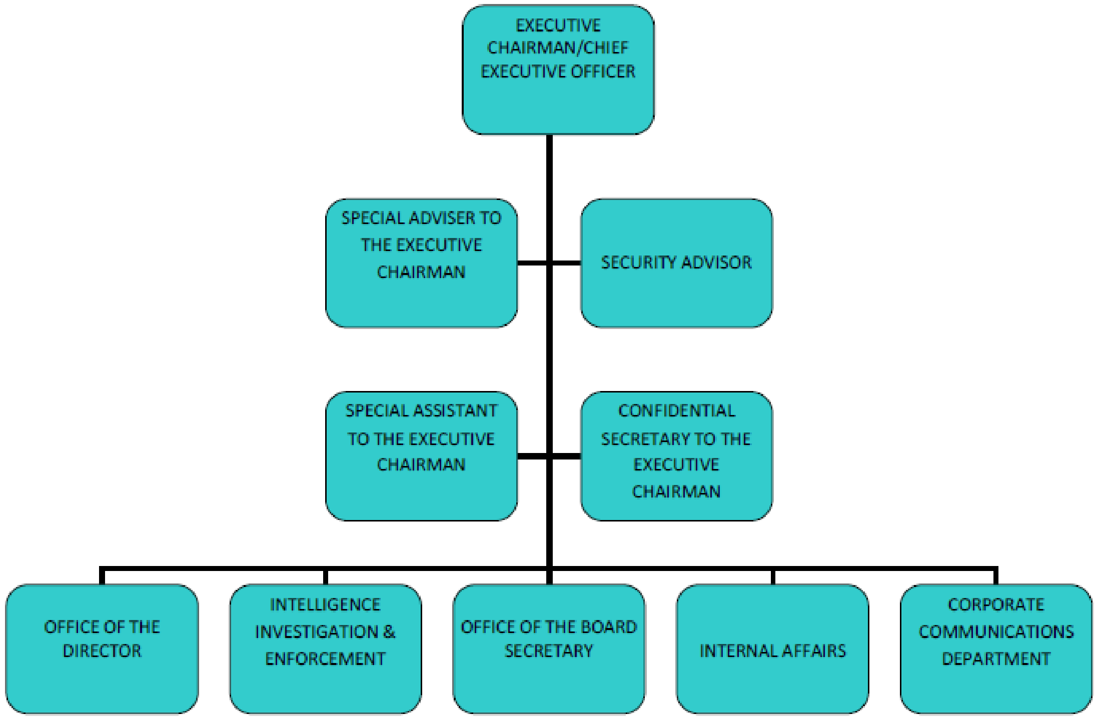

Source: www.firs.gov.ng

CEG ORGANOGRAM




Source: www.firs.gov.ng

**CHAIRMAN'S OFFICE GROUP ORAGNOGRAM**




Source: www.firs.gov.ng

# Appendix 4

## Summary of Empirical Studies on Tax Compliance

## Summary of Empirical Studies on Tax Compliance 1976 - 2011

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Abdullahi, S., & Ahmad, H. (2002) | The influence of demographic factors towards tax compliance in UUM | Survey | No significant differences in tax variables between gender, age, **income levels, profession** and education . Weak negative relationship perceived tax fairness and perceived **tax Structure complexity.** |
| Alm, J &.Mckee, M. (2006) | Audit certainity,audit productivity & tax payer compliance. | Experiment | **Audit** increase compliance as a result of available information. |
| Alm, J.& Gomez, L. (2008) | Social capital & tax morale in Spain | Survey | Individual willingness to pay tax is significantly & positively associated with his perception of the benefit of the **government services** & perceived size of **corruption** influences directly & negatively the payment of tax. |
| Alm, J.,Bahl, R.& Murray,M.V. (1990) | Auditing selection & income tax under reporting in tax compliance game | Experiment | Probability of under reporting is positively related to the marginal **tax rate** |
| Alm,J.,Deskin,S.& Mckee,M.(2004) | Tax evasion & entrepreneurship: The effect income reporting policies on Evasion. An experimental approach | Experiment | The compliance rates decline with lower **audit rates** & with higher **tax rate** |
| Alm, J.,Jackson, B.R. & Mckee, M. (1992) | Estimating the determinants of tax payers compliance with experimental data | Experiment | Taxpayers income reporting increases with greater **audit & penalty rates**. Compliance is greater with lower **tax rate** & greater exchange **of public goods & services.** |
| Aripin, N., Kasipillai, J., & Amran, N. (2002) | The influence of education on tax avoidance and tax evasion. | | Established significant between education and tax compliance. |
| Blackwell,C. (2007) | A meta analysis of tax compliance. | Review | Strong evidence that increase in **penalty rates, the probability of detection** & marginal per capital return to the **public goods** lead to higher compliance. |

**Summary of Empirical Studies on Tax Compliance (Continued)**

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Bobek, D. D.& Hatfied,R.C.(2003) | An investigation of the theory of Planned Behaviour & the role of moral obligation in tax compliance. | Survey | Higher levels of **moral obligation** alone could not fully eliminate tax noncompliance & conclude that ethical belief will improve compliance for taxpayers with lower levels of moral development. |
| Birskyte ,L .(2008) | The effect of IRS audit rate on the state Individual income tax compliance. | Econometric Analysis. | Higher federal **audit rate** translate into higher state income tax compliance. |
| Clotfelter, C.T. (1983) | Tax evasion & tax rates: An analysis of individual returns. | Experiment | Tax noncompliance increases with increased in marginal **tax rate** |
| Chan,C.W.,Troutman, C.S.,& O'Bryan,D. (2000). | An expanded model of tax payer compliance: Experimental evidence from US & HongKong. | Survey | **Income level,**and **morality** is not directly relate to tax compliance behaviour but **cultura**l differences was significant. |
| Devos,K .(2005) | The attitude of tertiary students on tax evasion & the penalties for tax evasion: A pilot study & demographic analysis. | Survey | Demographic factors such as gender, age , nationality, education, **employment & income level** were statistically significant with tax non Compliance & **penalty** was insignificant. |
| Devos, K .(2008) | Tax evasion behavior & demographic factors: An exploratory study in Australia | Survey | Shows among other things **ethnicity, occupation** and **personal income** had statistical significant relationship with tax noncompliance. |
| Dubin, J.A.,Graetz, M. J & Wilde, L.L (1985) | The effect of audit rate on Federal individual income tax | Econometric Analysis. | Steadily declined in **audit rate** over the years in US had lead to drop in compliance behavior. |

**Summary of Empirical Studies on Tax Compliance (Continued)**

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Erard,B.& Feinstein,, J.S. (1994) | The role of moral sentiment & audit perception in tax compliance. | Survey | **Tax audit** misconception & **moral** sentiment were shaping compliance behaviour. |
| Fjeldstad,O.& Semboja, J.(2001) | Why people pay taxes: The case of the development levy in Tanzania**.** | Survey | Tax compliance is positively related to **income level**, perceived **probability of the detection** & discontent with **public service** delivery appeared to increase tax payment resistance |
| Froest, A ,Sheffrin, B.M. (2002) | Complexity &compliance: An empirical investigation. | Survey | Simplifying the tax system has no effective deterrent to tax non compliance because tax payers did not necessarily consider the **complex** tax system to be unfair. |
| Fischers, C.M. (1993) | Perceived detection probability & tax payer compliance: A conceptual & empirical examination. | Survey | Actual **detection rate** for some types of noncompliance are very low. The tax enforcement experiences, opportunity to evade taxes, use of a adviser & exposure to media coverage of tax issue influence **detection probability** |
| Friedlend, N., Maital, S. & Rutenberg, A. (1978) | A simulation study of income tax evasion | Experiment | Large **tax fines** were more effective deterrent than frequent **audit** of on non compliance & increased **tax rate** increases under reporting of income. |
| Feld,,L & Schneider , A. J. (2007) | Tax evasion, black activities and deterrence in Germany: An institutional & empirical perspective. | Survey | Impact of punishment (**penalty**) measures on the size of tax non-compliance was ambiguous while **detection** did not have any impact on the size of non compliance. |
| Hammar, H.. Jager, S.C., & Nordlom, K**.** (2005) | Tax evasion & important of thrust | Survey | Distrust in politicians increases perception of tax noncompliance & if **tax rate** is regarded high, the noncompliance behaviour increased. |

**Summary of Empirical Studies on Tax Compliance (Continued)**

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Ho, D.& Wong, B. (2008) | Issues on compliance & ethics in taxation: What do we know? | Case Analysis | Ethical belief is effective way to improve tax compliance among taxpayers with lower level of **moral** development. Tax compliance rates is higher among taxpayers with stronger **moral** belief that tax noncompliance is unethical . |
| Jabbar, H., & Manaf, N.A (2006) | A survey of perception towards tax evasion as a crime. | Survey | Significant differences on perception of tax evasion among **ethnic groups**, education and employment sectors |
| Kasipillai, J.& Jabar, H.A. (2006) | Gender & ethnicity differences in tax compliance. | Survey | Gender, academic qualification & tax return preparers were statistically significant as tax noncompliance determinants. Found no dissimilarity in the compliance attitude of major **ethnic** group of Malaysia. |
| Mason, R. & Calvin, L.D. (1985) | Public confidence & admitted tax evasion | Survey | People belief that they cheat as a result of high **tax rate**. |
| Martinez-Vasquez, Rider (2005) | Multiple mode of tax evasion: Theory & evidence | Econometric Analysis | Negative relationship exist between **tax rate** and **income** as well as deduction reporting and increase **enforcement** effort have positive overall effect on compliance behavior of taxpayers. |
| Manaf, N.A.A., Hasseldine. J., Hodges, R. (2005) | The determinants of Malaysian land tax payer compliance attitude. | Survey | Age, **race**, education, **income, occupation and ethics** significantly influenced taxpayers' compliance attitude & understanding of tax law as well as incentive are statistically related to compliance attitude. |
| McGee,R.W.& Tyler,M,.(2006) | Tax evasion & ethics: A demographic study of 33 countries. | Survey | Noncompliance is not unethical if tax collected winds up in the pocket of **corrupt** politicians, and **tax system unfair** |

**Summary of Empirical Studies on Tax Compliance (Continued)**

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Reckers, P.M.J., Sanders, L.& Roark, S. J. (1994). | The influence of ethical attitudes on tax payer compliance. | Survey | Tax compliance rate is higher when taxpayer has a stronger **moral** belief that tax evasion is unethical. |
| Ristsema, C. M.& Thomas, D.W. (2003) | Economic & behavioural determinants of tax compliance: Evidence from 1997 Arkansa's tax penalty amnesty. | Survey | Filling status, **income** and opportunity to evade are positively related to tax owed and **financial constraint** is a factor related to failure to report and pay tax. |
| Richardson, G (2006) | Determinant of tax evasion: A cross country investigation. | Survey | Non economic determinants have the strongest impact in tax non compliance. **Complexity** is the most significant determinant of non compliance. The lower the complexity and the higher the level of general education, service **income source**, tax morale and fairness, the lower is the level of tax non compliance across countries. |
| Picur, R.D & Riahi-Belkaoui, A. (2006) | The impact of bureaucracy, corruption & tax compliance | Survey | Tax compliance internationally is positively related to successful control of **corruption.** |
| Riahi-Belkaoui, A. (2004) | Relationship between tax compliance internationally & selected determinants of tax morale. | Survey | Economic freedom, equity market and effectiveness of **rule of law** are positively related to tax compliance why **moral** is negative & significant. |
| Saad, N. (2011). | Fairness perceptions and compliance behavior: Taxpayers' judgments in self-assessment environment. | Survey | **Attitude** provides better explanation of tax compliance behaviour. Fair perception is influenced by **tax knowledge** and perceived **tax system complexity**. |
| Slemrod, J (1985) | An empirical test of tax evasion . | Survey | Tax non compliance is associated with characteristic of taxpayer such as marginal **tax rate**, **income, age** and marital status. |

