DETERMINANTS OF TAX COMPLIANCE BEHAVIOR IN BANGLADESH: THE CASE OF INDIVIDUAL TAX PAYERS

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DETERMINANTS OF TAX COMPLIANCE BEHAVIOR IN BANGLADESH: THE CASE OF INDIVIDUAL TAX PAYERS

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Declaration

I hereby declare that this study is my work, presented to the Institution of Business Administration, the University of Dhaka towards the fulfillment of the requirements for the degree Doctor of Business Administration (DBA) and that, to the best of my knowledge; it contains no material previously published by another person nor material which has been accepted for any kind of award or any other degree of any University, except where due acknowledgment has been made in the text.

Mohammad Faridul Alam (REG 21/2018-19)

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Dedication

This work is dedicated to

My parents,

Abdus Sobhan

&

Akter Jahan Begum

Acknowledgement

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List of Acronyms

ADB	Asian Development Bank
ANOVA	Analysis of Variance
ATO	Australian Taxation Office
BER	Bangladesh Economic Review
CIC	Central Intelligence Cell
eTIN	Electronic Tax Identification Number
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IMF	International Monetary Fund
ITC	International Tax Compact
ITO	Income Tax Ordinance
NBR	National Board of Revenue
OECD	Organisation for Economic Co-operation and Development
PBC	Perceived Behavioral Control
SAARC	South Asian Association for Regional Cooperation
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UK	United Kingdom
UN	United Nations
VAT	Value Added Tax
VIF	Variance Inflation Factor

Abstract

Tax revenue is one of the most important sources of government revenues that help the government to finance its expenditure in a way that is administratively reasonable, justifiable, and resourceful. Most of the developing countries are suffering from the problem of tax non-compliance, and its impact in a developing country like Bangladesh is severe. Despite remarkable GDP growth in the past decade, mobilizing resources through the growth in tax revenue has been sluggish in Bangladesh, and the Tax-GDP ratios have been either stagnated or declined. Despite several reform measures, the Tax-GDP ratio in Bangladesh has been increased from 3.41% (1972-73) to 10.3% (2017-18) only, which is one of the lowest among the developing countries as well as the similar economies. Such tax performance has prompted the uncertainty of not achieving the government's 7th Five-Year Plan Target Tax-GDP ratio of 14.1 by 2020. As per the data from NBR Annual Reports, in Bangladesh, the number of individual taxpayers has not grown remarkably in recent years. The number of individual taxpayers in 2010-11 was 1.9 million, which rose to only 2.5 million in 2017-18. Although the number of e-TIN holders is approximately 34 lacs (as of May 2018), only half of them submit income tax returns. Compared to the total population of 163.65 million people, as of June 30, 2018, which is just slightly more than one percent of its total population. Tax evasion and avoidance, poor tax administration is the main problem of poor tax performance in Bangladesh. Therefore, this study is set to identify the key determinants influencing the tax compliance behavior of an individual taxpayer in Bangladesh.

Data has been collected through a survey questionnaire and interviews. It has been observed that most of the respondents pay income tax as it is an obligation towards the government (i.e. it is a compulsory payment to the government) rather considering it a contribution to the society. The study used both descriptive and inferential statistical techniques to analyze the data. Some of the techniques are independent sample t-test, ANOVA, correlation, regression, factor analysis, and thematic analysis.

The results suggest that in Bangladesh, the "behavioral approach" explains tax compliance behavior in a better manner comparing to the "economic deterrence"

approach. Tax compliance has a strong positive correlation with the institutional determinants, socio-psychological determinants, economic determinants, and other non-economic determinants. Moderately strong correlation has been observed with individual determinants. It has also been observed that institutional, individual, and other non-economic determinants positively influence the tax compliance behavior, whereas economic and socio-psychological determinants reveal negative influence. It also provides an indicator that prior tax knowledge, tax lawyer's assistance, sources of income, age, and occupation influences the tax compliance behavior of the individual taxpayers. On the other hand, gender, income tax rate, and average monthly income have no statistically significant influence on tax compliance behavior.

Finally, ensuring strict and fair punitive measures for tax evaders, educating taxpayers, reducing current income tax rates, recruiting sufficient skilled and knowledgeable tax officials, ensuring fair treatment with all taxpayers, granting visible incentives/rewards for regular taxpayers, ensuring fairness in spending tax money by the government, and reforming tax administration to make it taxpayer friendly are suggested as strategies for enhancing the level of tax compliance in Bangladesh. It is expected that this study will be able to add value to the existing tax compliance behavior research arena and the findings can be used by the policymakers to take appropriate reform measures to enhance the level of tax compliance by the individuals.

CHAPTER ONE
INTRODUCTION

1.1 Background

As a welfare state, it is the responsibility of any government to execute several obligatory and optional functions. To accomplish the duties and functions competently, the government needs to mobilize a significant amount of resources in its exchequer which they mainly collect from the public as government revenue. Tax revenue is one of the most important sources of government revenues (Fisher, 2014). Moreover, the tax system of a country may not only be used for accumulating revenue, but also for using it as a mechanism to enforce relevant policies e.g. as encouraging certain activities and discouraging others (Alley & James, 2006). According to Burgess and Stern (1993), tax is imposed to finance the government expenditure in an administratively reasonable, justifiable, and resourceful manner. This is also referred to as the revenue or contribution received from the citizens to run the country. It is a compulsory payment to the government without the expectation of any direct benefit or return by the taxpayer (Shil, Masud, & Alam, 2019). Only the government has the authority to impose a tax on its citizens, failure to pay which is punishable by law. The role of tax revenue towards the financing of government activities is becoming greater from period to period, as the income from non-tax revenue sources is not stable anymore (Damayanti, Sutrisno, Subekti, & Baridwan, 2015). Moreover, mobilization of resources from domestic sources has become a fundamental priority among the sustainable development goals since domestic resource mobilization through enhanced tax policy and tax administration has been a subject of increased universal attention (Michel, 2014). The tax capacity of a country positively and significantly contributes to the level of development, trade, and education (Pessino & Fenochietto, 2010).

Taxes are levied not only for revenue purposes but also for using it as a mechanism to tackle income inequality, to improve economic stability, and to ensure the efficient allocation of resources (Steenekamp, 2007). The existence of ideal tax policy, regardless of country or economy size, is a vital tool for the economic development and growth of any country (Brown, 2002; Padovano & Galli, 2002). From the revenue mobilization view, Wang (2007) has also revealed a similar opinion in this regard. Furthermore, the collection of suitable tax revenues can help to alleviate the economy by ensuring less dependency on government borrowings and foreign donations and grants (Yalama & Gumus, 2013). Several studies reveal that generating taxation is a key tool for inducing a sustained and dynamic welfare and accelerating development in the least developed countries (Besley & Persson, 2010; Moore, 2008). As per Bilquees (2004), taxes are the financial blood supply in the economy as it is the major source of financing that contributes towards the country's public expenditures for improving the standard of living and social welfare. Public expenditure rises with higher development levels, generating pressure to mobilize revenue (Ferranti, Perry, Ferreira & Walton, 2004).

Throughout the world, in both developed and developing countries, tax non-compliance has become an incessant and mounting problem (Alm, 2012; Alon & Hageman, 2013; McKerchar & Evans, 2009). Several studies (Cobham, 2005; Fuest & Riedel, 2009) suggest that the impact of such non-compliance has been comparatively severe in developing countries, like Bangladesh. Despite remarkable GDP growth in the past decade, Tax-GDP ratios have been either stagnated or declined due to sluggish growth in tax revenue. The fiscal deficit has become an enduring problem in most of the developing countries, including most of the SAARC countries (Gupta, 2015). Despite

several research attempts in developing countries, it was not possible to reveal a clear and concrete idea regarding tax compliance behavior (D'Arcy, 2011). Most of the developed countries can generate a high tax revenue amount because of their structured and efficient tax administration system. Whereas, in the case of low and lower-middle-income countries the picture is reversed. Tax evasion and non-compliance have been termed as one of the key problems while realizing government revenues in these countries (Engel & Hines, 1999).

According to Section 152(1) of the Constitution of the People's Republic of Bangladesh, "taxation includes the imposition of any tax, rate, duty or impost, whether general, local or special, and tax shall be construed accordingly". The National Board of Revenue (NBR), under the Internal Resources Division of the Ministry of Finance, is the apex tax administration authority in Bangladesh. According to the Bangladesh Economic Review (2019) data, tax revenue contributes almost 90 percent of government revenue in Bangladesh, of which only around 36 percent is from direct taxes. Considering the total tax revenue amount, the collection of NBR is 96%.

Bangladesh's tax system has always been dominated by indirect taxes, although the contribution of direct tax is increasing gradually. Before the introduction of VAT, the tax structure was dominated by import and excise duties. Since its inception in 1991 by replacing the sales taxes, VAT has been the highest contributor in the total tax collection providing around 36.14% of the total tax revenue, followed by income tax with a 32.92% contribution in 2018-19 (Shil et al., 2019). Despite several reform efforts, Bangladesh has been experiencing an average budget deficit of 4.55% of the country's

GDP during the recent decade of 2009-10 to 2018-19 (Bangladesh Economic Review, 2019).

1.2 Problem Statement

Since the inception of civilized societies, the role of taxation has become crucial in managing the national income of a country (Lymer & Oats, 2017). According to Article 15 of the Bangladesh Constitution, "the country should follow the path of a planned economy for realizing its development objective". Bangladesh, like many other developing countries, is trying extremely to reform its tax structure through several structural adjustments to enhance domestic revenue mobilization in this regard. Bangladesh witnessed a 6.6% average GDP growth rate in the recent decade (2009 – 2018) which is significantly higher than the developing economy's average GDP growth of 5.1%. Per capita income and the country budget size has been increased by 131% and 422% respectively during the same period (BMOF, 2018). Despite such achievements, the Tax-GDP ratio in Bangladesh has been increased from 3.41% (1972-73) to 10.3% (2017-18) only, which is significantly lower among the similar economies (Bangladesh Economic Review, 2019). Such tax performance has prompted the uncertainty of not achieving the government's 7th Five-Year Plan Target Tax-GDP ratio of 14.1 by 2020.

Bangladesh recorded a Government Budget deficit equal to 5.0 percent of the country's GDP in the fiscal year 2017-18. During the same time, the Tax-GDP ratio is being measured around 10.3 percent which indicates poor tax collection and inefficiency in tax administration (Bangladesh Economic Review, 2019). Such a Tax-GDP ratio remains below cross-country averages and is considered inadequate to ensure social

welfare and to meet the required government expenditure (Pessimo & Fenochietto, 2010). To become developed, a country should achieve a minimum Tax-GDP ratio of 25-30 percent (Kaldor, 1963). According to Gallagher (2005), the average Tax-GDP ratio should be 40, 25, and 18 percent for high, middle, and low-income countries respectively. Another study (Pessimo & Fenochietto, 2010) has shown the international empirical evidence on the Tax-GDP ratio as "36 percent, 28.8 percent, 16.5 percent and 13.9 percent for high- income, upper middle income, lower middle income, and low-income countries respectively in 2004 – 2006".