**Summary of Empirical Studies on Tax Compliance (Continued)**

| Authors | Title of Research | Nature of the study | Results of study |
|---|---|---|---|
| Song, Y.& Yarbrough, T. (1987) | Tax ethics & tax payers attitude: A survey | Survey | Those with fiscal **knowledge** had more positive tax ethics scores. |
| Spicer, M.W & Lundstedt, S.B. (1976) | Understanding tax evasion. | Survey | Insignificant correlations between perceived **detection probability** and noncompliance. |
| Tedds, M. L. (2007) | Tax noncompliance and corporate governance | Survey | **Political instability** and regulatory burden among others are the determinants of tax noncompliance |
| Torgler, B., Schaffner, M. & Macintyre, A. (2007) | Tax compliance, tax morale & governance quality | Survey | **Quality of political** institutions has a strong observable effects on tax morale hence on tax compliance behavior |
| Wallshutzku, I. G. (1985) | Reforming the Australian income tax system to prevent tax avoidance and evasion | Survey | Very little difference in the **attitudes** of both the evader group and the general population and respondents based their compliance decision on **public goods** they received previously. |
| Witte, A .& Woodbury, D. (1985) | The effect of tax laws & tax admin. on tax compliance: The case of US individual income | Econometric Analysis | Positive relationship between **audit rate** on compliance and between severity of criminal sanction (**penalty**) and tax compliance |
| Udin, N., Kasipillai, J., & Ariffin, Z. (2003) | The influence of ethical attitudes on taxpayer compliance behavior. | Survey | Tax compliance is strongly influenced by ethical **attitudes** of taxpayers |
| Uslaner, E. M. (2007) | Tax evasion, corruption and the social contract in transition | Survey | People pay tax when they believe that they are getting something **(public goods)** for their tax money. |

Source: Author's Compilation

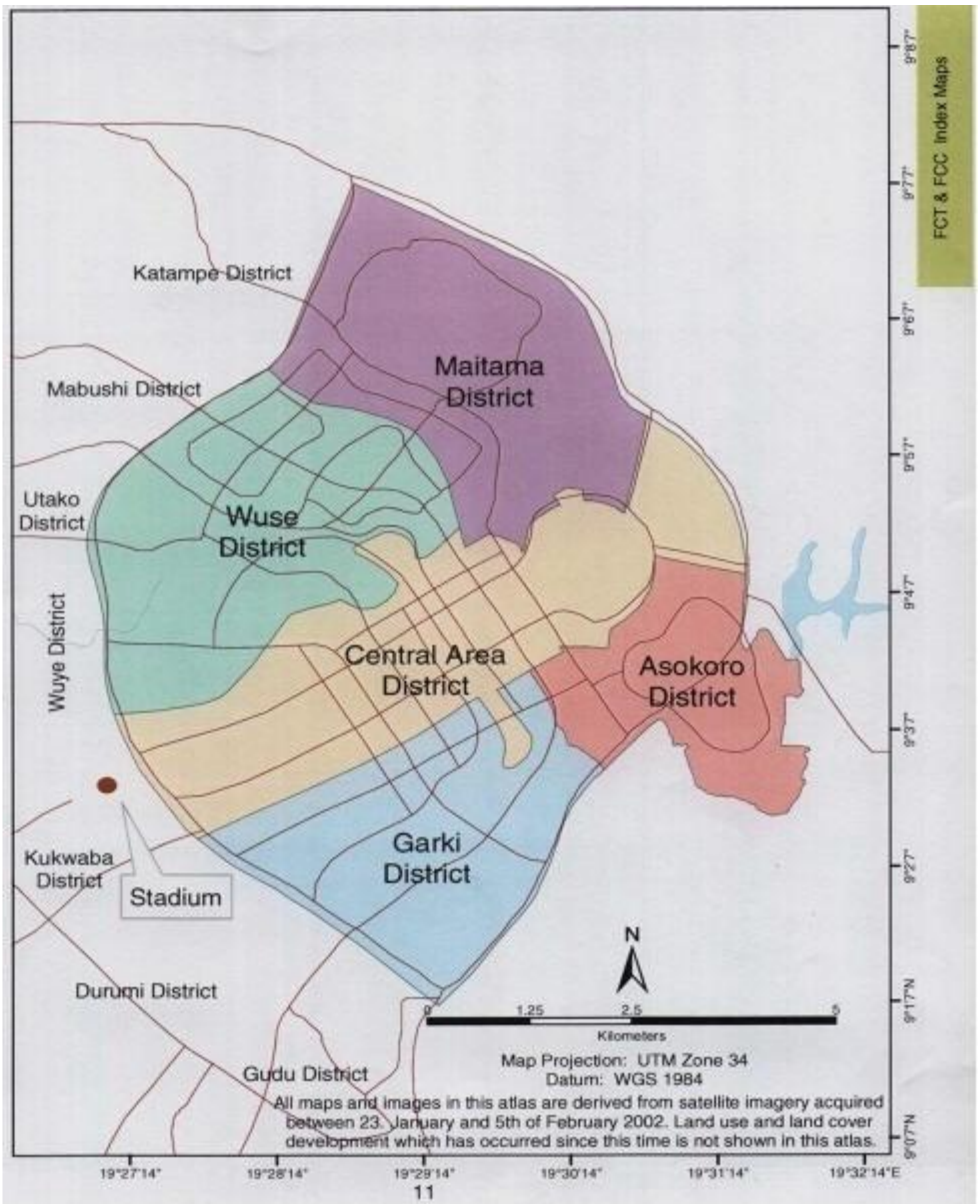
# Appendix 5

## Map of Nigeria and Abuja City

## Map of Nigeria


Source: www.ngex.com/nigeria/places

## Abuja City (Study Areas)




Source: 24timezones,com/mapa/Abuja.php

# Appendix 6

## Statistics on Federal Public Staff from various Nigeria's States

**Statistic on Federal Public Staff from various Nigeria's States**

| State | Grade level | | Total |
|---|---|---|---|
| | **1 -- 9** | **10 -- 17** | |
| Abia | 3,915 | 1,107 | 5,022 |
| Adamawa | 2,695 | 562 | 3,257 |
| Akwa Ibom | 6,365 | 1,139 | 7,504 |
| Anambra | 3,185 | 1,894 | 5,079 |
| Bauchi | 1,967 | 427 | 2,394 |
| Bayelsa | 1,226 | 273 | 1,499 |
| Benue | 4,939 | 909 | 5,848 |
| Borno | 2,373 | 578 | 2,951 |
| Cross River | 3,396 | 622 | 4,018 |
| Delta | 5,494 | 1,797 | 7,291 |
| Ebonyi | 867 | 139 | 1,003 |
| Edo | 5,541 | 1,373 | 6,914 |
| Ekiti | 2,794 | 868 | 3,662 |
| Enugu | 3,170 | 729 | 3,899 |
| Gombe | 1,424 | 373 | 1,797 |
| Imo | 7,118 | 2,117 | 9,235 |
| Jigawa | 888 | 208 | 1,096 |
| Kaduna | 4,349 | 795 | 5,144 |
| Kano | 2,137 | 644 | 2,781 |
| Kastina | 2,194 | 671 | 2,865 |
| Kebbi | 1,470 | 413 | 1,883 |
| Kogi | 6,055 | 1,404 | 7,459 |
| Kwara | 2,895 | 1,075 | 3,970 |
| Lagos | 3,328 | 1,091 | 4,419 |
| Nassarawa | 1,994 | 338 | 2,332 |
| Niger | 2,931 | 813 | 3,774 |
| Ogun | 7,373 | 1,775 | 9,148 |
| Ondo | 4,184 | 1,188 | 5,372 |
| Osun | 3,689 | 1,356 | 5,045 |
| Oyo | 4,133 | 1,053 | 5,186 |
| Plateau | 3,139 | 700 | 3,839 |
| River | 2,394 | 601 | 2,995 |
| Sokoto | 1,033 | 193 | 1,226 |
| Taraba | 1,552 | 298 | 1,820 |
| Yobe | 1,032 | 303 | 1,335 |
| Zamfara | 679 | 150 | 829 |
| FCT | 1,129 | 155 | 1,284 |
| **Total** | **115,047** | **30,043** | **145,145** |

Source :National Statistics Bureau, 2009

# Appendix 7

## Summary of the Population of Individual Taxpayers

* Tax offices operating in the geographical areas covered by the study

## FIRS: Individual Taxpayers Summary List - Business

**Total No of Taxpayers: 108050**

| | Region/Large Tax Dept. | Tax Office | No of Taxpayers |
|---|---|---|---|
| 1 | Eastern Region | Aba ITO | 768 |
| 2 | Eastern Region | Abakaliki ITO | 116 |
| 3 | Eastern Region | Awka ITO | 355 |
| 4 | Eastern Region | Enugu ITO | 702 |
| 5 | Eastern Region | Nnewi ITO | 85 |
| 6 | Eastern Region | Onitsha ITO | 173 |
| 7 | Eastern Region | Orlu ITO | 92 |
| 8 | Eastern Region | Osisioma ITO | 86 |
| 9 | Eastern Region | Owerri ITO | 1042 |
| 10 | Eastern Region | Umuahia ITO | 722 |
| 11 | Lagos Island Region | Ajah ITO | 819 |
| 12 | Lagos Island Region | Apapa ITO | 409 |
| 13 | Lagos Island Region | Broad Street ITO | 1061 |
| 14 | Lagos Island Region | Ikoyi ITO | 525 |
| 15 | Lagos Island Region | Victoria Island ITO | 723 |
| 16 | Lagos Mainland Region | Agege ITO | 824 |
| 17 | Lagos Mainland Region | Alaba ITO | 679 |
| 18 | Lagos Mainland Region | Alimosho ITO | 576 |
| 19 | Lagos Mainland Region | Festac ITO | 548 |
| 20 | Lagos Mainland Region | Ikeja ITO | 2961 |
| 21 | Lagos Mainland Region | Ikorodu ITO | 917 |
| 22 | Lagos Mainland Region | Ilupeju ITO | 981 |
| 23 | Lagos Mainland Region | Isolo ITO | 508 |
| 24 | Lagos Mainland Region | Surulere ITO | 2147 |
| 25 | Lagos Mainland Region | Yaba ITO | 728 |
| 26 | Large Tax Department | LTO Abuja | 2012 |
| 27 | Large Tax Department | LTO Kano | 51 |
| 28 | Large Tax Department | LTO Lagos (Non Oil) | 33 |
| 29 | Large Tax Department | LTO Lagos Oil and Gas | 5 |
| 30 | Large Tax Department | LTO Port Harcourt | 116 |
| 31 | North Central Region | Central Area ITO | 15130 |
| 32 | North Central Region | FCT SPECIAL TAX OFFICE | 4 |
| 33 | North Central Region | Garki ITO | 12451 |
| 34 | North Central Region | Gwagwalada ITO | 4860 |
| 35 | North Central Region | Lafia ITO | 401 |
| 36 | North Central Region | Lokoja ITO | 607 |
| 37 | North Central Region | Makurdi ITO | 1897 |
| 38 | North Central Region | Minna ITO | 1177 |
| 39 | North Central Region | Suleja ITO | 1208 |
| 40 | North Central Region | Wuse ITO | 11521 |
| 41 | North East Region | Azare ITO | 229 |
| 42 | North East Region | Bauchi ITO | 932 |
| 43 | North East Region | Damaturu ITO | 710 |
| 44 | North East Region | Gombe ITO | 709 |
| 45 | North East Region | Jalingo ITO | 246 |
| 46 | North East Region | Jos ITO | 1246 |
| 47 | North East Region | Maiduguri ITO | 359 |
| [illegible] | [illegible] | [illegible] | [illegible] |