Over the past 45 years, the Tax-GDP ratio has been increased by only 6.89% (from 3.41% in 1981-82 to 10.3% in 2017-18), which has triggered the doubt to attain targeted 14.1% Tax-GDP ratio by 2020 as per the government's 7th Five Year Plan. Although more than 90% of the government revenue comes from tax in Bangladesh, the amount is inadequate to mobilize enough resources for the execution of government responsibilities to fulfill its economic and social objectives. Tax evasion and avoidance, poor tax administration, are the main problem of poor tax performance in Bangladesh (Gupta, 2015).

As per the data from NBR Annual Reports 2010-11 & 2017-18, in Bangladesh, the number of individual taxpayers has not grown remarkably in recent years. The number of individual taxpayers in 2010-11 was 1.9 million, which rose to only 2.5 million in 2017-18. Although the number of e-TIN holders is approximately 34 lacs (as of May 2018), only half of them submit income tax returns (Khan, Kamal & Talukder, 2019). Compared to the total population of 163.65 million people, as of June 30, 2018 (BER, 2019), which is just slightly more than one percent of its total population. Hence, a

major source of potential government revenue is being forgone, and poor tax infrastructure is making it difficult to enforce greater compliance in Bangladesh (Khan et al., 2019). Although the government has taken so many reform measures to improve the tax performance in Bangladesh, still the improvement is not praiseworthy as the problem of tax non-compliance persists significantly. Voluntary income tax payment culture has not been developed yet.

Addressing such non-compliance circumstances, a thorough study of the Bangladesh Tax System is justified to reveal the key determinants of individual taxpayer's tax compliance behavior. Such identification will help in the formulation of appropriate policy reform measures to enhance the positive determinants as well as to tackle the negative determinants. Therefore, this study is set to reveal the key determinants influencing the tax compliance behavior of individual taxpayers in Bangladesh.

1.3 Research Questions

This study is anticipated to reveal the answers to the following research questions:

1. What are the major determinants influencing the tax compliance behavior of individual taxpayers in Bangladesh?
2. Is there any difference in the degree of influence based on the nature/category of the determinants?

1.4 Objectives of the Study

1.4.1 Broad objective

The primary objective of the study is to identify the determinants influencing the tax compliance behavior of individual taxpayers in Bangladesh.

1.4.2 Specific objectives

The following specific objectives have been set to fulfill the broad objective of the study:

- To obtain a comprehensive overview of the tax performance in Bangladesh
- To identify the economic determinants influencing the tax compliance behavior of individual taxpayers
- To identify the institutional determinants influencing the tax compliance behavior of individual taxpayers
- To identify the socio-psychological determinants influencing the tax compliance behavior of individual taxpayers
- To identify the individual determinants influencing the tax compliance behavior of individual taxpayers
- To identify the other non-economic determinants influencing the tax compliance behavior of individual taxpayers
- To suggest possible reform measures to improve the level of tax compliance.

1.5 Rationale of the Study

Bangladesh is an emerging country that is increasingly becoming equipped with modern technologies. But the modern era, along with the technological advances, could not bring much awareness among people regarding the tax system. Despite achieving 7.86% GDP growth in 2017-18, the highest ever in the history of the country's economy, Bangladesh has ascertained only a 10.3 Tax-GDP ratio, which is one of the lowest among the SAARC countries (Bangladesh Economic Review, 2019). This poor tax performance has triggered the doubt of not achieving the government's 7th Five-Year Plan Target Tax-GDP ratio of 14.1 by 2020.

In Bangladesh, the government revenues come from two sources: tax revenue (e.g. VAT, income tax, customs duty, etc.) and non-tax revenue (e.g. fees, fines, tolls, etc.). In the fiscal year (FY) 2017-18, the shares of tax and non-tax revenue were 89.50% and 10.50% respectively in the total amount of BDT 2594.54 billion. Of the total tax, only 33.48% is contributed by direct tax (mostly income tax) with the rest of by indirect tax. Of the income tax amount, only less than 30% is collected from personal income tax and less than 2 percent of the total population in Bangladesh are under the tax net. (BER, 2019; NBR, 2018). Whereas in Bangladesh, the number of eligible individual taxpayers is about at least 7.0 million (Begum, 2017). Moreover, among the middle-income group of 4 crore people, the number of taxpayers is only 21-22 lakh (BMOF, 2019). Unlike other developing countries, the tax system of Bangladesh is full of loopholes and administrative inefficiencies. The general perception of most people is that the existing tax policies and regulations of Bangladesh are very much complicated, hard to understand and to comply with (Hasan & Prichard, 2016; Gupta, 2015). Despite various reform measures, NBR failed to bring a bulk of eligible individual taxpayers into the tax net.

Tax non-compliance has become a significant problem over the past few decades and has attracted many researchers to conduct several empirical studies (e.g. Alabede, 2012; Allingham & Sandmo, 1972; Ching, 2013; Devos, 2014; Fischer, Wartick & Mark, 1992; Alm, 1991; Jackson & Milliron, 1986; Loo, 2006; McKerchar, 2002; Palil, 2010; Slemrod, 1992; Saad, 2011; Srinivasan, 1973; Yitzhaki, 1974). Several factors influencing the tax compliance behavior have been enumerated under different models in these studies. However, according to Alm (1999), no single model and theory have been able to integrate all the various factors influencing tax compliance. On the other

hand, such inconsistency in the research findings regarding the association between tax compliance and some of its factors is an indication that the relationship may be explored under different dimensions (Bird & Zolt, 2005; Kirchler, Hoelzl & Wahl, 2007).

Considering the abovementioned weaknesses noted in the earlier studies and literature, the relevance of the identification of these determinants in understanding tax compliance behavior in Bangladesh, cannot be underestimated. Bangladesh is a narrow tax base economy and to the best of the researcher's knowledge, not much study has been done so far in this regard. This study may show a direction to spot out any lacking in the present tax system and inquest about the possible solution to tackle the tax non-compliance among individual taxpayers. Moreover, it may be expected that the study will add value in existing tax compliance behavior literature by contributing new findings regarding the tax compliance behavior determinants of individual taxpayers in Bangladesh which may also be compared to other developing countries. With the above background in mind, it is expected that this study will be able to link the relevant research gaps identified and marks some noteworthy contributions both theoretically and practically.

1.6 Scope of the Study

To fulfill its objectives feasibly, the study has set its scope limited to the individual taxpayers and individual income tax according to the provisions of the Income Tax Ordinance, 1984. The number of the variables used in the study is limited under different categories, considering its degree of importance that prior literature has suggested. These variables are considered relevant for the individual income tax compliance behavior.

The choice of individual income tax as the area of the present study was influenced by the fact that it is the main source of direct tax in Bangladesh, where the problem of non-compliance is extreme because of the presence of the large (30.3 percent of GDP) informal sector and several administrative deficiencies (Gupta, 2015; Medina & Schneider, 2018). As in the case of income tax, the tax burden cannot be shifted by an individual taxpayer, the personal income tax imposed on them by the Bangladesh government is the most appropriate subject to reveal the determinants of tax compliance behavior applicable to individual taxpayers, as these taxpayers are from different sectors of Bangladesh having different backgrounds.

1.7 Assumptions of the Study

This study was directed based on the following assumptions:

- ➢ Due to several drawbacks in the tax structure and the administrative inefficiency of NBR, the total collection of tax revenue remains low in Bangladesh. This has resulted the resource constraints for the government to ensure the social welfare and necessary public services.

- ➢ Despite several reform measures, the ability of the government to raise tax revenue is constrained by several factors.

- ➢ The influencing factors can be categorized from different dimensions, based on their relevance.

- ➢ The influence of the factors is different in the context of the level of tax compliance by individual determinants.

- ➢ Factors not considered in this study that may influence tax compliance behavior is considered as constant.

> ➢ Subject to the identification of the determinants of tax compliance behavior, appropriate reform measures can be taken to reduce the tax gaps in Bangladesh. The budget deficit may be handled through this raise in tax revenue, which may be resulted from the improvement in tax compliance behavior.

1.8 Limitations of the Study

Despite the researcher's best effort, the study is not free from limitations. First, registered taxpayers, who submit their income tax return in due time, is the main focus of this study. This study did not put non-taxpayers, as well as corporate tax payers, into account. Secondly, it cannot be ignored that some respondents may answer without understanding the questions properly, the impact of which is expected to be kept insignificant through considerable reliability and validity of the survey instrument. To finish the research within the given time was a challenge for the researcher. However, the researcher has taken reasonable care despite facing time and cost constraints to finish the study in satisfactory manner.

Lastly, from the literature, it has been observed that the degree of tax non-compliance level, sometimes may not be measured properly since these issues are very personal and sensitive. In such cases, sometimes the respondents might not respond honestly that may not be possible to be identified by the researchers (Alabede, 2012; Slemrod, 2007; van Djike & Verboon, 2010). However, the researcher has taken reasonable care to convince the respondents highlighting the importance of their contributions to the study by providing honest answers. Moreover, the respondents have been given assurance that their identity is anonymous in the survey instruments, and the responses will only be used for academic purpose.

1.9 Organization of the Thesis

This thesis comprises of the seven chapters: Chapter one discussed the introduction to the study. This introductory chapter begins with a brief background of the study. Other topics are namely problem statement followed by objectives of the study, research questions, rationale, scope, assumptions, and limitations of the study.

An overview of the Bangladesh tax structure is presented in chapter two where Bangladesh tax performance has been enumerated with a description of relevant income tax provisions for an individual taxpayer applicable in Bangladesh as per the relevant income tax laws. This chapter has also enumerated the current status of tax collection in terms of absolute figure and growth rate. Moreover, several comparative tables and charts have depicted a clear understanding of the position of Bangladesh tax environment.

Chapter three has reviewed several previous studies and relevant literature to identify the variables under the conceptual framework for the study. The literature review section has helped to identify the influence of different determinants in the context of both developed and underdeveloped countries.

Chapter four has presented the methodology used for the study showing the research design, sampling procedure, data collection procedure, data analysis techniques, ethical considerations, and methodological limitations. Detailed explanations have also been presented in this regard.

Chapter five has presented the results and findings in detail based on data collected from the respondents through the survey questionnaires using several descriptive and inferential statistical techniques, and factor analysis. Tabular analyses have been used to depict the findings more understandably.

Chapter six summarized the interview findings from the respondents. This chapter has identified the missing links that have not been revealed through the survey findings.

Chapter seven summarized the research outcomes, discussed the theoretical and policy implications of the findings, presents the conclusions of the study, and makes relevant recommendations for future research as well.