FIRS WebPortal:Summary Taxpayer List

| | | | |
|---|---|---|---|
| 48 | North East Region | Mubi ITO | 1 |
| 49 | North East Region | Yola ITO | 547 |
| 50 | North West Region | Birnin Kebbi ITO | 628 |
| 51 | North West Region | Dutse ITO | 300 |
| 52 | North West Region | Funtua ITO | 86 |
| 53 | North West Region | Gusau ITO | 101 |
| 54 | North West Region | Kaduna I ITO | 1710 |
| 55 | North West Region | Kaduna II ITO | 653 |
| 56 | North West Region | Kafanchan ITO | 213 |
| 57 | North West Region | Kano I ITO | 737 |
| 58 | North West Region | Kano II ITO | 526 |
| 59 | North West Region | Katsina ITO | 767 |
| 60 | North West Region | Sokoto ITO | 359 |
| 61 | North West Region | Zaria ITO | 320 |
| 62 | South South Region | Asaba ITO | 554 |
| 63 | South South Region | Auchi ITO | 149 |
| 64 | South South Region | Benin ITO | 1564 |
| 65 | South South Region | Calabar ITO | 1259 |
| 66 | South South Region | Ikom ITO | 163 |
| 67 | South South Region | Port Harcourt ITO | 5752 |
| 68 | South South Region | Rumukwurushi ITO | 3005 |
| 69 | South South Region | Sapele ITO | 687 |
| 70 | South South Region | Uyo ITO | 1725 |
| 71 | South South Region | Warri ITO | 3213 |
| 72 | South South Region | Yenagoa ITO | 1506 |
| 73 | Western Region | Abeokuta ITO | 915 |
| 74 | Western Region | Adeoyo ITO | 852 |
| 75 | Western Region | Ado-Ekiti ITO | 533 |
| 76 | Western Region | Akure ITO | 1090 |
| 77 | Western Region | Ikare Akoko ITO | 134 |
| 78 | Western Region | Ilorin ITO | 565 |
| 79 | Western Region | Iwo Road ITO | 1118 |
| 80 | Western Region | Ore ITO | 46 |
| 81 | Western Region | Oshogbo ITO | 700 |
| 82 | Western Region | Ota ITO | 43 |
| 83 | Western Region | Oyo ITO | 279 |
| 84 | Western Region | Shagamu ITO | 799 |
| | TOTAL | | 108050 |

http://10.2.20.26/FIRSWebportal/Reports/SumTaxpayerList.aspx?RptType=1 03/11/2010

## FIRS: Individual Taxpayers Summary List - Employment

**Total No of Taxpayers: 174878**

| | Region/Large Tax Dept. | Tax Office | No of Taxpayers |
|---|---|---|---|
| 1 | Eastern Region | Aba ITO | 80 |
| 2 | Eastern Region | Abakaliki ITO | 157 |
| 3 | Eastern Region | Awka ITO | 801 |
| 4 | Eastern Region | Enugu ITO | 136 |
| 5 | Eastern Region | Nnewi ITO | 39 |
| 6 | Eastern Region | Onitsha ITO | 54 |
| 7 | Eastern Region | Orlu ITO | 61 |
| 8 | Eastern Region | Osisioma ITO | 35 |
| 9 | Eastern Region | Owerri ITO | 71 |
| 10 | Eastern Region | Stamp Duties Umuahia | 1 |
| 11 | Eastern Region | Umuahia ITO | 59 |
| 12 | Lagos Island Region | Ajah ITO | 11 |
| 13 | Lagos Island Region | Apapa ITO | 17 |
| 14 | Lagos Island Region | Broad Street ITO | 39 |
| 15 | Lagos Island Region | Ikoyi ITO | 29 |
| 16 | Lagos Island Region | Victoria Island ITO | 62 |
| 17 | Lagos Mainland Region | Agege ITO | 30 |
| 18 | Lagos Mainland Region | Alaba ITO | 13 |
| 19 | Lagos Mainland Region | Alimosho ITO | 38 |
| 20 | Lagos Mainland Region | Festac ITO | 22 |
| 21 | Lagos Mainland Region | Ikeja ITO | 125 |
| 22 | Lagos Mainland Region | Ikorodu ITO | 35 |
| 23 | Lagos Mainland Region | Ilupeju ITO | 21 |
| 24 | Lagos Mainland Region | Isolo ITO | 23 |
| 25 | Lagos Mainland Region | Surulere ITO | 37 |
| 26 | Lagos Mainland Region | Yaba ITO | 94 |
| 27 | Large Tax Department | LTO Abuja | 108026 |
| 28 | Large Tax Department | LTO Kano | 11 |
| 29 | Large Tax Department | LTO Lagos (Non Oil) | 2995 |
| 30 | Large Tax Department | LTO Lagos Oil and Gas | 270 |
| 31 | Large Tax Department | LTO Port Harcourt | 81 |
| 32 | North Central Region | Central Area ITO | 10044 |
| 33 | North Central Region | FCT SPECIAL TAX OFFICE | 108 |
| 34 | North Central Region | Garki ITO | 5804 |
| 35 | North Central Region | Gwagwalada ITO | 4184 |
| 36 | North Central Region | Lafia ITO | 2062 |
| 37 | North Central Region | Lokoja ITO | 56 |
| 38 | North Central Region | Makurdi ITO | 6779 |
| 39 | North Central Region | Minna ITO | 740 |
| 40 | North Central Region | Suleja ITO | 187 |
| 41 | North Central Region | Wuse ITO | 10621 |
| 42 | North East Region | Azare ITO | 39 |
| 43 | North East Region | Bauchi ITO | 77 |
| 44 | North East Region | Damaturu ITO | 20 |
| 45 | North East Region | Gombe ITO | 1634 |
| 46 | North East Region | Jalingo ITO | 579 |
| 47 | North East Region | Jos ITO | 101 |

| | | | |
|---|---|---|---|
| 48 | North East Region | Maiduguri ITO | 243 |
| 49 | North East Region | Yola ITO | 32 |
| 50 | North West Region | Birnin Kebbi ITO | 364 |
| 51 | North West Region | Dutse ITO | 76 |
| 52 | North West Region | Funtua ITO | 22 |
| 53 | North West Region | Gusau ITO | 5 |
| 54 | North West Region | Kaduna I ITO | 5033 |
| 55 | North West Region | Kaduna II ITO | 42 |
| 56 | North West Region | Kafanchan ITO | 1 |
| 57 | North West Region | Kano I ITO | 75 |
| 58 | North West Region | Kano II ITO | 98 |
| 59 | North West Region | Katsina ITO | 598 |
| 60 | North West Region | Sokoto ITO | 1786 |
| 61 | North West Region | Zaria ITO | 28 |
| 62 | South South Region | Asaba ITO | 13 |
| 63 | South South Region | Auchi ITO | 2 |
| 64 | South South Region | Benin ITO | 1042 |
| 65 | South South Region | Calabar ITO | 74 |
| 66 | South South Region | Ikom ITO | 7 |
| 67 | South South Region | Port Harcourt ITO | 518 |
| 68 | South South Region | Rumukwurushi ITO | 42 |
| 69 | South South Region | Sapele ITO | 5 |
| 70 | South South Region | Stamp Duties Benin | 1 |
| 71 | South South Region | Uyo ITO | 40 |
| 72 | South South Region | Warri ITO | 16 |
| 73 | South South Region | Yenagoa ITO | 4504 |
| 74 | Western Region | Abeokuta ITO | 15 |
| 75 | Western Region | Adeoyo ITO | 728 |
| 76 | Western Region | Ado-Ekiti ITO | 304 |
| 77 | Western Region | Akure ITO | 17 |
| 78 | Western Region | Ikare Akoko ITO | 2 |
| 79 | Western Region | Ilorin ITO | 340 |
| 80 | Western Region | Iwo Road ITO | 1817 |
| 81 | Western Region | Ore ITO | 1 |
| 82 | Western Region | Oshogbo ITO | 370 |
| 83 | Western Region | Ota ITO | 65 |
| 84 | Western Region | Oyo ITO | 44 |
| | **TOTAL** | | **174878** |

# Appendix 8

## Sample Size for a given Population Size

**Sample Size for a given Population Size**

| Population | Sample | Population | Sample | Population | Sample |
|---|---|---|---|---|---|
| 10 | 10 | 220 | 140 | 1,200 | 291 |
| 15 | 14 | 230 | 144 | 1,300 | 297 |
| 20 | 19 | 240 | 148 | 1,400 | 302 |
| 25 | 24 | 250 | 152 | 1,500 | 306 |
| 30 | 28 | 260 | 155 | 1,600 | 310 |
| 35 | 32 | 270 | 159 | 1,700 | 313 |
| 40 | 36 | 280 | 162 | 1,800 | 317 |
| 45 | 40 | 290 | 165 | 1,900 | 320 |
| 50 | 44 | 300 | 169 | 2,000 | 322 |
| 55 | 48 | 320 | 175 | 2,200 | 327 |
| 60 | 52 | 340 | 181 | 2,400 | 331 |
| 65 | 56 | 360 | 186 | 2,600 | 335 |
| 70 | 59 | 380 | 191 | 2,800 | 338 |
| 75 | 63 | 400 | 196 | 3,000 | 341 |
| 80 | 66 | 420 | 201 | 3,500 | 346 |
| 85 | 70 | 440 | 205 | 4,000 | 351 |
| 90 | 73 | 460 | 210 | 4,500 | 354 |
| 95 | 76 | 480 | 214 | 5,000 | 357 |
| 100 | 80 | 500 | 217 | 6,000 | 361 |
| 110 | 86 | 550 | 226 | 7,000 | 364 |
| 120 | 92 | 600 | 234 | 8,000 | 367 |
| 130 | 97 | 650 | 242 | 9,000 | 368 |
| 140 | 103 | 700 | 248 | 10,000 | 370 |
| 150 | 108 | 750 | 254 | 15,000 | 375 |
| 160 | 113 | 800 | 260 | 20,000 | 377 |
| 170 | 118 | 850 | 265 | 30,000 | 379 |
| 180 | 123 | 900 | 269 | 40,000 | 380 |
| 190 | 127 | 950 | 274 | 50,000 | 381 |
| 200 | 132 | 1,000 | 278 | 75,000 | **382** |
| 210 | 136 | 1,100 | 285 | 1,000,000 | 384 |

Source: Cavana, Delahaye andSekaran,2000. p.278

# Appendix 9

# Copy of Questionnaire together with Covering Letter

1ST November, 2010

College of Business,
Universiti Utara Malaysia,
Sintok,
Kedah State,
Malaysia.

Dear participant,

**A SURVEY ON THE FACTORS INFLUENCING TAX COMPLIANCE BEHAVIOUR IN NIGERIA**

As part of my Ph.D research, I am conducting a study to obtain information on taxpayers' attitude, perception and opinion about Nigerian personal income tax system. The main objective of the study is to determine factors influencing individual taxpayers' compliance behaviour in Nigeria. As a stakeholder in Nigerian personal income tax system, your participation in this survey is vital in order to obtain information needed for the success of the study. Your responses will be treated with ultimate confidence and used strictly for academic purpose.

I greatly appreciate your participation in the study. Thank you for your cooperation and giving part of your time for the survey.

Yours sincerely,

James O. Alabede
Ph.D. Candidate in Accounting

Supervisors Contact:
Dr. Zamiah Zainol Ariffin
Email: zaimah@uum.edu.my
Professor Dr.Kamil Md Idris
Email: kamil@uum.edu.my

**Instructions**

The following instructions will be helpful in completing of this form

1. The study is to obtain information about your attitude, perception and opinion on Nigerian personal income tax system therefore; there is no wrong or right answer to each question.
2. Please tick the box you consider appropriate for each question
3. Only one tick is to be made against each question as more than one tick will render the answer invalid.
4. Each question is included for a reason and it will add more value to the study if all the questions are ticked.