CHAPTER TWO
BANGLADESH TAX ENVIRONMENT: AN OVERVIEW

2.1 Introduction

Since its independence in 1971, tax revenue has been contributing the lion share in the total government revenue of Bangladesh. Despite having an impressive story of progress with its resilient and steady GDP growth of more than 6% for the most recent nine years (FY 2010-11 to 2018-19, of which last three years it was more than 7 percent growth rate), Bangladesh has one of the world's lowest tax to GDP ratios since long (it has stood 10.3 percent in the recent year 2017-18). This is one of the lowest among its neighboring countries and similar economies. However, tax revenue contributes more than 90 percent of the Bangladesh government revenue (Bangladesh Economic Review, 2019). A brief overview of Bangladesh tax environment has been depicted in the following sub-sections:

2.2 Tax Structure in Bangladesh

Bangladesh is a country of multiple tax systems consisting of both direct and indirect taxes. Some of the major direct taxes are income tax, gift tax, land development tax, etc. On the other hand, value added tax, supplementary duty, customs duty, and excise duty are dominant among the indirect taxes. Analyzing the revenue performance of Bangladesh for the fiscal year 2018-19, it is revealed that tax revenue accounts for around 91.47 percent of the government revenue leaving the contribution of non-tax revenue to only less than 10 percent. As the apex government body for tax collection in Bangladesh, the National Board of Revenue (NBR) collected around 90 percent of this tax revenue. However, of the total tax revenue, direct taxes represent only around

35 percent which indicates a lack of balance in the tax structure (Shil, et al., 2019). In the 2019-2020 national budget, the Bangladesh government has set Tk. 3,401.00 billion of total tax revenue target, which is 17.4% higher than the 2018-19 revised budget. From the analysis of the National Budget 2019-20, it has also been observed that the category-wise tax revenue target was maximum for VAT with Tk. 1230.67 billion (36.18% of total tax revenue), followed by income tax with Tk. 1139.12 billion (33.49%). Budgeted tax revenue target from other categories were supplementary duty (14.16%), import duty (10.73%), and other taxes 5.43% of the aggregate tax revenue target (Shil, et al., 2019).
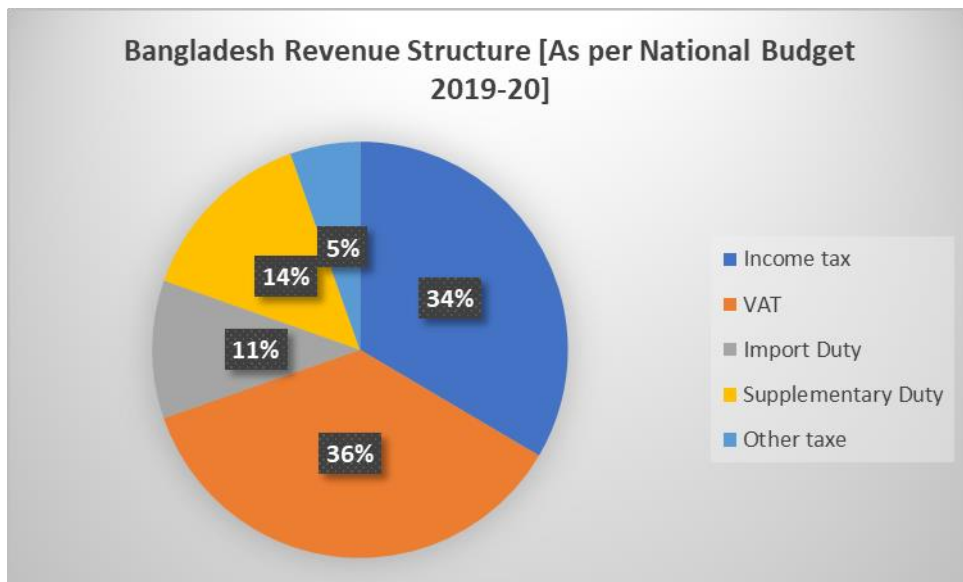
Figure 2.1. Bangladesh Tax Revenue Structure (2019-20), Compiled from the Budget Documents, MoF

2.3 Tax Administration in Bangladesh

In Bangladesh, the National Board of Revenue (NBR) is the highest executive authority entrusted with the overall power and responsibilities to collect more than 95 percent of tax revenues for the country. NBR has been constituted through "the National Board of Revenue Order, 1972 (President's Order No. 76 of 1972) and works under the Internal Resources Division (IRD) of the Ministry of Finance (MoF). The Secretary, IRD is the

ex-officio Chairman of NBR" (NBR, 2019). The main responsibilities of NBR are to initiate and design appropriate tax policy reform measures, negotiation for the Double Taxation Avoidance (DTA) Treaties with foreign countries, supporting inter-ministerial discussions on economic issues relating to domestic resource mobilization and fiscal policies. Moreover, NBR helps the government to mobilize domestic resources through the collection of different tax revenues (mainly, income tax, value added tax, supplementary duty, customs duty, and excise duty) for the Government. Under the overall control of IRD, NBR administers their duties by forming three separate wings for income tax, VAT, and Customs. Additional two supporting wings have also been formed named IT Wing and Research & Statistics Wing to support the overall tasks of NBR. As of 30th June 2018, total of 13,597 employees are working in NBR against 22,128 approved posts (NBR, 2019).

2.4 Bangladesh Tax Performance

The following sub-sections depict a brief idea about the overall tax performance in Bangladesh under various dimensions:

2.4.1 Overall Revenue Performance: Composition and Comparative Analysis of Tax GDP Ratio and Non-Tax-GDP Ratio

Despite several continuous reform measures, the ability of the government to raise tax revenue is constrained by several factors in Bangladesh, which in turn have contributed to the very low level of tax collection. The range of the Tax-GDP ratio may also indicate the economic status of a country in terms of development. Kaldor (1963) prescribed the requirement of having a 25-30% Tax-GDP ratio for a country to be "developed". The requirement has been suggested as 40%, 25%, and 18% for high, middle, and low-income countries respectively (Gallagher, 2005). Another study (Pessimo &

Fenochietto, 2010) has shown the evidence of 36%, 28.8%, 16.5%, and 13.9% in high-income, upper middle income, lower middle income, and low-income countries respectively in the period 2004-06. McNabb (2016) has conducted a study comparing the 1980-2012 period of the Tax-GDP ratio and stated that for high-income countries it lies between 25-30%, which is significantly higher than the middle-income countries (15–20%) and low-income countries (10–15%). Having a Tax-GDP of nearly 10 percent, Bangladesh has been witnessing its failure to mobilize its resources through tax revenue since its inception.

Table – 2.1 Two Decades of Tax-GDP ratio in Bangladesh (1998-99 to 2017-18)

Decade - 1	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
	7.4	6.8	7.8	7.8	8.3	8.5	8.6	7.5	7.1	7.6
Average	**7.74**									
Decade - 2	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
	7.9	8.0	8.6	9.1	9.7	9.6	9.3	9.0	9.7	10.3
Average	**9.12**									

Source: Bangladesh Economic Review (2007, 2019)
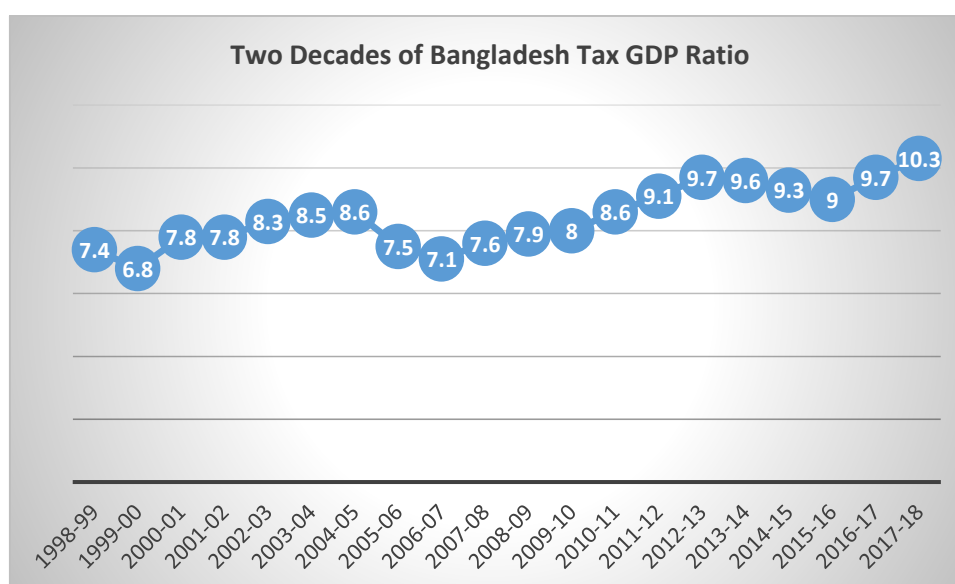
Figure 2.2. Two Decades of Bangladesh Tax GDP Ratio (1998-99 to 2017-18), Compiled by the researcher from the Bangladesh Economic Review, 2007 & 2019

From Table 2.1 and Figure 2.2, it is clear that throughout the period there was a mixed trend in the Tax-GDP ratio in Bangladesh. Bangladesh witnessed Tax-GDP ratios from the lowest 6.8 (1999-00) to the highest 10.3 (2017-18) during the most recent two

decades and there was no consistency in the trend. The average tax-GDP ratio was higher in Decade 2 with 9.12 (2008-09 to 2017-18) comparing to Decade 1 with 7.74 (1998-99 to 2007-08). NBR data reveals that since its independence, the increase in the Tax-GDP ratio is only 6.89 percent in 45 years (3.41 in 1972-73 to 10.3 in 2017-18). Considering the period, the tax performance was not worthwhile. On the other hand, Table 2.2 depicts that the average Non-Tax-GDP ratio was even less than 2.0 percent in the most recent two decades (1998-99 to 2017-18), revealing a decreasing trend in the last five years.

Table – 2.2 Non-Tax-GDP ratio of Bangladesh (1998-99 to 2017-18)

Decade - 1	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
	1.6	1.7	1.8	2.4	2.1	2.1	2.0	1.8	1.9	2.0
Average	**1.94**									
Decade - 2	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
	1.9	1.9	1.8	1.8	1.9	2.0	1.5	1.3	1.3	1.2
Average	**1.66**									

Source: Bangladesh Economic Review (2007, 2019)

2.4.2 Bangladesh Tax-GDP Ratio compared to SAARC and Other Asia-Pacific countries

Gupta (2015) stated that despite a series of ongoing tax reforms, the larger SAARC countries have struggled to improve their Tax-GDP ratios over the last decade. Although these countries were able to maintain notable GDP growth in the past decade, their resource mobilization through tax has either been "stagnated or declined" because of slothful tax revenue growth. Such poor tax performance has been held back for several, interrelated reasons. According to Gupta (2015, p.2) "the main reasons are that these countries have been unsuccessful in broadening their tax base; improving tax compliance; simplifying and strengthening tax administration; commencing comprehensive governance and regulatory reforms, and streamlining their economies that could help in improving tax performance.