## Part 1: Tax Compliance Behaviour

Please read the situational case below assuming you were Musa, provide answer to the questions that follow.

| SITUATIONAL CASE | **Variable Code** |
|---|---|
| Musa retired from Federal Ministry of Education in 2007 and established an advertising business using a spare bedroom in his home as his office. He estimates that the annual cost of maintaining this office in his home is ₦ 30,000. Musa's unemployed graduate son use part of the office to operate computer business centre. The son pays nothing to Musa but it is estimated that maintenance cost of the part occupied by the son is ₦7,000 annually. According to the tax law, such maintenance cost should be exclusively for the interest of the business. At the end of 2007, Musa's incomes include:<br>- Total revenue from advertising business was ₦450,000 and total operating expenses of ₦90,000 excluding the office maintenance cost of ₦30,000.<br>- Musa also earned approximately ₦5, 000 each month from using his private car for commercial transport.<br>Personal Income Tax Law provides that tax return is to be filed with tax authority within 90 days from commencement of year (January) of assessment and tax should be paid within 60 days from the date of assessment notice . | |
| 1. If you were Musa, indicate the income you would include in your 2007 tax return<br>(i) ₦ 60,000 [ ] (ii) ₦ 450,000 [ ] (iii) ₦510, 000 [ ] (reverse) | **TCB1** |
| 2. If you were Musa, indicate how much you would deduct as business expenses in your 2007 tax return<br>(i) ₦127,000 [ ] (ii) ₦120,000 [ ] (iii) ₦113,000 [ ] | **TCB2** |
| 3. If you were Musa, indicate which of the dates below you would file income tax return for 2007<br>(i) 31st May, 2008 [ ] (ii) 27th April, 2008 [ ] (iii) 30th March, 2008 [ ] (reverse) | **TCB3** |
| 4. If you were Musa, indicate many days after receiving assessment notice would it take you to pay your income tax<br>(i) 120 day after [ ] (ii) 90 days after [ ]( iii) 60 days after [ ] (reverse) | **TCB4** |

## Part 2: Personal Financial Condition and Risk Preference

The statements below evaluate your financial situation and risk taking attitude; please indicate your agreement or disagreement with each of them

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 5. I am satisfied with my present financial situation | [ ] | [ ] | [ ] | [ ] | [ ] | FC1 |
| 6. I am living comfortable the way I should with present income | [ ] | [ ] | [ ] | [ ] | [ ] | |
| 7. I am having financial commitment to my extended family | [ ] | [ ] | [ ] | [ ] | [ ] | FC2 |
| 8.We are interested in your risk taking attitude, could you please indicate the extent to which any of the following have ever applied to you. | | | | | | FC3 |
| - Health risks ( eg smoking, high alcohol consumption) | [ ] | [ ] | [ ] | [ ] | [ ] | |
| - Financial risks (eg gambling, risky investment) | [ ] | [ ] | [ ] | [ ] | [ ] | RP1 |
| - Career risks (eg quitting a job without another to go to) | [ ] | [ ] | [ ] | [ ] | [ ] | RP2 |
| - Safety risks . ( eg fast driving, city cycling without a helmet) | [ ] | [ ] | [ ] | [ ] | [ ] | RP3 |
| - Social risks (eg standing for election, challenging a rule) | [ ] | [ ] | [ ] | [ ] | [ ] | RP4 |

## Part 3: Tax System Structure

The questions below ask your perceptions about the tax system structure in Nigeria.

(A).Imagine Mr. A has been paid some amounts in cash for work that him has done outside his regular job. He did not declare it on his income tax return. Indicate the extent of your agreement or disagreement with the statements below:

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 9. There is low chance that Mr A will be caught by the tax authority, if the amount he was paid is ₦100,000 | [ ] | [ ] | [ ] | [ ] | [ ] | TS1 |
| 10. There is high chance that Mr A will be caught by the tax authority, if the amount he was paid is ₦10,000 | [ ] | [ ] | [ ] | [ ] | [ ] | TS2 |

(B).Imagine Mr A has claimed some amounts as work deductions when the expenses have nothing to do with work. Indicate the extent of your agreement or disagreement with the statements below:

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | |
|---|---|---|---|---|---|---|
| 11. There is high chance that Mr A will be caught by the tax authority, if the amount he claimed as deduction is ₦50,000 | [ ] | [ ] | [ ] | [ ] | [ ] | TS3 |
| 12. There is low chance that Mr A will be caught by the tax authority, if the amount he claimed as deduction is ₦5,000 | [ ] | [ ] | [ ] | [ ] | [ ] | TS4 |

(C). Assuming Mr A did get caught not declaring and deducting the amount stated in (9) and (11) above respectively, indicate how much a problem do you think the following legal consequences would be to Mr A.

| | No 1 | Small 2 | Medium 3 | Large 4 | Very large 5 | |
|---|---|---|---|---|---|---|
| 13. Pay the tax he owes with interest. | [ ] | [ ] | [ ] | [ ] | [ ] | TS5 |
| 14. Pay substantial fine and pay the tax he owes with interest. | [ ] | [ ] | [ ] | [ ] | [ ] | TS6 |
| 15. Taken to court and pay the tax he owes with interest. | [ ] | [ ] | [ ] | [ ] | [ ] | TS7 |
| 16. Taken to court, pay substantial fine and pay the tax he owes with interest. | [ ] | [ ] | [ ] | [ ] | [ ] | TS8 |

| (D). Indicate your agreement or disagreement on the following statements in respect to tax rate in Nigeria. | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 17. It is fair that the more you earned the higher the rate of income tax | [ ] | [ ] | [ ] | [ ] | [ ] | **TS9** |
| 18. It is not fair that high income earner pay proportionately more than low income earner. | [ ] | [ ] | [ ] | [ ] | [ ] | **TS10** |
| 19.A fair tax rate should be the same for everyone regardless of their income | [ ] | [ ] | [ ] | [ ] | [ ] | **TS11** |
| 20. The share of the total income taxes paid by high income earners is not too much high. | [ ] | [ ] | [ ] | [ ] | [ ] | **TS12** |
| 21. Middle –income earners pay more than fair share of the income tax burden | [ ] | [ ] | [ ] | [ ] | [ ] | **TS13** |
| 22. The share of total income taxes paid by low income is not too high | [ ] | [ ] | [ ] | [ ] | [ ] | **TS14** |
| (E).Please indicate the extent of your agreement or disagreement on the following statements pertaining the complexity of Nigerian tax system. | | | | | | |
| 23. There are ambiguities in the tax law, which may lead to more than one defensible positions | [ ] | [ ] | [ ] | [ ] | [ ] | **TS15** |
| 24. Not too many computations must be made before tax is payable | [ ] | [ ] | [ ] | [ ] | [ ] | **TS16** |
| 25. There have been frequent changes in the tax laws | [ ] | [ ] | [ ] | [ ] | [ ] | **TS17** |
| 26. There are no excessive details in the tax laws, such as rules and exemption to the rule. | [ ] | [ ] | [ ] | [ ] | [ ] | **TS18** |
| 27. Detailed special records must be kept by taxpayers to comply with tax laws | [ ] | [ ] | [ ] | [ ] | [ ] | **TS19** |
| 28. The number of tax forms to be completed is numerous thereby causing confusion | [ ] | [ ] | [ ] | [ ] | [ ] | **TS20** |

## Part 4: Tax Knowledge

The questions in this section are for you to indicate which items of income to be included in tax return and expenses to be deducted on the tax return.

| | Yes | No | Don't Know | Variable Code |
|---|---|---|---|---|
| 29 Are the following income taxable under Nigerian income tax law?: | | | | |
| i) interest on saving account | [ ] | [ ] | [ ] | **TK1** |
| ii) Rent received from letting out a house | [ ] | [ ] | [ ] | **TK2** |
| iii) Dividend received from a company | [ ] | [ ] | [ ] | **TK3** |
| 30. Are the following business/personal expenses allowed for deduction under Nigerian income tax law?: | | | | |
| i) Provision for doubtful debt | [ ] | [ ] | [ ] | **TK4** |
| ii) Medical expenses | [ ] | [ ] | [ ] | **TK5** |
| iii) Loss on sale of company shares | [ ] | [ ] | [ ] | **TK6** |

## Part 5: Perceived Tax Service Quality

The questions below are for you to express your feeling about the quality of tax services render by tax office to taxpayers in Nigeria in the course of discharging their tax obligations.

(A).Please indicates your agreement or disagreement with following statements on the perception about the quality of interaction between you and tax office employees.

| Statement | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 31.I can count on the employees of tax office as being friendly | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ1** |
| 32.The attitude of tax employees demonstrates their unwillingness to help me | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ2** |
| 33. I cannot count on tax employees taking actions to address my tax service needs | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ3** |
| 34. Tax employees respond quickly to my tax service needs | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ4** |
| 35. The behaviour of tax employees indicates to me that they do not understand my needs | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ5** |
| 36 .I can count on tax employees knowing their tax job well | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ6** |
| 37. Tax employees understand that I rely on their tax knowledge to meet my needs | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ7** |
| 38. Overall, I would say the quality of my interactions with tax office's employees is excellent | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ8** |

(B) Please indicate whether you agree or disagree with the following statements relating to quality of the tax office environment.

| Statement | 1 | 2 | 3 | 4 | 5 | Variable Code |
|---|---|---|---|---|---|---|
| 39. At tax office, you can rely on the good atmosphere of the environment | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ9** |
| 40. Tax office's environment do not have ambiance that I am looking for in any office | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ10** |
| 41. Tax office understands that its atmosphere is important to me | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ11** |
| 42. Tax office's outlay has failed to impress me | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ12** |
| 43. Tax office's outlay does not serve my purpose | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ13** |
| 44. Tax office understands that the design of its facility is important to me | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ14** |
| 45. I find that other taxpayers consistently leave the tax office with a good impression of its service. | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ15** |
| 46. Tax office understands that the other taxpayers' patronage affect my perception of its service. | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ16** |
| 47. I would say that tax office's physical environment is not one of the best office environment in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ17** |
| 48. I would rate tax office's physical environment highly | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ18** |

(C) The statements below are relating to your perception about the outcome of tax service quality by the revenue office.

| Statement | 1 | 2 | 3 | 4 | 5 | Variable Code |
|---|---|---|---|---|---|---|
| 49. Waiting time at tax office is not predictable | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ19** |
| 50.Tax office tries to keep my waiting time to a minimum | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ20** |

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 51.Tax office does not understand that waiting time is important to me | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ21** |
| 52. I am consistently pleased with the provision of service at the tax office | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ22** |
| 53. I do not like tax office because it has no modern equipment to provide service | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ23** |
| 54. Tax office knows the kind of the service that the taxpayers are looking for | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ24** |
| 55. When I leave tax office I usually feel that I had no good experience | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ25** |
| 56. I believe that tax office tries to give good service experience | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ26** |
| 57. I believe that tax office does not know the type of experience the taxpayers want | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ27** |
| 58. I would say that tax office provide superior service | [ ] | [ ] | [ ] | [ ] | [ ] | **TSQ28** |

## Part 6: Public Governance Quality

The following statements enable you to express your perception about quality of public governance in Nigeria, please indicate your agreement or disagreement with each of them.