Compared to other nations in the Global South, Bangladesh suffers from relatively low revenue mobilization, as the government has struggled to meet Revenue-to-GDP targets on an annual basis (Khan et al., 2019). Figure 2.3 depicts that the Tax-GDP ratio of Bangladesh is the 2nd lowest among the eight SAARC countries, keeping only Afghanistan in its behind.
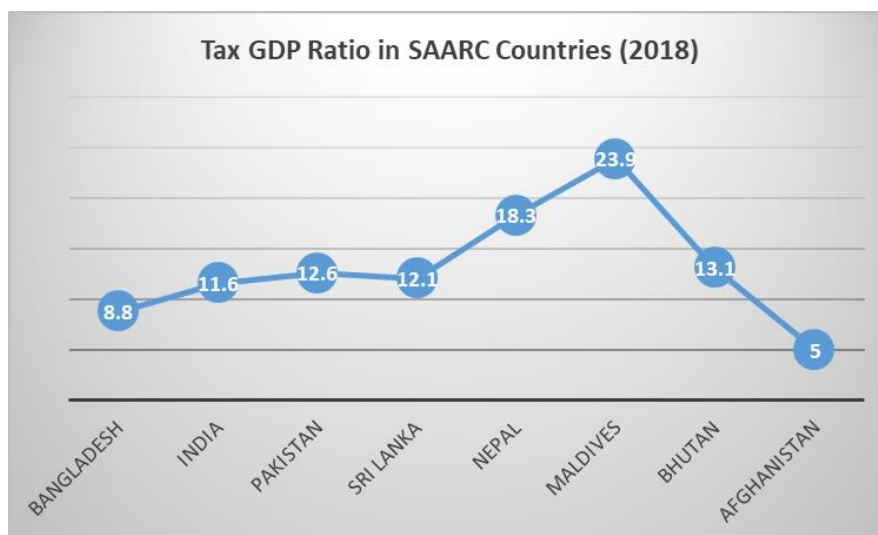
Figure 2.3 Bangladesh Tax GDP Ratio in comparison to SAARC countries based on Heritage Foundation data (2018). "2018 Macro-economic Data"; India – MoF, India

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic,
OECD = Organisation for Economic Co-operation and Development.
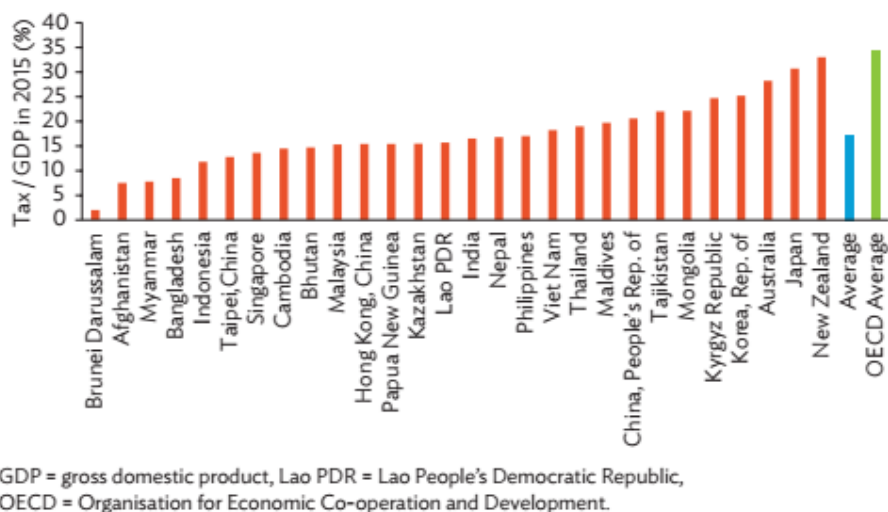
Figure 2.4 Bangladesh Tax GDP Ratio in comparison to Asia-Pacific & OECD countries (Source: Asian Development Bank, 2018)

Considering the 2015 data, Figure 2.4 has also revealed a similar situation compared to other Asia-Pacific and OECD countries. Even the Tax-GDP Ratio of Bangladesh was less than the regional average.

2.4.3 Bangladesh Tax Gap to GDP Ratio Compared to Some Asia-Pacific Countries

Generally, the tax gap exists in an economy where the actual tax revenue collection is less than the potential tax revenue that could have been collected. According to a study (UN-ESCAP, 2018), the tax gap to GDP ratio in Bangladesh is the highest in the Asia-Pacific region. From Figure 2.5, it has also been observed that among eleven countries the tax gap was highest in Bangladesh, which is equal to 7.5 percent of GDP, followed by Bhutan (6.7%), Afghanistan (6.2%), and Maldives (5.8%).
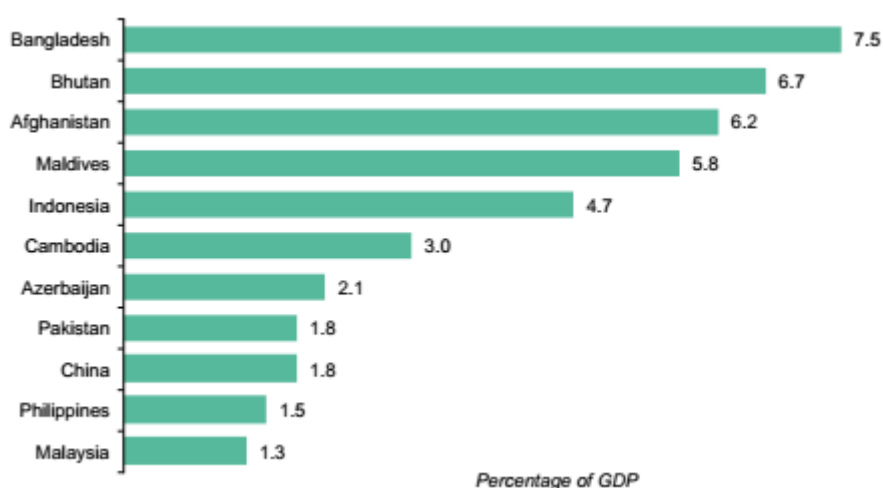
Figure 2.5. Estimated tax gaps in selected Asia-Pacific economies (Source: ESCAP, 2018)

Compared to the findings of other studies, these statistical data regarding the tax gap may seem to be conservative. Langford & Ohlenburg (2015) conducted a study to measure the tax gap in 13 Asia-Pacific countries. This study has estimated a higher tax gap of 13.6% in these countries, which is significantly higher than the ESCAP (2018) estimation. It has also been stated that in low and lower-middle-income countries around 50% and 40% of the potential tax revenue remains uncollected, whereas this average is 30% in upper-middle and high-income countries. Fenochietto & Pessino (2013) shows that Bangladesh economy taxes only 43 per cent of its potential taxable revenue, which is one of the lowest effort ratios in the world.

Brun & Diakité (2016) stated that the tax capacity of a country depends on some country-specific structural factors and to be 'realistic', the tax revenue collection target of a country must be set considering such factors. The success in achieving the target depends on the efficient and effective efforts of the tax authorities of a country, handling the effects of different constraints in existing tax policies. Langford & Ohlenburg (2015) has illustrated a comparative picture in terms of Tax-GDP ratio, estimated tax capacity and estimated tax effort:

Table – 2.3 Tax-GDP ratio, Estimated Tax Capacity, and Tax effort: Bangladesh vs Different Country Income Group

Country / Country Income Group	Tax-GDP Ratio	Estimated Tax Capacity	Estimated Tax Effort
Low and lower-middle	15.7%	26.4%	0.59
Upper-middle and high	22.5%	33.0%	0.68
Bangladesh	9.0%	20.8%	0.43

Source: Data based on the findings of Langford & Ohlenburg (2015)

Table 2.3 reveals the condition of Bangladesh's tax performance in terms of different parameters, in comparison with different country income groups. It is quite evident that more than half of the potential tax revenue remains uncollected in Bangladesh. According to Ahmed (2019), some of the reasons pertaining to this problem are narrow tax base, informal economy, tax avoidance and evasion, poor tax information reporting system, poor tax culture, tax law complexities, corruption, lack of enforcement measures etc.

2.4.4 Trends in Overall Paying Taxes Ranking: Bangladesh vs other SAARC Countries

Table 2.4 presents the trend in overall paying taxes ranking for the most recent five years (2015 – 2019) based on the study done by the World Bank Group and PwC (2019) across 190 economies around the world. In the case of Bangladesh, it is found that after

2016, there is a drastic fall in the overall ranking. Moreover, it is also very clear that except Bhutan, all other SAARC countries are struggling with their tax system.

Table 2.4 Trends in Overall Paying Taxes Ranking of SAARC Countries 2015 - 2019

Economy	2019	2018	2017	2016	2015
Afghanistan	177	176	163	89	79
Bangladesh	151	152	151	86	83
Nepal	158	146	142	124	126
Pakistan	172	172	156	171	172
India	121	119	172	157	156
Maldives	117	118	134	128	134
Sri Lanka	141	158	158	158	158
Bhutan	15	17	19	28	86

Sources: Paying Taxes 2015 - 2019, World Bank Group & PwC

2.4.5 Tax as a % of Total Revenue in Bangladesh

Table 2.5 and Figure 2.6 reveal that tax revenue has been contributing more than 80 percent of the government revenue in Bangladesh for the last 20 years. The average contribution has been increased from 80.14% in Decade 1 to 84.69% in Decade 2 with a significant increase in the most recent three years up to 90%.

Table – 2.5 Tax as a % of Total Revenue in Bangladesh (1998-99 to 2017-18)

Decade -	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
	80.48	80.09	80.63	79.26	80.17	79.94	81.51	80.63	79.33	79.31
Average	80.14									
Decade -	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
	80.26	80.46	83.05	83.81	83.64	83.09	86.11	87.26	89.73	89.50
Average	84.69									

Source: Author's calculation based on data from Bangladesh Economic Review (2017, 2019)
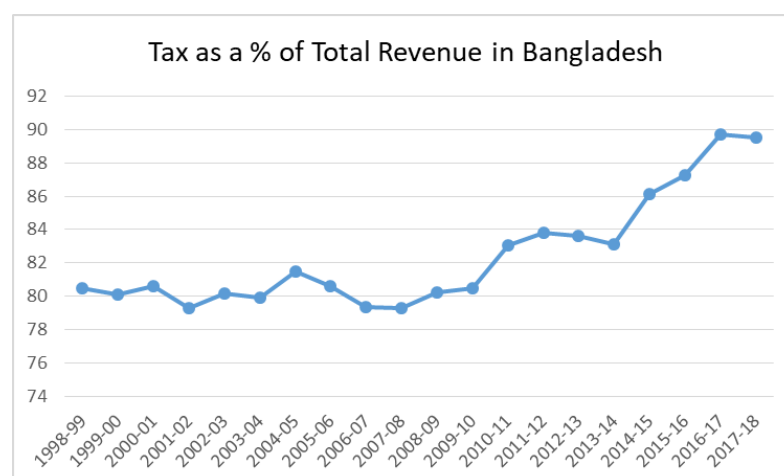
Figure 2.6 Tax as a % of Total Revenue in Bangladesh

2.4.6 Yearly Growth of Tax Revenue (as %) in Bangladesh

Table –2.6 *Yearly Growth of Tax Revenue (as a %) in Bangladesh* **(1998-99 to 2017-18)**