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 59. I trust the National Assembly in making good laws for Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ1** |
| 60. There is no free and fair election in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ2** |
| 61. There is wastefulness in government expenditure | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ3** |
| 62. I have access to the published accounts and annual report of Federal Government | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ4** |
| 63. I am not satisfied with quality of general infrastructure in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ5** |
| 64. Nigerian public servants are not vulnerable to political interference | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ6** |
| 65. I am satisfied with the manner the government is handling the health service | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ7** |
| 66. I am not satisfied with the manner the government is handling the education system | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ8** |
| 67. I trust the financial honesty of Nigerian politicians | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ9** |
| 68. The diversion of public funds due to corruption is common in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ10** |
| 69.Frequently, individual and firms make extra payments in connection to tax payment, loan application, securing contract etc | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ11** |
| 70. Political stability is not declining in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ12** |
| 71. Political protest is threat to Nigeria's stability | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ13** |
| 72. Ethnic and religious conflict is not a threat to stability in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ14** |
| 73. Nigeria's Judiciary is free of interference of other arms of government | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ15** |
| 74.Justice is not fairly administered in Nigeria | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ16** |
| 75. Nigerian police force is effective in combating crime | [ ] | [ ] | [ ] | [ ] | [ ] | **PGQ17** |

## Part 7: Attitude towards Tax Evasion

Please the following items are for you to express your feeling and believe about tax evasion

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 76. Not declaring my extra income of ₦20,000 on my tax return is serious offence. | [ ] | [ ] | [ ] | [ ] | [ ] | ATT1 |
| 77. Claiming a nonexistent deduction of ₦5,000 on my tax return is not serious offence. | [ ] | [ ] | [ ] | [ ] | [ ] | ATT2 |
| 78.Receiving ₦50,000 in income support as a result of declaring lower income than is the case is serious offence | [ ] | [ ] | [ ] | [ ] | [ ] | ATT3 |
| 79. One cannot criticize a person who declares lower income than was the case on his/her tax return when there are so many others doing the same | [ ] | [ ] | [ ] | [ ] | [ ] | ATT4 |
| 80. One can criticize others who exploit the many possibilities there are to evade taxes | [ ] | [ ] | [ ] | [ ] | [ ] | ATT5 |
| 81.You can defend people who evade taxes because the tax system is unfair | [ ] | [ ] | [ ] | [ ] | [ ] | ATT6 |
| 82. I think robbing a kiosk of ₦1,000 is not a serious illegality | [ ] | [ ] | [ ] | [ ] | [ ] | ATT7 |
| 83. I think embezzling ₦ 10,000 from an association which I am a member is a serious illegality | [ ] | [ ] | [ ] | [ ] | [ ] | ATT8 |
| 84. I think stealing a wallet containing ₦500 is not a serious illegality | [ ] | [ ] | [ ] | [ ] | [ ] | ATT9 |

## Part 8: Moral Reasoning

Please indicate if you agree or disagree with the following statements. Each statement represents a commonly held opinion and there is no right or wrong answer

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | Variable Code |
|---|---|---|---|---|---|---|
| 85. People should be certain that their action never intentionally harm another even to a degree. | [ ] | [ ] | [ ] | [ ] | [ ] | MR1 |
| 86. Risks to another should never be tolerated, irrespective of how small the risk might be. | [ ] | [ ] | [ ] | [ ] | [ ] | MR2 |
| 87. The existence of potential harm to others is always wrong, irrespective of the benefit to be gained | [ ] | [ ] | [ ] | [ ] | [ ] | MR3 |
| 88. One should not psychologically and physically harm another person | [ ] | [ ] | [ ] | [ ] | [ ] | MR4 |
| 89. One should perform an action which might in any way threaten the dignity and welfare of another individual | [ ] | [ ] | [ ] | [ ] | [ ] | MR5 |
| 90. If an action could harm an innocent other, then it should not be done | [ ] | [ ] | [ ] | [ ] | [ ] | MR6 |
| 91. Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral | [ ] | [ ] | [ ] | [ ] | [ ] | MR7 |
| 92. The dignity and welfare of the people should not be most important concern in any society | [ ] | [ ] | [ ] | [ ] | [ ] | MR8 |
| 93. It is never necessary to sacrifice the welfare to others | [ ] | [ ] | [ ] | [ ] | [ ] | MR9 |
| 94. Moral behaviours are actions that closely match ideas of most “perfect action” | [ ] | [ ] | [ ] | [ ] | [ ] | MR10 |

**Part 9: Demographic Information**

| i) Gender : | | ii) Ethnic Group: **ED1** | |
|---|---|---|---|
| Male | [ ] | Hausa | [ ] |
| Female | [ ] | Yoruba | [ ] |
| | | Igbo | [ ] |
| | | North minority | [ ] |
| | | South minority | [ ] |

| iii) Age groups | | iv) Indicate your highest educational attainment from the following education backgrounds | |
|---|---|---|---|
| 20 – 30 years | [ ] | | |
| 31 – 40 years | [ ] | Primary school education | [ ] |
| 41 – 50 years | [ ] | Junior secondary education | [ ] |
| 51 – 60 years | [ ] | Senior secondary education | [ ] |
| Above 60 years | [ ] | Polytechnic/University diploma | [ ] |
| | | Polytechnic/University BSc & HND | [ ] |
| | | University Master degree/ Ph.D | [ ] |

| v) Source of income **NCO2** | | vi). Occupation **NCO1** | |
|---|---|---|---|
| Public sector | [ ] | Professional | [ ] |
| Private sector | [ ] | Managerial/ Executive | [ ] |
| Self employed | [ ] | Engineering/Technical | [ ] |
| Others | [ ] | Administrative/Clerical | [ ] |
| | | Owner manager | [ ] |

| vii) Please indicate which group your average monthly income from all sources before other deductions and taxes is: **NCO3** | | viii) Religion **ED2** | |
|---|---|---|---|
| Less than ₦50,0000 | [ ] | Islam | [ ] |
| ₦50,000 -- 99,999 | [ ] | Christian | [ ] |
| ₦100,000 -- 149,999 | [ ] | Traditional religion | [ ] |
| ₦150,000 -- 199,999 | [ ] | | |
| ₦ 200,000 -- 249,999 | [ ] | | |
| ₦ 250,000 or more | [ ] | | |

**Key to Variable Codes:**
TCB = Tax Compliance Behaviour
FC = Financial Condition
TK = Tax Knowledge
RP = Risk Preference
TS = Tax System Structure
TSQ = Perceived Tax Service Quality
PGQ = Public Governance Quality
ATT = Attitude towards Tax Evasion
MR = Moral Reasoning
ED = Ethnical Diversity
NCO = Noncompliance Opportunity

# Appendix 10

## Letter from College of Business, Universiti Utara Malaysia

UNIVERSITI UTARA MALAYSIA
06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 - 928 4000

College of Business

"KEDAH SEJAHTERA"

UUM/COB/A-3 (92688)

October 10, 2010

Federal Inland Revenue Service
Chairman's Office
05 NOV 2010
RECEIVED
Abuja

THE EXECUTIVE CHAIRMAN
FEDERAL INLAND REVENUE SERVICE
REVENUE HOUSE, ABUJA
NIGERIA

Dear Sir/Madam

**DATA COLLECTION**

**COURSE : PhD (Accounting)**
**LECTURER : Dr. Zaimah Ariffin & Assoc. Prof. Dr. Kamil Md. Idris**

This is to certify that the following is a postgraduate student from the College of Business, Universiti Utara Malaysia. He is pursuing the above mentioned course which requires him to undertake an academic study at any organisation. The details are as follows:

| NO. | NAME | MATRIC NO. |
|---|---|---|
| 1. | James Oladapo O. Alabede | 92688 |

In this regard, I hope that you could kindly provide assistance and cooperation for him to succesfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

**"ILMU BUDI BAKTI"**

Yours faithfully,

**ROSLEE BIN MARDAN**
Assistant Registrar
College of Business

c.c - Student's File (92688)

MSC MALAYSIA Status Institution

UNIVERSITI UTARA MALAYSIA

06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 - 928 4000

*College of Business*

"KEDAH SEJAHTERA"

UUM/COB/A-3 (92688)

October 10, 2010

FEDERAL INLAND REVENUE SERVICE
Garki Integrated Tax Office
(TAX PAYER SERVICES UNIT)
RECEIVED
Date... 5/11/10
Sign...

AREA TAX CONTROLLER
LARGE TAX OFFICE
FEDERAL INLAND REVENUE SERVICE
NACB BUILDING
ABUJA, NIGERIA

AREA TAX CONTROLLER
GARKI INTEGRATED TAX OFFICE (ITO)
FEDERAL INLAND REVENUE SERVICE
CITY PLAZA, AHMADU BELLO WAY
GARKI-ABUJA, NIGERIA

AREA TAX CONTROLLER
WUSE INTEGRATED TAX OFFICE, (ITO)
FEDERAL INLAND REVENUE SERVICE
PLOT 48, SUDAN STREET, ZONE 6
WUSE-ABUJA, NIGERIA

AREA TAX CONTROLLER
CENTRAL INTEGRATED TAX OFFICE (ITO)
FEDERAL INLAND REVENUE SERVICE
DWENA HOUSE, CENTRAL BUSINESS
DISTRICT, ABUJA, NIGERIA

Dear Sir/Madam

**DATA COLLECTION**

| | | |
|---|---|---|
| COURSE | : | PhD (Accounting) |
| LECTURER | : | Dr. Zaimah Ariffin & Assoc. Prof. Dr. Kamil Md. Idris |

This is to certify that the following is a postgraduate student from the College of Business, Universiti Utara Malaysia. He is pursuing the above mentioned course which requires him to undertake an academic study at any organisation. The details are as follows:

| NO. | NAME | MATRIC NO. |
|---|---|---|
| 1. | James Oladapo O. Alabede | 92688 |

In this regard, I hope that you could kindly provide assistance and cooperation for him to succesfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

CERTIFIED TRUE COPY

ROSLEE MARDAN
Assistant Registrar
UUM Kolej Perniagaan
Universiti Utara Malaysia

18/10/10

QUALITY SYSTEM SIRIM MS ISO 9001 : 2000 REG. NO. AR 2471

MSC MALAYSIA Status Institution

# Appendix 11

## Letter from Federal Polytechnic Bauchi, Nigeria

# THE FEDERAL POLYTECHNIC, BAUCHI

PRIVATE MAIL BAG 0231, BAUCHI,
BAUCHI STATE, NIGERIA.

RECTOR: Dr. S. M. Musa,
FNSE, FNIAE, Reg. Engr (COREN),
B.Sc (Maid) MSc & Ph.D (Cranfield)
REGISTRAR: L. Ibrahim
B. A (HONS), MNIM

Telephone: (077) 543487, 543481, 543630, 543631
Mobile: 0802 355 8399, 0705 678 6753
E-mail: shbmusa@yahoo.com
Website: www.fedpolybauchi.com

Our Ref: ______

Your Ref: ______

Date: 25 - Oct - 10

TO WHOM IT MAY CONCERN

**RE: JAMES O. ALABEDE**

This is to affirm that Mr. James O. Alabede is a lecturer with Accountancy Department, Federal Polytechnic Bauchi, Bauchi State.

Currently, he is a PhD. research student of Utara University Malaysia.

Kindly accord him all the necessary assistance required.

YAYA WALI MUKHTAR
Head, Accountancy Department

# Appendix 12

## Multiple Regression SPSS Output

# Multiple Regression SPSS Output

## 1. Multiple Regression Result of Main Effects

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .521[a] | .271 | .234 | .51311 | .271 | 7.329 | 16 | 315 | .000 | 1.694 |

a. Predictors: (Constant),Christ, High Income, TSQ, ATT, SoleProp, PGQ, TK, Yoruba, NonProf, MR, Igbo, Low Income, PubSector, TS, Hausa, Islam

b. Dependent Variable: TCB

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 30.874 | 16 | 1.930 | 7.329 | .000[a] |
| | Residual | 82.935 | 315 | .263 | | |
| | Total | 113.809 | 331 | | | |

a. Predictors: (Constant), Christ, High Income, TSQ, ATT, SoleProp, PGQ, TK, Yoruba, NonProf, MR, Igbo, Low Income, PubSector, TS, Hausa, Islam

b. Dependent Variable: TCB

**Coefficients[a]**

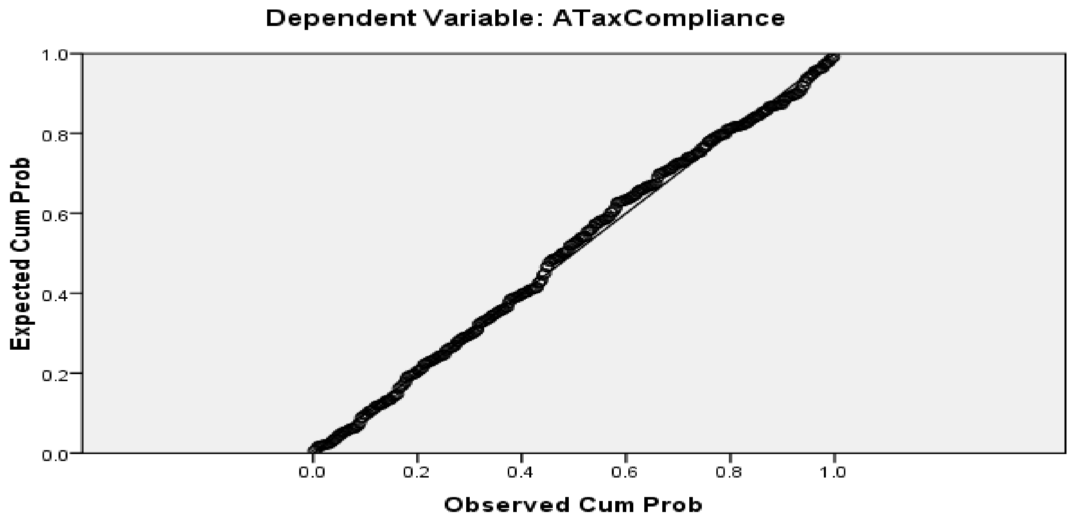
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 1.063 | .326 | | 3.262 | .001 | | |
| | TS | .048 | .056 | .051 | .848 | .397 | .632 | 1.583 |
| | TK | .090 | .080 | .056 | 1.120 | .264 | .912 | 1.097 |
| | TSQ | .097 | .049 | .098 | 1.976 | .049 | .937 | 1.067 |
| | PGQ | .177 | .048 | .220 | 3.712 | .000 | .661 | 1.513 |
| | ATT | .107 | .033 | .164 | 3.227 | .001 | .892 | 1.121 |
| | MR | .052 | .038 | .072 | 1.395 | .164 | .865 | 1.156 |
| | Hausa | -.252 | .078 | -.204 | -3.231 | .001 | .582 | 1.719 |
| | Yoruba | -.120 | .085 | -.084 | -1.411 | .159 | .650 | 1.537 |
| | Igbo | .018 | .090 | .012 | .200 | .842 | .658 | 1.519 |
| | PubSector | -.185 | .072 | -.158 | -2.577 | .010 | .618 | 1.617 |
| | SoleProp | .117 | .084 | .085 | 1.391 | .165 | .615 | 1.625 |
| | NonProf | -.180 | .062 | -.152 | -2.880 | .004 | .835 | 1.198 |
| | Low Income | -.102 | .070 | -.082 | -1.451 | .148 | .718 | 1.393 |
| | High Income | -.144 | .112 | -.071 | -1.289 | .198 | .753 | 1.328 |
| | Islam | -.089 | .167 | -.069 | -.533 | .594 | .138 | 7.233 |
| | Christ | -.159 | .161 | -.127 | -.985 | .325 | .140 | 7.145 |

a. Dependent Variable: TCB

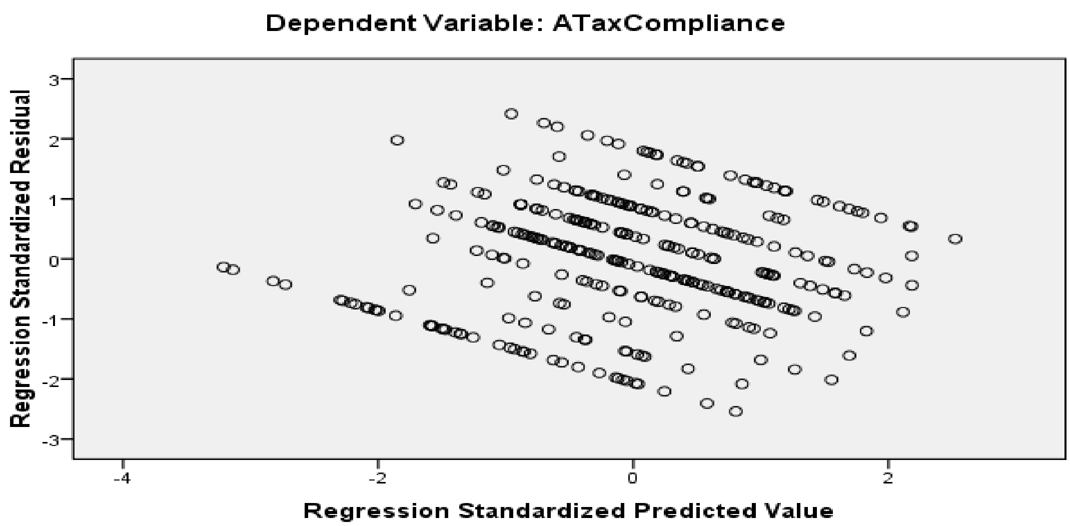
**Residuals Statistics[a]**

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | 1.0803 | 2.8158 | 2.0550 | .30541 | 332 |
| Residual | -1.29740 | 1.23737 | .00000 | .50056 | 332 |
| Std. Predicted Value | -3.191 | 2.491 | .000 | 1.000 | 332 |
| Std. Residual | -2.528 | 2.411 | .000 | .976 | 332 |

**Normal P-P Plot of Regression Standardized Residual**




**Scatterplot**



## 2. Multiple Regression Result of Moderating Effects of Taxpayers' Financial Condition

**Model Summary**[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .641[a] | .411 | .346 | 1.88376 | .411 | 6.308 | 33 | 298 | .000 | 1.815 |

a. Predictors: (Constant), ChristRXFC, HighncXFC, Christ, FC, Yoruba, TSQXFC, TKXFC, Low Income, SolepropXFC, SoleProp, TK, PGQXFC, ATTXFC, YorubaXFC, ATT, TSQ, MRXFC, NonProfXFC, MR, NonProf, IgboXFC, Igbo, High Income, LowincXFC, TS, TSXFC, PubsectorXFC, PubSector, Hausa, HausaXFC, PGQ, Islam, IslamRXFC

b. Dependent Variable: TCB

**ANOVA**[b]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 738.710 | 33 | 22.385 | 6.308 | .000[a] |
| | Residual | 1057.470 | 298 | 3.549 | | |
| | Total | 1796.180 | 331 | | | |

a. Predictors: (Constant), ChristRXFC, HighNCXFC, Christ, FC, Yoruba, TSQXFC, TKXFC, Low Income, CSolepropXFC, SoleProp, TK, PGQXFC, ATTXFC, YorubaXFC, ATT, TSQ, MRXFC, NonProfXFC, MR, NonProf, IgboXFC, Igbo, High Income, LowINXFC, TS, TSXFC, PubsectorXFC, PubSector, Hausa, HausaXFC, PGQ, Islam, IslamRXFC

b. Dependent Variable: TCB

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | -.180 | 1.280 | | -.141 | .888 | | |
| TS | .518 | .217 | .141 | 2.384 | .018 | .567 | 1.764 |
| TK | .420 | .301 | .066 | 1.392 | .165 | .873 | 1.145 |
| TSQy | .412 | .193 | .105 | 2.135 | .034 | .811 | 1.233 |
| PGQ | 1.228 | .202 | .383 | 6.076 | .000 | .496 | 2.015 |
| ATT | .260 | .126 | .101 | 2.061 | .040 | .824 | 1.213 |
| MR | .227 | .143 | .079 | 1.588 | .113 | .801 | 1.248 |
| Hausa | -.852 | .297 | -.173 | -2.867 | .004 | .540 | 1.853 |
| Yoruba | -.410 | .318 | -.073 | -1.290 | .198 | .624 | 1.604 |
| Igbo | .213 | .337 | .035 | .632 | .528 | .627 | 1.596 |
| PubSector | -.427 | .275 | -.092 | -1.553 | .121 | .566 | 1.766 |
| SoleProp | .429 | .323 | .079 | 1.327 | .185 | .561 | 1.783 |
| NonProf | -.563 | .236 | -.120 | -2.386 | .018 | .785 | 1.274 |
| Low Income | -.392 | .262 | -.080 | -1.496 | .136 | .689 | 1.451 |
| High Income | -.681 | .421 | -.085 | -1.619 | .107 | .713 | 1.403 |
| Islam | -.586 | .648 | -.114 | -.905 | .366 | .124 | 8.080 |
| Christ | -.766 | .623 | -.154 | -1.231 | .219 | .126 | 7.923 |
| FC | -1.776 | .246 | -.380 | -7.228 | .000 | .715 | 1.399 |
| TSXFC | -1.213 | .432 | -.158 | -2.806 | .005 | .625 | 1.600 |
| TKXFC | .723 | .611 | .056 | 1.183 | .238 | .878 | 1.139 |
| TSQXFC | .195 | .398 | .024 | .490 | .625 | .811 | 1.233 |
| PGQXFC | .102 | .394 | .015 | .258 | .797 | .587 | 1.703 |
| ATTXFC | -.360 | .254 | -.069 | -1.416 | .158 | .833 | 1.200 |
| MRFC | -.733 | .286 | -.126 | -2.559 | .011 | .814 | 1.228 |
| HausaXFC | -.431 | .600 | -.044 | -.719 | .473 | .535 | 1.870 |
| YorubaXFC | .782 | .644 | .069 | 1.214 | .226 | .621 | 1.611 |
| IgboXFC | -.205 | .674 | -.017 | -.305 | .761 | .622 | 1.608 |
| PubsectorXFC | -.502 | .558 | -.053 | -.900 | .369 | .563 | 1.776 |
| SolepropXFC | -.556 | .655 | -.051 | -.850 | .396 | .555 | 1.803 |
| NonProfXFC | -.961 | .476 | -.101 | -2.018 | .044 | .783 | 1.277 |
| LowINCXFC | .455 | .525 | .046 | .866 | .387 | .694 | 1.441 |
| HighNCXFC | -.710 | .856 | -.044 | -.829 | .408 | .712 | 1.404 |
| IslamXFC | .032 | 1.326 | .003 | .024 | .981 | .119 | 8.407 |
| ChristXFC | -.734 | 1.275 | -.073 | -.576 | .565 | .121 | 8.237 |