Decade -	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
	5.69	7.83	14.00	12.52	12.13	13.43	12.90	13.22	8.49	22.33
Average	**12.25**									
Decade -	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
	15.65	15.18	23.60	21.80	21.33	11.43	8.07	10.47	23.72	20.77
Average	**17.20**									

Source: Author's calculation based on data from Bangladesh Economic Review (2019)
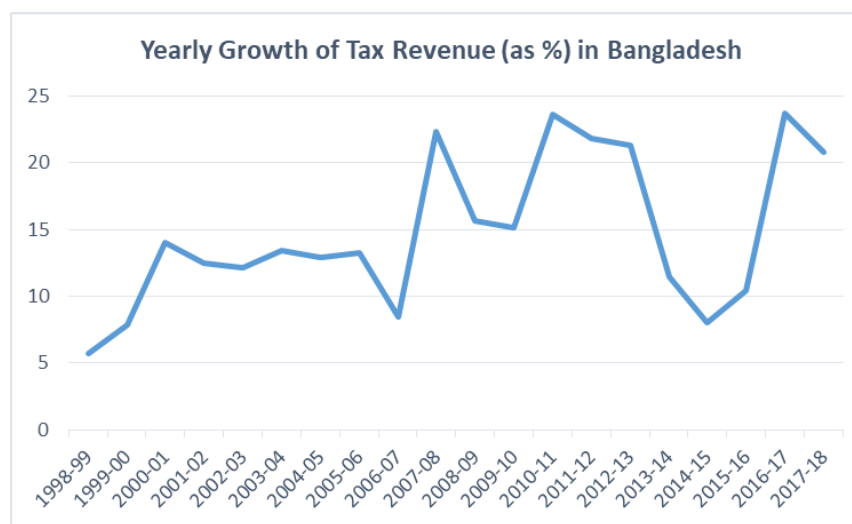
Figure 2.7 Yearly Growth of Tax Revenue in Bangladesh

From Table 2.6 and Figure 2.7, it has been observed that the yearly growth in the total tax revenue was uneven and inconsistent for the most recent twenty years. The average growth was significantly higher in decade 2 with 17.20% comparing to Decade 1 with 12.25%. Due to the several reform measures taken by the government in the last decade, the growth rate has been improved significantly and for the most recent two years tax revenue has been growing at a rate of more than 20 percent.

2.4.7 Composition of Major Taxes in Total Tax Revenue (as %)

Bangladesh is a country of multiple taxes. Among all the taxes, income tax, VAT, customs duty, and supplementary duty mostly contribute around 95 percent of total tax revenue.

Table – 2.7 Composition of major taxes in Total Tax Revenue (as a %) in Bangladesh (1998-99 to 2017-18)

Decade - 1	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Income Tax	14.73	17.43	18.47	18.70	19.19	18.62	18.31	19.24	22.74	22.92
VAT	30.27	31.62	31.46	31.74	32.35	30.30	33.19	34.27	34.86	35.43
Customs	29.99	26.53	24.47	24.40	23.55	25.80	25.04	22.78	21.09	19.37
Supp. Duty	16.02	15.58	17.26	17.56	17.60	19.19	17.53	17.68	15.53	16.60
Other taxes	8.99	8.84	8.34	7.6	7.31	6.09	5.93	6.03	5.78	5.68
Average	**Income tax (19.04); VAT (32.55); Customs (24.30); Supp. Duty (17.06)**									
Decade - 2	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Income Tax	24.38	25.89	27.96	29.14	30.22	34.08	34.56	33.33	32.64	33.48
VAT	36.23	35.64	35.77	35.63	34.64	35.24	35.24	34.69	35.72	35.62
Customs	17.24	16.31	13.81	13.15	12.47	10.35	10.76	11.04	11.24	11.45
Supp. Duty	16.43	16.39	17.15	16.85	17.09	14.72	7.00	16.13	15.35	14.97
Other taxes	5.72	5.77	5.31	5.23	5.58	5.61	12.44	4.81	5.05	4.48
Average	**Income tax (30.57); VAT (35.44); Customs (12.78); Supp. Duty (15.21)**									

Source: Author's calculation based on data from Bangladesh Economic Review (2019)
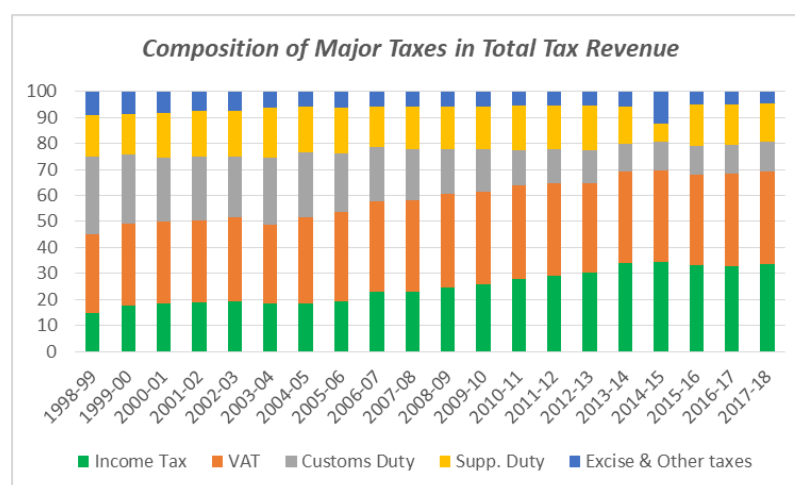
Figure – 2.8 Composition of different taxes in Total Tax Revenue of Bangladesh

From Table 2.7 and Figure 2.8, it has been observed that the contribution of VAT has been maximum during this period with a contribution of 30% to 36% consistently. The contribution of income tax has been increased from 14% to around 35%, with tremendous growth. Whereas, Bangladesh witnessed a significant fall in the contribution of customs duty from 30% to around 11%. The contribution of supplementary duty was almost consistent during this period with a 15% to 18% contribution. The increasing trend in the contribution of income tax indicates the government's efforts to reduce the dominance of indirect tax in the tax structure. On

average, the contribution of income tax and VAT was higher in Decade 2 and for customs and supplementary duty, it was in Decade 1.

2.4.8 Growth in Tax Collection from Major Taxes (in %)

Table – 2.8 Growth of major taxes (as a %) in Bangladesh (1998-99 to 2017-18)

Decade - 1	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Customs	6.61	-4.63	5.16	12.16	9.81	24.26	9.59	2.94	0.53	12.33
Income tax	11.19	27.62	20.81	13.89	16.78	10.07	11.01	18.97	28.22	23.32
VAT	2.3	12.6	13.45	13.5	15.96	6.24	23.67	16.91	10.36	24.34
Suppl.	6.54	4.88	26.24	14.48	14.4	23.69	3.13	14.18	-4.68	30.76
Total NBR	5.32	7.74	14.38	13.28	14.57	13.89	12.75	12.97	8.77	22.63
Average	**Customs (7.88); Income tax (18.19); VAT (13.93); Supp. Duty (13.36); NBR taxes (12.63)**									
Decade - 2	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Customs	2.9	8.99	4.65	16.02	15.03	-7.51	12.32	13.34	25.95	23.02
Income tax	23.02	22.32	33.48	26.94	25.8	25.69	9.57	6.55	21.16	23.87
VAT	18.24	13.32	24.04	21.33	17.96	13.37	8.06	8.75	27.38	20.44
Suppl.	14.44	14.95	29.27	19.67	23.11	-4.07	3.63	26.25	13.78	17.77
Total NBR	15.32	15.19	23.93	22.18	21.53	11.35	8.02	11.09	23.33	21.62
Average	**Customs (11.47); Income tax (21.84); VAT (17.29); Supp. Duty (15.89); NBR taxes (17.36)**									

Source: Author's calculation based on data from Bangladesh Economic Review (2019)
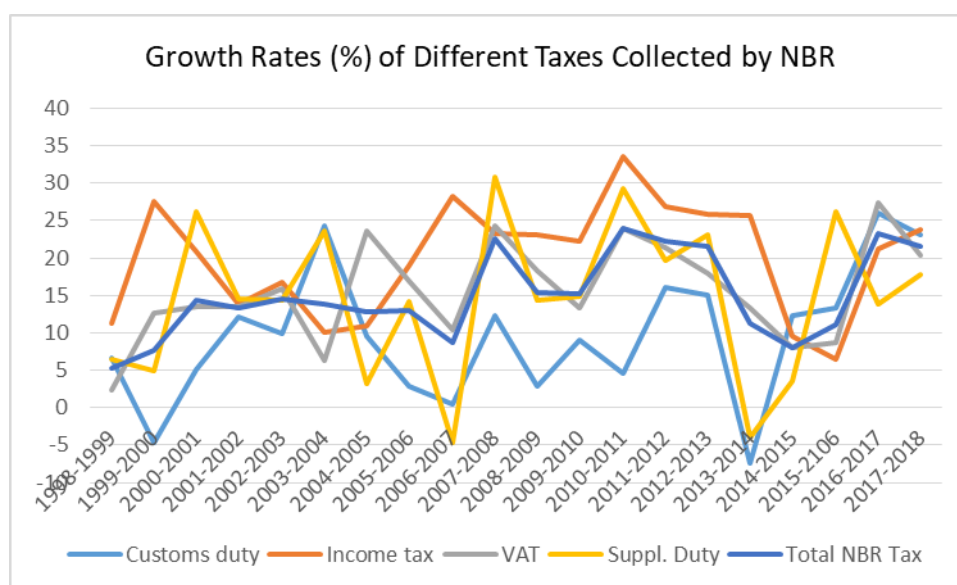
Figure – 2.9. Growth rates of different taxes collected by NBR

From Table 2.8 and Figure 2.9, it has been learned that there is no consistency in the growth rate of the different types of taxes. In the case of NBR taxes, there was always positive growth for income tax and VAT except for exceptions in case of customs duty and supplementary duty with negative growths in two years. Considering the average

growth rates, for all taxes the growth was higher in decade 2 than in decade 1. The variation in the growth rates is noticeable throughout the period. These kinds of variations reveal the existence of inconsistent tax policy in a developing country like Bangladesh.

2.4.9 Composition of Direct and Indirect Taxes in Total Tax Revenue (as %)

As tax is one of the most used tools to generate public finance, most of the governments use a combination of multiple taxes to ensure an adequate level of revenues. These multiple taxes can broadly be classified into two categories, namely direct and indirect taxes. Direct taxes are those the burden of which cannot be shifted, such as income tax, wealth tax, gift tax, etc. In contrary, indirect taxes are those that are levied on sales or purchase transactions of any goods or services other than personal services regardless of the circumstances of buyer or seller, and the burden of which can ultimately be shifted to others, such as sales tax, VAT, customs duty, etc. (Martinez-Vazquez, Vulovic, & Liu, 2011; Shil et al., 2019).

In the political and academic arena, different opinions exist over the years regarding the appropriate mix of direct and indirect taxes based on their pros and cons. The combination is crucial in setting the optimal tax structure, as their impact is different on the goals of efficiency and equity (Martinez-Vazquez et al, 2011).

Table 2.9 depicts that Bangladesh's tax structure is dominated by indirect taxes, although the dominance has been reduced to an average of 69.43% in decade 2 than an average of 80.97% in decade 1. According to a report of ACCA (2016), unlike Bangladesh, the dominance of the indirect taxes has also been witnessed in other major SAARC countries like India, Pakistan and Sri Lanka.

Table – 2.9 Composition of direct & indirect taxes in Total Tax (as %) in Bangladesh (1998-99 to 2017-18)

Decade - 1	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Direct Tax	14.73	17.43	18.47	18.70	19.19	18.62	18.31	19.24	22.74	22.92
Indirect	85.27	82.57	81.53	81.3	80.81	81.38	81.69	80.76	77.26	77.08
Average	**Direct tax (19.04); Indirect Tax (80.97)**									
Decade - 2	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Direct Tax	24.38	25.89	27.96	29.14	30.22	34.08	34.56	33.33	32.64	33.48
Indirect	75.62	74.11	72.04	70.86	69.78	65.92	65.44	66.67	67.36	66.52
Average	**Direct Tax (30.57); Indirect Tax (69.43)**									

Source: Author's calculation based on data from Bangladesh Economic Review (2019)
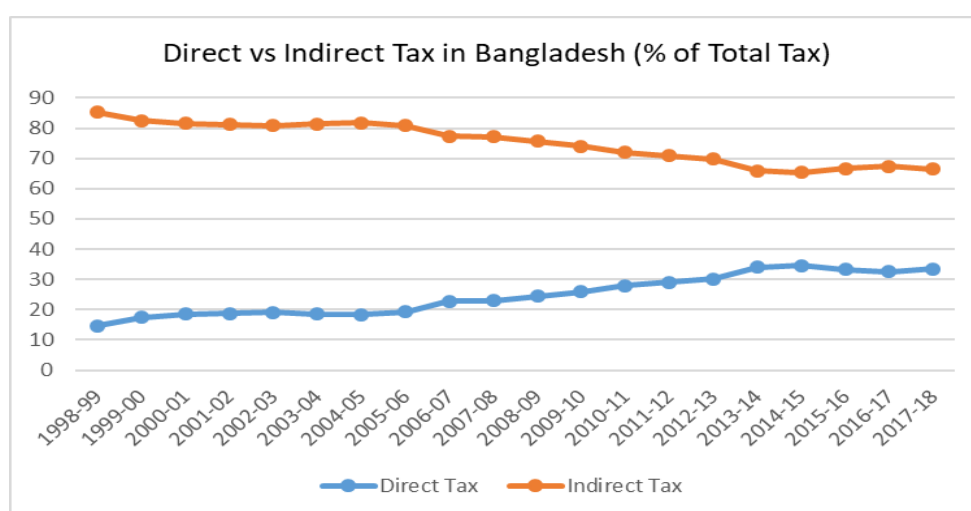
Figure – 2.10 Trends of Direct vs Indirect tax in Bangladesh

Table 2.10 depicts a comparison among four major SAARC countries (Bangladesh, India, Pakistan and Sri Lanka. The dominance is higher in Bangladesh, India and Pakistan. On the contrary, Pakistan's indirect tax contribution is comparatively balanced.

Table 2.10 Indirect Tax Contribution (% of Total Tax): Bangladesh vs Major SAARC Countries

	2011	**2012**	**2013**	**2014**	**2015**
Bangladesh	70.86%	69.78%	65.92%	65.44%	66.67%
India	64.55%	65.84%	66.86%	66.66%	66.55%
Pakistan	55.63%	55.25%	53.97%	54.14%	49.85%
Sri Lanka	68.80%	62.98%	62.16%	62.62%	65.98%

Source: Authors compilation based on data from BER and ACCA Report (2016)

2.5 Legal Framework of Bangladesh Income Tax Law

2.5.1 A Brief History of Bangladesh Income Tax Legal Framework

As mentioned in Shil et. al. (2019), the current income tax system of Bangladesh is inherited from its past British and Pakistani rulers. In the Indian Subcontinent, the first Income Tax Act has been introduced in 1860 by the then English rulers following the Income Tax Act of England. This law has been repealed in 1867 due to the demand and hasty changes in the political and socio-economic culture of the state. After this, to finance the budget deficit the government has introduced the License Act, 1867, and the Certificate Act, 1868 featuring certain provisions of income tax imposition and exemption.

In 1869, "The Income Tax Act – II" has been passed incorporating certain amendments in the existing Act. In 1873, this Act has been repealed and later reintroduced in 1877 in the name of "The License Tax Act, 1877". This law had been in operation till 1886 when the British government introduced "The Income Tax Act – 1886". In 1918, after long 32 years, the English government has introduced "The Income Tax Act – 1918" incorporating various amendments of the earlier Act.

"The Income Tax Act – 1922" has been introduced based on the guidelines suggested by the "All India Committee", which has been formed in 1921, to evaluate the current tax system for a revision. "The Income Tax Act – 1922" is considered as the pioneer of the income tax Acts in the Indian sub-continent as India and Pakistan, both the country accepted this as their income tax law after the independence from British rulers in 1947. In 1961, the Indian government has introduced "The Income Tax Act – 1961" incorporating necessary changes in the earlier Act of 1922; whereas Pakistan had been

following the old Act, although they have incorporated some amendments in the following years e.g. Tax Holiday Scheme (1959), Self-assessment system (1965), etc.

After its independence in 1971, Bangladesh has also adopted the same Act "The Income Tax Act – 1922" with necessary changes made as per the necessity. In 1976, a "Taxation Enquiry Commission" has been formed by the government to review the prevailing Act for the update. As per their suggestions, on 1st July 1984 "Income Tax Ordinance, 1984" has been introduced withdrawing the outdated "The Income Tax Act – 1922". The "Income Tax Ordinance, 1984" is also known as the Income Tax Manual I, which is supported by the "Income Tax Rules, 1984" which is known as the Income Tax Manual II. The National Board of Revenue (NBR) is empowered to do necessary revisions in the law through the Finance Acts, Statutory Regulatory Orders (SROs), and Circulars subject to the approval of the Parliament and relevant authorities. As a step of the government's ongoing tax reform measures, the NBR has taken an initiative to modernize the direct tax laws known as the Direct Tax Code (Ahmed, 2019).

2.5.2 Present Legal Framework of Bangladesh Income Tax

Income tax is imposed based on the relevant provisions of income tax laws (Shil et al, 2019). In Bangladesh, the existing legal framework comprises of the following laws:

1. **The Income Tax Ordinance, 1984:** This law has introduced on 1st July 1984 and known as Income Tax Manual I. It has 23 Chapters, 187 sections, numerous sub-sections, and seven schedules containing relevant provisions regarding income tax imposition, powers and duties of various income tax authorities, penalty, appeal, etc.

2. **Income Tax Rules, 1984:** Section 185 of the ITO, 1984 has given the power to the National Board of Revenue to make rules for carrying out purposes of the Act. Such rules are known as the Income Tax Rules, 1984 which is also known as the Income Tax Manual II.

3. **Finance Act:** Through the Annual Budget of the country, the Finance Act is Passed in the Parliament. The Finance Act gives effect to the various proposals regarding the income tax and rebate rates and other changes in the provisions of the Income Tax Ordinance through the annual budget.

4. **SRO (Statutory Regulatory Orders)/ Circulars/ Notifications from NBR:** In accordance with Section 185 of the Income Tax Ordinance, 1984, NBR can bring amendments in the Income Tax Ordinance and Rules through the issuance of certain orders /circulars as and when necessary through the discretionary power of the government.

5. **Judicial Decisions:** The judicial decisions given by the Supreme Court of Bangladesh is used as guidance to the tax officials and the assessee if any dispute arises between the NBR and the assessee regarding the interpretation of any provisions of the Income Tax Ordinance, 1984; Income Tax Rules, 1984 or any other relevant provisions.

2.6 Income Tax Rates of an Individual Taxpayer in Bangladesh

In Bangladesh, the rates of income tax for an individual taxpayer are normally prescribed through the Finance Acts. These income tax rates are set by the government and are generally revised periodically considering the economic structure and specific development goals of the country. The following income tax rates were applicable for the individual taxpayers in the most recent ten assessment years:

Table 2.11 Income Tax Rates applicable for an individual taxpayer 2009 – 2010 AY to 2020-2021

Assessment Year	Income Tax Rates					
	1st Slab (Nil)	2nd Slab 10%	3rd Slab 15%	4th Slab 20%	5th Slab 25%	6th Slab 30%
2009-2010 & 2010-2011	On the first Tk. 165,000 of TI	On the next Tk. 275,000 of TI	On the next Tk. 325,000 of TI	On the next Tk. 375,000 of TI	On the rest of TI	N/A
	Provided that, women and age => 65 of men's 1st slab is Tk. 180,000; disable & handicapped person's 1st slab is Tk. 200,000. The minimum tax is Tk. 2,000.					
2011-2012	On the first Tk. 180,000 of TI	On the next Tk. 300,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 300,000 of TI	On the rest of TI	N/A
	Provided that, women and age => 65 of men's 1st slab is Tk. 200,000; disable & handicapped person's 1st slab is Tk. 250,000. The minimum tax is Tk. 2,000.					
2012-2013	On the first Tk. 200,000 of TI	On the next Tk. 300,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 300,000 of TI	On the rest of TI	N/A
	Provided that, women and age => 65 of men's 1st slab is Tk. 225,000; disable & handicapped person's 1st slab is Tk. 275,000. The minimum tax is Tk. 3,000.					
2013-2014	On the first Tk. 220,000 of TI	On the next Tk. 300,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 300,000 of TI	On the rest of TI	N/A
	Provided that, women and age => 65 of men's 1st slab is Tk. 250,000; disable & handicapped person's 1st slab is Tk. 300,000. *The minimum tax is Tk. 3,000 (in case of City Corporation), Tk. 2,000 (in case of District Headquarter's Paurasabha, Tk. 1,000 (in case of other areas of Bangladesh)*					
2014-2015	On the first Tk. 220,000 of TI	On the next Tk. 300,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the next Tk. 30,00,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 275,000; disable & handicapped person's 1st slab is Tk. 350,000 and Freedom Fighter injured in Liberation War is Tk. 400,000. *The minimum tax is Tk. 3,000 (in case of City Corporation), Tk. 2,000 (in case of District Headquarter's Paurasabha, Tk. 1,000 (in case of other areas of Bangladesh)*					