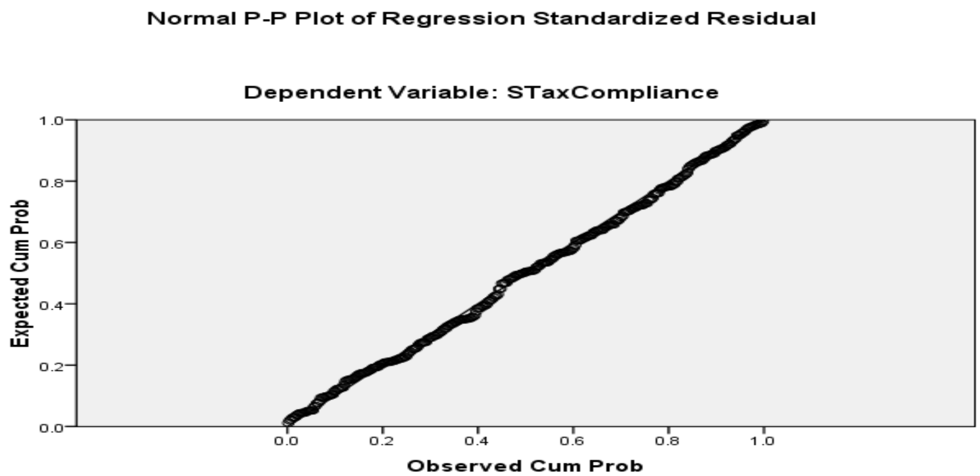
a. Dependent Variable: TCB

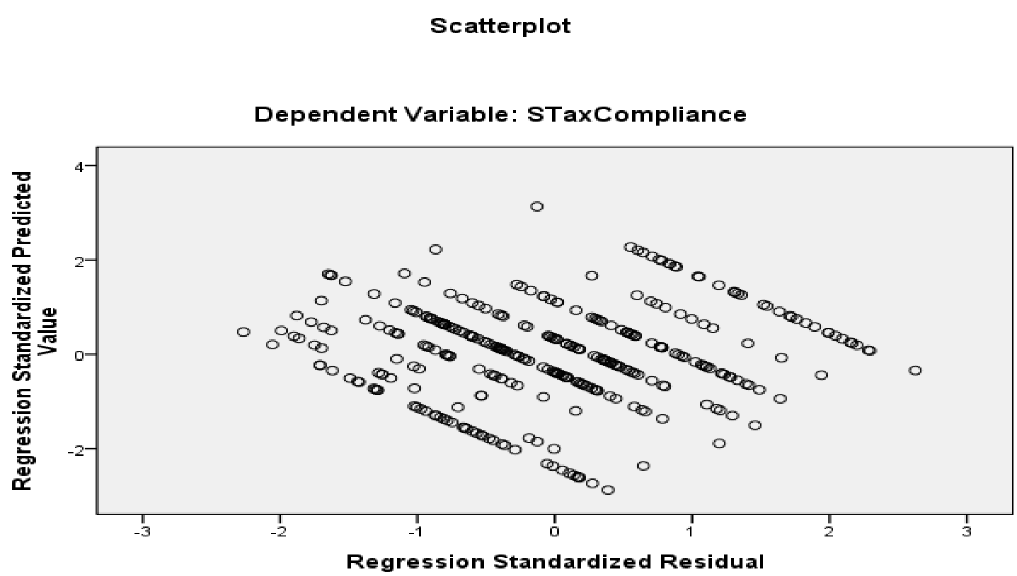
Residuals Statistics

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | .2715 | 9.2438 | 4.5657 | 1.49391 | 332 |
| Residual | -4.27131 | 4.94477 | .00000 | 1.78739 | 332 |
| Std. Predicted Value | -2.874 | 3.131 | .000 | 1.000 | 332 |
| Std. Residual | -2.267 | 2.625 | .000 | .949 | 332 |

a. Dependent Variable:TCB

**Charts**



### 3. Multiple Regression Result of Moderating Effects of Taxpayers' Risk Preference

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .561[a] | .315 | .239 | .51150 | .315 | 4.151 | 33 | 298 | .000 | 1.732 |

a. Predictors: (Constant), ChristRXCRP, PubSector, MRXRP, Igbo, Low Income, HighIncXRP, TSQXRP, TSXRP, TK, TKXRP, ATT, PGQ, Islam, ATTXRP, Yoruba, YorubaXRP, NonProf, SolePropXRP, MR, TSQ, NonProfXRP, RP, High Income, IgboXRP, LowIncXRP, HausaXRP, SoleProp, TS, PubsectorXRP, Hausa, PGQXRP, IslamRXRP, NChrist

b. Dependent Variable: TCB

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 35.842 | 33 | 1.086 | 4.151 | .000[a] |
| | Residual | 77.968 | 298 | .262 | | |
| | Total | 113.809 | 331 | | | |

a. Predictors: (Constant), ChristRXCRP, PubSector, MRXRP, Igbo, Low Income, HighIncXRP, TSQXRP, TSXRP, TK, TKXRP, ATT, PGQ, Islam, ATTXRP, Yoruba, YorubaXRP, NonProf, SolePropXRP, MR, TSQ, NonProfXRP, RP, High Income, IgboXRP, LowIncXRP, HausaXRP, SoleProp, TS, PubsectorXRP, Hausa, PGQXRP, IslamRXRP, NChrist

b. Dependent Variable: TCB

Coefficients[a]

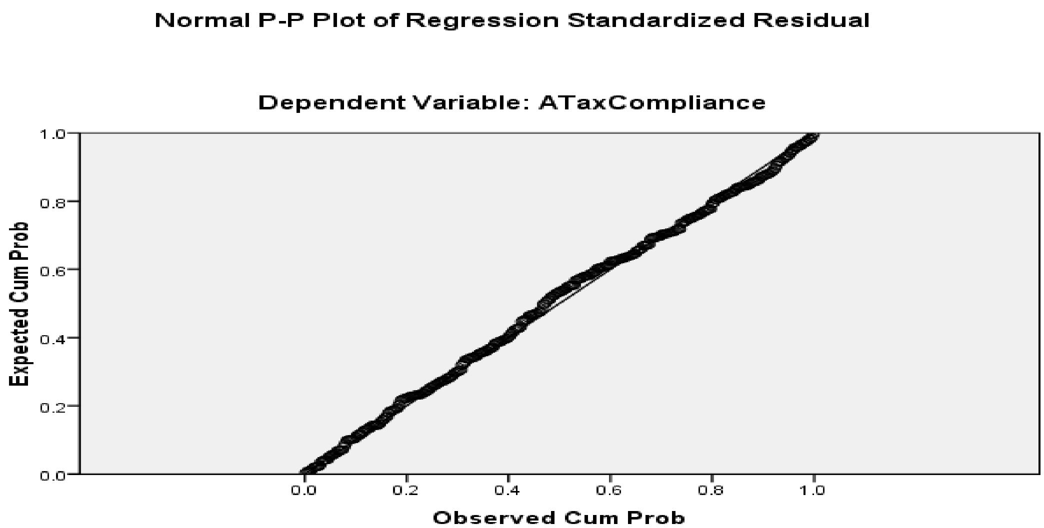
| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. | Collinearity Statistics Tolerance | Collinearity Statistics VIF |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 1.000 | .364 | | 2.747 | .006 | | |
| | TS | .041 | .060 | .044 | .679 | .497 | .544 | 1.838 |
| | TK | .071 | .082 | .045 | .872 | .384 | .880 | 1.136 |
| | TSQ | .091 | .053 | .093 | 1.724 | .086 | .795 | 1.259 |
| | PGQ | .168 | .051 | .208 | 3.288 | .001 | .572 | 1.748 |
| | ATT | .112 | .034 | .173 | 3.310 | .001 | .842 | 1.188 |
| | MR | .048 | .038 | .066 | 1.246 | .214 | .831 | 1.204 |
| | Hausa | -.217 | .081 | -.176 | -2.672 | .008 | .532 | 1.879 |
| | Yoruba | -.121 | .087 | -.085 | -1.393 | .165 | .616 | 1.624 |
| | Igbo | .011 | .092 | .008 | .124 | .901 | .625 | 1.599 |
| | PubSector | -.183 | .073 | -.156 | -2.499 | .013 | .590 | 1.696 |
| | SoleProp | .082 | .086 | .060 | .951 | .343 | .579 | 1.729 |
| | NonProf | -.159 | .064 | -.135 | -2.474 | .014 | .777 | 1.287 |
| | Low Income | -.110 | .071 | -.089 | -1.537 | .125 | .685 | 1.460 |
| | High Income | -.133 | .113 | -.066 | -1.173 | .242 | .727 | 1.376 |
| | Islam | -.016 | .208 | -.013 | -.078 | .938 | .088 | 11.315 |
| | Christ | -.074 | .203 | -.059 | -.366 | .715 | .088 | 11.421 |
| | RP | .037 | .030 | .072 | 1.256 | .210 | .706 | 1.416 |
| | TSXRP | -.042 | .057 | -.053 | -.747 | .456 | .453 | 2.205 |
| | TKXRP | .069 | .078 | .046 | .887 | .376 | .842 | 1.188 |
| | TSQXRP | -.013 | .053 | -.014 | -.244 | .808 | .732 | 1.366 |
| | PGQXRP | -.024 | .043 | -.041 | -.569 | .570 | .442 | 2.265 |
| | ATTXRP | -.057 | .027 | -.111 | -2.073 | .039 | .797 | 1.255 |
| | MRXRP | .014 | .035 | .021 | .401 | .689 | .812 | 1.232 |
| | HausaXRP | .084 | .074 | .074 | 1.141 | .255 | .549 | 1.821 |
| | YorubaXRP | .025 | .078 | .019 | .317 | .751 | .627 | 1.595 |
| | IgboXRP | .061 | .083 | .046 | .730 | .466 | .579 | 1.728 |
| | PubsectorXRP | .122 | .068 | .117 | 1.782 | .076 | .529 | 1.889 |
| | SolePropXRP | .033 | .080 | .027 | .411 | .682 | .529 | 1.892 |
| | NonProfXRP | -.084 | .059 | -.080 | -1.420 | .157 | .729 | 1.372 |
| | LowIncXRP | .053 | .066 | .047 | .811 | .418 | .683 | 1.464 |
| | HighIncXRP | -.055 | .114 | -.028 | -.481 | .631 | .663 | 1.509 |
| | IslamXRP | -.163 | .176 | -.139 | -.923 | .357 | .102 | 9.825 |
| | ChristXCRP | -.115 | .173 | -.102 | -.667 | .505 | .098 | 10.186 |

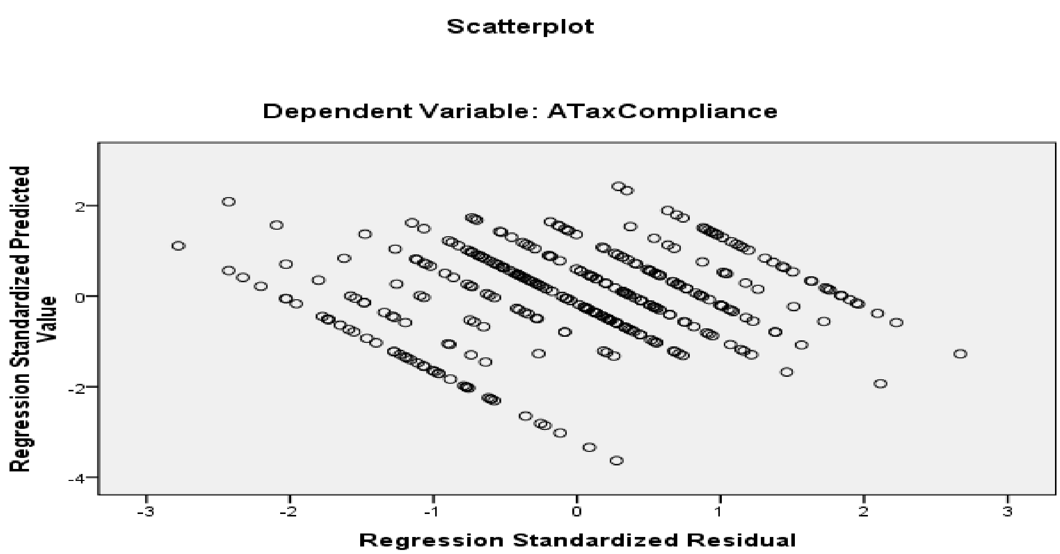
Residuals Statistics[a]