Assessment Year	Income Tax Rates					
	1st Slab (Nil)	2nd Slab 10%	3rd Slab 15%	4th Slab 20%	5th Slab 25%	6th Slab 30%
2015-2016	On the first Tk. 250,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the next Tk. 600,000 of TI	On the next Tk. 30,00,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 300,000; disable & handicapped person's 1st slab is Tk. 375,000; Freedom Fighter injured in Liberation War is Tk. 425,000; *The minimum tax is Tk. 5,000 (in case of Dhaka and Chittagong City Corporation), Tk. 4,000 (in case of other City Corporation, Tk. 3,000 (in case of other areas of Bangladesh)*					
2016-2017	On the first Tk. 250,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the next Tk. 600,000 of TI	On the next Tk. 30,00,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 300,000; disable & handicapped person's 1st slab is Tk. 375,000 and Freedom Fighter (Gazetted) injured in the Liberation War is Tk. 425,000; Parents or legal guardian of retarded person is Tk. 25,000 more (if father and mother are both taxpayers, anyone will enjoy the benefit). *The minimum tax is Tk. 5,000 (in case of Dhaka North & South; Chittagong City Corporation), Tk. 4,000 (in case of other City Corporation, Tk. 3,000 (in case of other areas of Bangladesh)*					
2017-2018	On the first Tk. 250,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the next Tk. 600,000 of TI	On the next Tk. 30,00,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 300,000; disable & handicapped person's 1st slab is Tk. 400,000 and Freedom Fighter (Gazetted) injured in the Liberation War is Tk. 425,000; Parents or legal guardian of retarded person is Tk. 25,000 more (if father and mother are both taxpayers, anyone will enjoy the benefit). *The Minimum tax is Tk. 5,000 (in case of Dhaka and Chittagong City Corporation), Tk. 4,000 (in case of other City Corporation, Tk. 3,000 (in case of other areas of Bangladesh)*					
2018-2019 & 2019-2020	On the first Tk. 250,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the next Tk. 600,000 of TI	On the next Tk. 30,00,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 300,000; disable & handicapped person's 1st slab is Tk. 400,000 and Freedom Fighter (Gazetted) injured in the Liberation War is Tk. 425,000; Parents or legal guardian of retarded person is Tk. 50,000 more (if father and mother are both taxpayers, anyone will enjoy the benefit). *The minimum tax is Tk. 5,000 (in case of Dhaka and Chittagong City Corporation), Tk. 4,000 (in case of other City Corporation, Tk. 3,000 (in case of other areas of Bangladesh)*					

Assessment Year	Income Tax Rates					
	1st Slab (Nil)	2nd Slab 5%	3rd Slab 10%	4th Slab 15%	5th Slab 20%	6th Slab 25%
2020-2021	On the first Tk. 300,000 of TI	On the next Tk. 100,000 of TI	On the next Tk. 300,000 of TI	On the next Tk. 400,000 of TI	On the next Tk. 500,000 of TI	On the rest of TI
	Provided that, women and age => 65 of men's 1st slab is Tk. 350,000; disable & handicapped person's 1st slab is Tk. 450,000 and Freedom Fighter (Gazetted) injured in the Liberation War is Tk. 475,000; Parents or legal guardian of retarded person is Tk. 50,000 more (if father and mother are both taxpayers, anyone will enjoy the benefit). *The minimum tax is Tk. 5,000 (in case of Dhaka and Chittagong City Corporation), Tk. 4,000 (in case of other City Corporation, Tk. 3,000 (in case of other areas of Bangladesh)*						

Source: Finance Acts (2009 – 2020)

A 5-slab income tax rate (0%, 10%, 15%, 20% & 25%) was applicable in Bangladesh from assessment year 2002-2003 to 2013-2014. With a view to charging more tax on higher earner group through higher tax rate, a 6-slab (0%, 10%, 15%, 20%, 25% & 30%) has taken into effect from the assessment year 2014-2015 to 2019-2020 for an individual assessee. After six years, in the assessment year 2020-2021, government revised the 6-slab (0%, 5%, 10%, 15%, 20%, & 25%.) income tax rates considering a reduction to 5% tax rate in the second slab. This revision has been considered due to the adverse impact of Covid -19 Pandemic on the earning of the general people.

2.7 Surcharge Applicable for an Individual Taxpayer

To reduce the inequality in income and wealth, in addition to income tax payable amount surcharge is imposed as a percentage of net wealth or net income tax payable amount, as the case may be, on an individual assessee subject to having the net wealth amount more than a certain amount specified by the NBR. For the assessment year 2020-21 surcharge is applicable as per the following rates:

Table 2.12 Surcharge applicable for an individual taxpayer for the assessment year 2020-2021

Net Wealth	Rate of surcharge on IT Payable	Minimum Surcharge
Up to Tk. 3 **crore**	0%	
Exceeding Tk. 3 **crore** to Tk. **5 crore** or Own more than one motor car in own name or Own house property exceeding 8,000 square feet within the city corporation area	10%	Tk. 3,000
Exceeding Tk. **5 crore** to Tk. **10 crore**	15%	
Exceeding Tk. **10 crore** to Tk. **15 crore**	20%	Tk. 5,000
Exceeding Tk. **15 crore** to Tk. **20 crore**	25%	
Exceeding **Tk. 20 crore but less than Tk. 50 crore**	30%	
Tk. 50 crore or more	higher of 0.1% of the net wealth or 30% of income tax payable amount on Total Income	

Source: Finance Act, 2020

In addition to the surcharges for having net wealth exceeding Tk. 3 crore, 2.5% surcharge is applied on the income from tobacco manufacturing goods (e.g. Cigarette, Bidi, Smokeless tobacco etc.) business.

2.8 Income Tax Rebates Applicable for an Individual Taxpayer

To motivate the taxpayers through reducing their income tax burden, rebates on income tax are allowed as a percentage of the eligible amount of investment allowance. Part B of Sixth Schedule, ITO, 1984 depicts the list of items on which rebate is allowed. Some examples of such items are life insurance premium paid, purchase of listed company's share, government securities, savings certificate, contribution to DPS, contribution to government zakat fund, etc. will be considered as investment allowance. From the gross income tax payable amount, the assessee will deduct the rebate on the eligible amount of the investment allowance. Other rebates (rebate on tax-free income, other special rebates are also adjusted accordingly.

As per the provisions of the ITO, 1984 tax rebate is allowed under the following situations:

$\Rightarrow$ @ **Average rate** on tax-free income (e.g. share of profit in a firm / Association of Persons).

$\Rightarrow$ @ **10% or 15%** (as the case may be) on the eligible amount of investment allowance. However, the maximum amount of investment eligible for tax rebate would be restricted to the lower of **25%** of the total income or **Tk. 1.5 crore**. As per section 44(2)(b) of the ITO, 1984, the resident and non-resident Bangladeshi individual taxpayers will get a tax rebate from the amount of gross tax payable on his total income. The rebate is calculated as a percentage of eligible investment amount:

Table 2.13 Tax rebate rate on investment allowance for an individual taxpayer for the assessment year 2020-21

Total Income	Amount of Credit / Rebate
If the total income of an assessee does not exceed Tk. 15,00,000	15% of the eligible amount
If the total income of an assessee exceeds Tk. 15,00,000	10% of the eligible amount

Source: Finance Act, 2020

$\Rightarrow$ In case of an individual assessee, being an owner of a small or cottage industry situated in Less Developed Area or Least Developed Area and engaged in the production of producing cottage industry goods, he will obtain an income tax rebate at 5% of payable income tax (if income year's production is higher by more than 15% but not more than 25%) or 10% of payable income tax (if income year's production is higher by more than 25%).

$\Rightarrow$ For the first time online income tax return submission, Tk. 2,000 rebate will be granted.

2.9 Provisions for Tackling Income Tax Evasion, Avoidance, and other Forms of Non-compliance

It is the responsibility of the government to ensure a fair tax system, and through that system to make sure that those who try to evade tax, through whatever means, are caught and forced to pay what they owe or facing the respective punitive measures. The works on tax evasion adopt that taxpayers always try to evade their taxes wholly and the only cause they do not do so is that there is some non-zero probability of being held by the government which may bring some punitive measures against the defaulter (D'Souza, 2016). In this regard, the income tax laws generally incorporate several provisions of punitive measures for the evaders and defaulters.

The legal framework must be designed to make sure it effectively supports a modern, efficient and trusted tax system, which brings in revenue for the government, while making sure there are appropriate safeguards for the taxpayer to uphold their right. Evaluating the existing legal framework for the income tax in Bangladesh, it has been observed that numerous provisions have been incorporated in the Income Tax Ordinance, 1984 to tackle income tax evasion, avoidance and other forms of non-compliances. These punitive measures are featured with imprisonment (minimum 3 months to maximum 5 years), or with fine, or both. The defaulted taxpayers are given scope to defend themselves before imposing any punitive measure. Moreover, through Chapter XI of the ITO, 1984 some provisions have been incorporated to tackle the avoidance through transfer of assets, transactions in securities, transaction with non-residents, transfer pricing, etc. Tax evasion can be tackled significantly if such provisions can be applied effectively by the tax administrators and the government of a country.

2.10 Administration of Individual Income Tax in Bangladesh

As an individual wing under the National Board of Revenue, income tax authorities hold the sole responsibility to execute the income tax laws applicable in Bangladesh. Moreover, they are also responsible to ensure coordination among related departments formed to facilitate the overall income tax imposition and collection process. National Board of Revenue (NBR), as the apex body, enjoys the power to appoint income tax authorities as per the provisions of the IT Ordinance, 1984. The law has also provided them with the necessary power to exercise the rules and orders of the government. According to Section 4(2) of the IT Ordinance, 1984, NBR may appoint necessary officers as it may think fit.

A separate Income Tax Wing has been established in NBR to manage the income tax assessment and collection. To discharge executive and other appellate functions, tax officers have been empowered through relevant provisions in the Income Tax Ordinance, 1984. Chapter II (Sections 3 - 10) of the IT Ordinance, 1984 deals with the appointment, power, and responsibilities of various income tax authorities with their respective authority - responsibility relationships. Thus, the commissioners and the inspectors perform their duties maintaining the official protocol.

In Bangladesh, income tax authorities may be classified into two major groups depending on their functions, namely, administrative and judicial. The responsibilities of the administrative group are to look after the total administration of income tax wing starting from the identification of assessee to the collection of taxes from them. On the other hand, the Judicial Group is responsible to hear the claims of the aggrieved assessees and to give them the verdict as early as possible.

2.11 Summary

This chapter presented an overview of Bangladesh's individual income tax system. National Board of Revenue (NBR) is the apex body to administer the administrative functions of the overall income tax imposition and collection process through a separate income tax wing. NBR assigns taxing powers to the officers under the Income Tax Wing according to their responsibilities. Personal income tax is one of the taxes imposed and collected by the government in Bangladesh.

In Bangladesh, the individual taxpayers in Bangladesh are assessed as per the specified income tax rates imposed through the Finance Act in every assessment year. They are entitled to deduct several allowances and rebates from their gross income tax payable amount. A surcharge is also imposed for having a net wealth of more than Taka three crore, multiple motor cars, or more than 8000 square feet of house property in the city corporation area.

The administration of the individual income tax structure in Bangladesh is affected by many problems. The most obvious and critical of these problems is noncompliance with the provisions of income tax law in respect of the payment of the correct amount of taxes, filing of income tax returns in due time, declaration of all income for income tax purposes, and correct reporting of tax accounts. This problem has affected the performance of individual income tax in Bangladesh; hence, the contribution from the income tax is, just around 33% of the total tax revenue of the Bangladesh government. The next chapter reviews the relevant literature on tax compliance behavior.