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | .8592 | 2.8520 | 2.0550 | .32906 | 332 |
| Residual | -1.42066 | 1.36556 | .00000 | .48534 | 332 |
| Std. Predicted Value | -3.634 | 2.422 | .000 | 1.000 | 332 |
| Std. Residual | -2.777 | 2.670 | .000 | .949 | 332 |

a. Dependent Variable: TCB

**Charts**



## 4. Multiple Regression Result of Moderating Effects of Taxpayers' Risk Preference and Financial Condition

Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .636[a] | .404 | .336 | 1.89840 | .404 | 5.923 | 34 | 297 | .000 | 1.858 |

a. Predictors: (Constant), ChristRXRPXFC, Islam, PGQ, ATTXRPXFC, Low Income,Yoruba, TK, SolePropXRPXFC, TSQ, LowIncXRPXFC, ATT, SoleProp, TSQXRPXFC, TKXRPXFC, TSXRPXFC, MRXRPXFC, YorubaXRPXFC, NonProfXRPXFC, Igbo, NonProf, MR, FC, High Income, HausaXRPXFC, RP, HighIncXRPXFC, IgboXRPXFC, PubSector, TS, Hausa, PubsectorXRPXFC, PGQXRPXFC, IslamRXRPXFC, Christ

b. Dependent Variable: TCB

ANOVAb

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 725.810 | 34 | 21.347 | 5.923 | .000a |
| | Residual | 1070.370 | 297 | 3.604 | | |
| | Total | 1796.180 | 331 | | | |

a. Predictors: (Constant), ChristRXRPXFC, Islam, PGQ, ATTXRPXFC, Low Income,Yoruba, TK, SolePropXRPXFC, TSQ, LowIncXRPXFC, ATT, SoleProp, TSQXRPXFC, TKXRPXFC, TSXRPXFC, MRXRPXFC, YorubaXRPXFC, NonProfXRPXFC, Igbo, NonProf, MR, FC, High Income, HausaXRPXFC, RP, HighIncXRPXFC, IgboXRPXFC, PubSector, TS, Hausa, PubsectorXRPXFC, PGQXRPXFC, IslamRXRPXFC, Christ

b. Dependent Variable: TCB

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | .173 | 1.281 | | .135 | .893 | | |
| | TS | .441 | .216 | .120 | 2.042 | .042 | .583 | 1.714 |
| | TK | .294 | .310 | .046 | .948 | .344 | .836 | 1.196 |
| | TSQ | .489 | .186 | .125 | 2.637 | .009 | .890 | 1.124 |
| | PGQ | 1.181 | .197 | .369 | 5.993 | .000 | .530 | 1.887 |
| | ATT | .251 | .126 | .097 | 1.991 | .047 | .840 | 1.191 |
| | MR | .183 | .146 | .064 | 1.259 | .209 | .787 | 1.271 |
| | Hausa | -.894 | .297 | -.182 | -3.005 | .003 | .547 | 1.830 |
| | Yoruba | -.665 | .333 | -.118 | -1.998 | .047 | .576 | 1.736 |
| | Igbo | -.050 | .337 | -.008 | -.149 | .882 | .638 | 1.568 |
| | PubSector | -.213 | .275 | -.046 | -.774 | .440 | .574 | 1.743 |
| | SoleProp | .516 | .322 | .095 | 1.606 | .109 | .574 | 1.743 |
| | NonProf | -.412 | .237 | -.088 | -1.743 | .082 | .793 | 1.261 |
| | Low Income | -.368 | .268 | -.075 | -1.372 | .171 | .670 | 1.493 |
| | High Income | -.473 | .427 | -.059 | -1.106 | .270 | .702 | 1.424 |
| | Islam | -.165 | .649 | -.032 | -.254 | .800 | .125 | 7.969 |
| | Christ | -.394 | .629 | -.079 | -.626 | .532 | .126 | 7.952 |
| | RP | -.244 | .126 | -.118 | -1.939 | .053 | .543 | 1.842 |
| | F C | -1.819 | .262 | -.389 | -6.950 | .000 | .640 | 1.563 |
| | TSXRPXFC | .292 | .395 | .049 | .739 | .460 | .458 | 2.185 |
| | TKXRPXFC | -.689 | .606 | -.057 | -1.136 | .257 | .788 | 1.270 |
| | TSQXRPXFC | .945 | .382 | .121 | 2.472 | .014 | .838 | 1.194 |
| | PGQXRPXFC | -.037 | .323 | -.008 | -.114 | .909 | .369 | 2.712 |
| | ATTXRPXFC | .060 | .202 | .015 | .299 | .765 | .804 | 1.244 |
| | MRXRPXFC | -.110 | .264 | -.021 | -.418 | .676 | .802 | 1.248 |
| | HausaXRPXFC | -.264 | .541 | -.029 | -.488 | .626 | .552 | 1.811 |
| | YorubaXRPXFC | -.583 | .614 | -.055 | -.950 | .343 | .589 | 1.698 |
| | IgboXRPXFC | -.905 | .611 | -.088 | -1.481 | .140 | .574 | 1.742 |
| | PubsectorXRPXFC | .829 | .516 | .100 | 1.606 | .109 | .514 | 1.944 |
| | SolePtorpXRPXFC | -.962 | .586 | -.099 | -1.642 | .102 | .551 | 1.814 |
| | NonProfXRPXFC | 1.105 | .434 | .132 | 2.548 | .011 | .746 | 1.341 |
| | LowIncXRPXFC | -.051 | .490 | -.006 | -.104 | .917 | .690 | 1.449 |
| | HighIncXRPXFC | .741 | .862 | .048 | .859 | .391 | .632 | 1.581 |
| | IslamXRPXFC | .797 | 1.107 | .086 | .720 | .472 | .139 | 7.174 |
| | ChristXRPXFC | .582 | 1.072 | .065 | .543 | .587 | .139 | 7.200 |

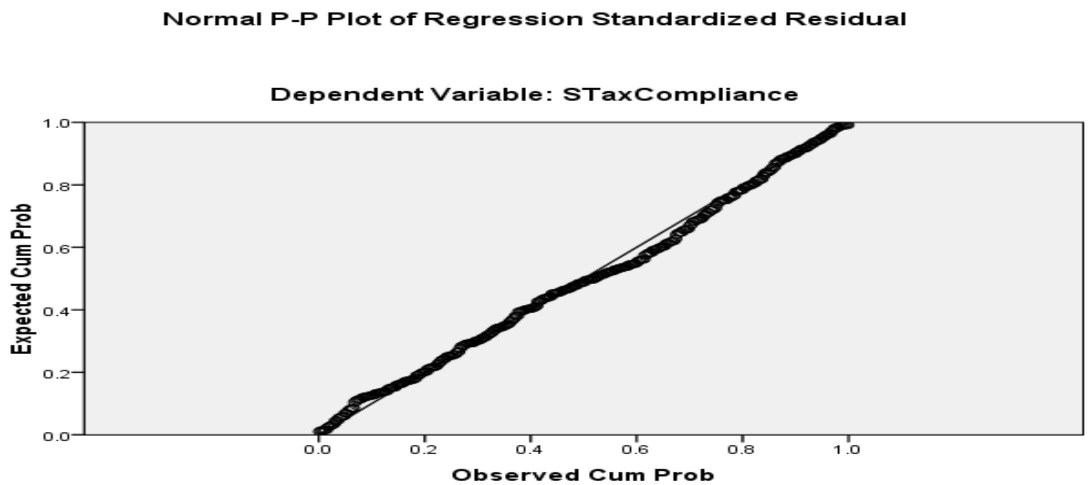
a. Dependent Variable: TCB

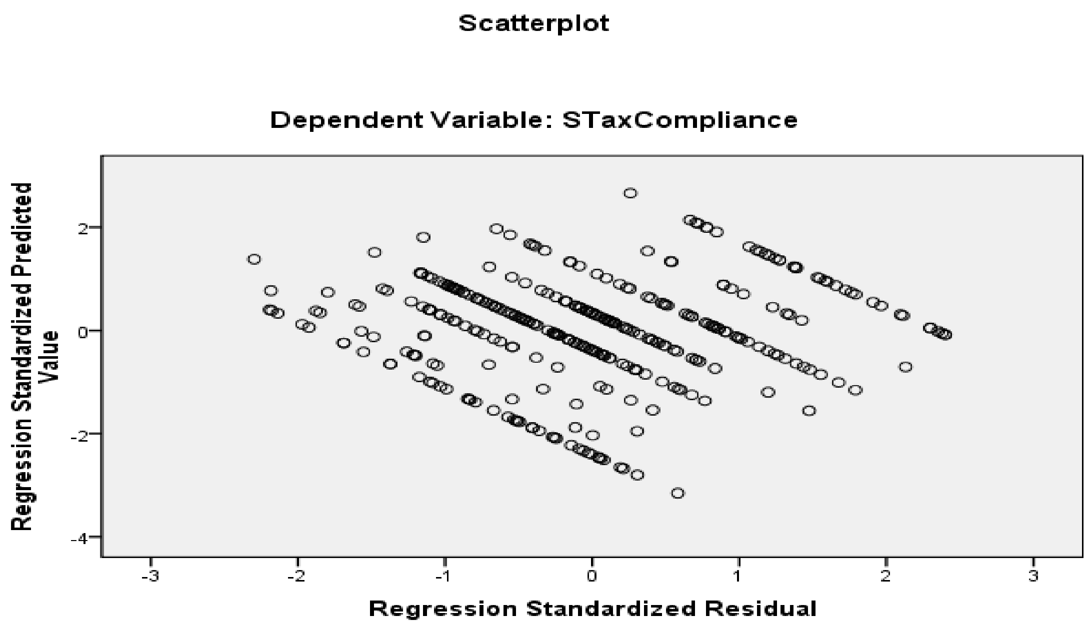
Residuals Statistics[a]

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | -.1043 | 8.5086 | 4.5657 | 1.48080 | 332 |
| Residual | -4.36186 | 4.55701 | .00000 | 1.79826 | 332 |
| Std. Predicted Value | -3.154 | 2.663 | .000 | 1.000 | 332 |
| Std. Residual | -2.298 | 2.400 | .000 | .947 | 332 |

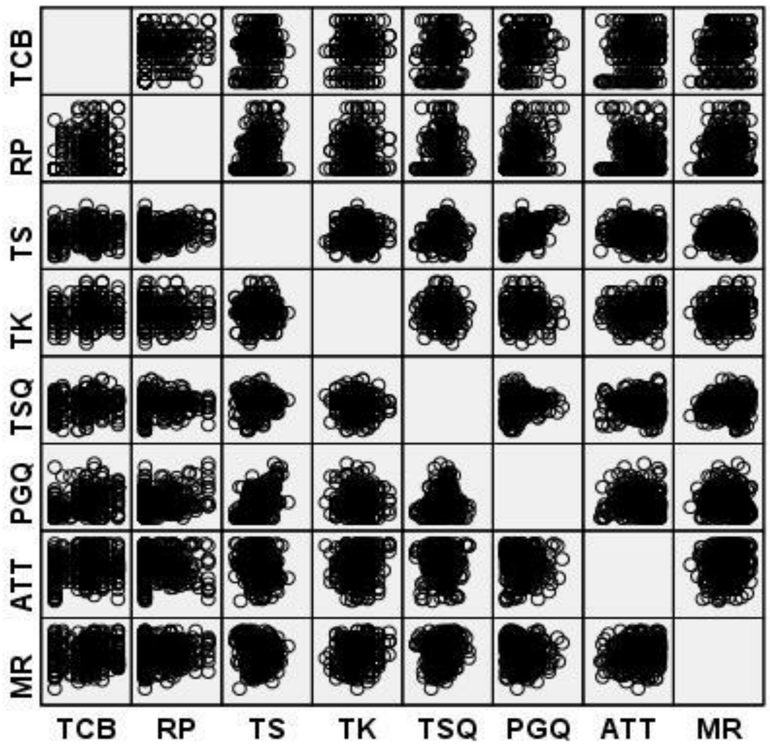
a. Dependent Variable: TCB

**Charts**



MATRIX SCATTER FOR CONTINUOUS VARIABLES




**Key to Variable Codes:**

TCB = Tax Compliance Behaviour
FC = Financial Condition
RP = Risk Preference
TK = Tax Knowledge
TS = Tax System Structure
TSQ = Perceived Tax Service Quality
PGQ = Public Governance Quality
ATT = Attitude towards Tax Evasion
MR = Moral Reasoning
Ethnical Diversity
Race:
Hausa
Yoruba
Igbo
Religion:
Islam
Christ

Noncompliance Opportunity
Income Source:
PubSector = Public Sector
SoleProp = Sole Proprietor
Occupation:
NonProf = Nonprofession
Income Level:
Low Income level (Lowinc)
High Income level (Highinc)