CHAPTER THREE
LITERATURE REVIEW

3.1 Introduction

This chapter reviews the literature from secondary sources relevant to the study objectives. In this regard, the chapter is organized into several subsections to enumerate relevant findings from the literature. The chapter starts with the relevant concepts of tax compliance behavior focusing the compliance and non-compliance issues. The next section of the chapter focuses on relevant theories of tax compliance. The last section focuses on the types and nature of the determinants of tax compliance behavior based on prior research studies.

3.2 The Concept of Tax and Taxation

The term "tax" is an English word that has been derived from the French word "taxe" and the Latin word "taxare". Both these words mean "to charge/censure/compute". To elaborate, Shil et al. (2019, p. 5) have defined taxes as "non-penal but compulsory and unrequited transfer of resources from the private to public sector, levied by the government or other tax authority, on the basis of predetermined criteria". Taxes are unrequited since the benefits received by the taxpayers from the government are not direct return to their tax payments (Shil et. al. 2019; OECD, 2017). Such contribution made by the taxpayers, i.e. individuals and corporate bodies, to the government of a country is generally the prime source of government revenue. Taxes are generally imposed on income, expenditure, or assets for which the taxpayer doesn't expect anything as direct return (Lymer & Oats, 2017; Anyaduba, 2006; Palil, 2010). But,

against their contribution, the taxpayers generally expect to enjoy the value of living in a reasonably well and safe society (Fagbemi, Uadiale, & Noah, 2010).

Similarly, taxation can also be considered as the procedure or mechanism by which individuals, companies, or entities are liable to pay based on some predetermined criteria so that the government can arrange sufficient funds to run the administration and to ensure the general welfare of the society (Shil et al., 2018). For mobilizing domestic resources, a government generally uses taxation as a process or system through the levying of various types of taxes e.g. direct and indirect (Anyaduba, 2006). For the poor and developing countries, taxation is often considered as the oldest and ultimately the only sustainable source of development finance (Cobham, 2005). Moreover, the tax policy of a country is also designed to fulfill some other objectives like control of consumption, decreasing disparities of income and wealth, ensuring modest economic growth & sustainable development, protection of local industries etc. (Mascagni, 2018; McKerchar & Evans, 2009; Olabisi, 2010; Shil et al., 2019).

3.3 The Concept and Definition of Tax Compliance

This section has enumerated the definition of tax compliance, and also explained the meaning of tax evasion and tax avoidance as they are related to taxpayer's compliance behavior. For many tax authorities, tax non-compliance is a major problem and it is very tough to convince the taxpayers to comply with relevant provisions of the tax laws applicable in the economy (James & Alley, 2002). Over the last few decades, several economies have been suffering from the increasing trend of tax non-compliance. Hence, the tax non-compliance problem has drawn the keen attention of policymakers and research scholars (Kastlunger et al., 2013). Theoretically, to be compliant, Brown and

Mazur (2003) have pointed out three distinct types of compliance to be ensured by a taxpayer. These are payment, filing, and reporting compliance. Moreover, compliance issues in tax must be handled from different perspectives (Castro & Rizzo, 2014). Despite several reform measures are taken by the governments, still there is a long way to go to ensure satisfactory improvements in the level of tax compliance.

Devos (2014) pointed out that no standard comprehensive definition of tax [non]compliance espoused across all tax compliance studies. The main cause behind this, as pointed out by several authors, is the diversity of viewpoints and methodologies, as well as the use of a variety of concepts with different meanings (Borrego, Lopes & Ferreira, 2013). Hence, tax compliance has been defined in many empirical studies in various ways. Such as, Andreoni, Erard, & Feinstein (1998) termed tax compliance as taxpayers' willingness to comply with the legal requirements of the tax provisions to ensure the economic equilibrium of a country.

On the other hand, Kirchler (2007) provided a simple definition of tax compliance terming it as the "most neutral term to describe taxpayers' willingness to pay their taxes". On the contrary, Song and Yarbrough (1978) have defined tax compliance as "taxpayers' ability and willingness to comply with tax laws which are determined by ethics, legal environment, and other situational factors at a particular time and place". A similar type of definition has been suggested by Alm (1991) and Jackson & Milliron (1986). They have highlighted the reporting of all incomes and payment of all taxes in accordance with the tax law structure. In a similar way Roth, Scholz, and Witte (1989) have termed "tax compliance" as "compliance with reporting, legal, payment and time requirements applicable at the time of return submission. This view was also supported

by several researchers (e.g. Ling, Normala, & Meera, 2005; Singh, 2003). Marziana, Ahmad, and Deris (2010) defined tax compliance as "the degree to which a taxpayer complies or fails to comply with the tax rules of their country". Likewise, tax compliance is also defined by several tax authorities (e.g. Internal Revenue Service of USA; Australian Taxation Office) as the taxpayer's ability and willingness to comply with the legal provisions, to present the correct amount of income in return, and to pay the due amount of tax liability timely (Kiow, Salleh & Kassim, 2017).

In simple words, tax compliance refers to the fulfillment of all relevant tax obligations as specified by the provisions of the tax law applicable in a country spontaneously, completely, and timely. Despite having several studies done on tax compliance, the researchers were not able to agree regarding one standard and all-accepted tax compliance definition (Devos, 2014). From the analysis of the aforementioned definitions, individuals can be categorized as either compliant or non-compliant at a point in time based on a given decision or action (McKerchar, 2002). Alm, Cherry, Jones & McKee (2010) admitted that tax imposition and collection tasks are very difficult for concern tax authorities since tax payment is not liked by most of the people. Moreover, the level of tax compliance in developing countries is hampered due to the complex nature of tax laws. Because of such complex tax laws, a taxpayer requires tax specialists to understand the provisions of the tax laws. This creates extra burden and costs for compliance for those taxpayers, having limited access or ability to hire tax specialists (Oberholzer, 2008).

The OECD (2010) defines tax compliance as the "degree to which a taxpayer complies (or fails to comply) with the tax rules of his country, for example by declaring income, filing a return, and paying the tax due on time." The degree of tax compliance

depends on the level of complying to the following four broad categories of obligations: taxpayer registration; timely filing, reporting complete and accurate information in the prescribed format; and payment of tax liability in time.

Based on the above definitions, the following terms are widely and interchangeably used to define tax compliance e.g. obey, ability, willingness, reporting all income, filing tax returns, declaring the correct income, timeliness, etc. Considering the aforementioned definitions from several empirical studies, for this study, tax compliance is defined as the ***taxpayer's willingness to comply with the relevant provisions of the tax laws applicable in a country i.e. in Bangladesh.***

In comparison to the term tax compliance, tax non-compliance is just the opposite in nature. Tax non-compliance occurs when a taxpayer fails to pay the actual amount of tax liability that has been imposed on him, whatever the reason causes so (Jackson & Milliron, 1986; Kasipillai & Jabbar, 2006; Kesselman, 1994). Moreover, non-compliance also happens when the taxpayer fails to report his actual income, claim inadmissible expenses, and rebates, and fails to pay the desired tax liability in time (Kirchler, 2007).

Some research studies further classified the nature of tax non-compliance into two categories: intentional and unintentional (Loo, 2006; Mohani, 2001). Thus, in accordance with the views of the aforementioned studies, for this study non-compliance is defined as the ***failure to comply with the relevant provisions of the tax laws applicable in a country i.e. in Bangladesh.***

3.3.1 Branches of Tax Compliance

McBarnett (2003) categorizes compliance into three forms: "*committed compliance,*
capitulative compliance, and *creative compliance*". Committed compliance focuses on
the intention to pay the desired amount of tax liability by a taxpayer without any
complaint or objection. Capitulative compliance means being reluctant in settling off
tax liabilities by the taxpayer. On the other hand, creative compliance refers to the
theme of taking all the advantages to minimize tax within the jurisdiction of the tax
laws. Alabede (2012) has expanded the view of McBarnett (2003) which is depicted in
the following graph:
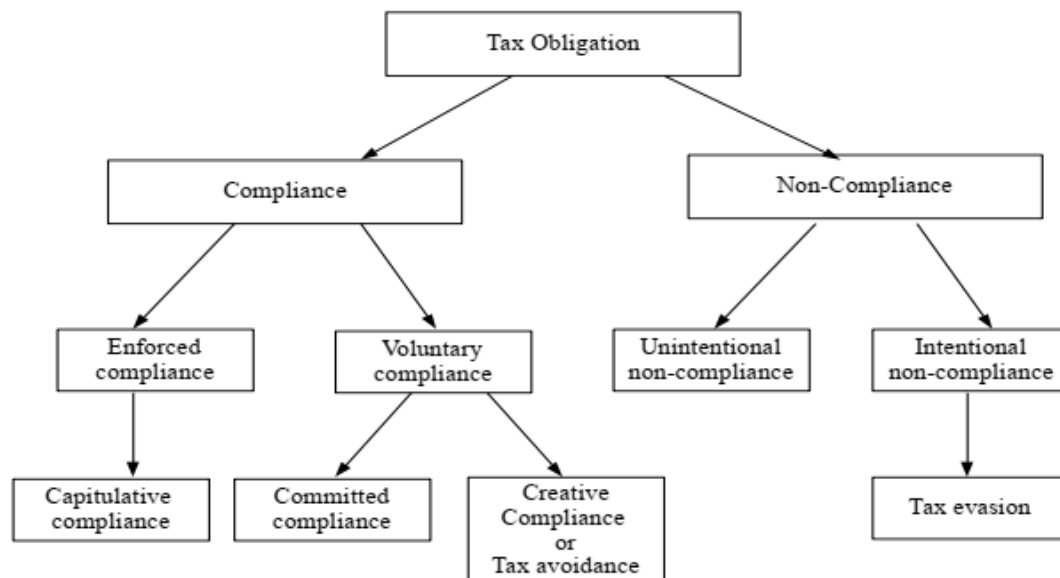
Figure 3.1. Branches of Tax Compliance, Adapted from Alabede, (2012)

Generally, an individual taxpayer's compliance decision depends on his coherent
profit-seeking attitude (Allingham & Sandmo, 1972). Alabede (2012) termed that
ignorance, omission, or misinterpretation of the provisions of the tax laws generally are
the reasons for unintentionally not complying with tax laws. Whereas, purposely non-
disclosure of taxable income and overstatement of admissible expenses, failure to
submit the income tax return and pay the tax liability in time, are defined as
intentionally tax non-compliance, which is also known as tax evasion. Likewise, Chow

(2004) and Harris (1989) have segregated tax compliance under two dimensions, one in terms of administration and another in terms of the completion of tax returns.

3.3.2 Tax Avoidance vs. Tax Evasion

The concept of tax evasion and tax avoidance are probably as old as the concept of taxation itself and tax evasion involves our everyday life (Russo, 2010; Torgler, 2006). Wherever and whenever the authorities choose to impose taxes, taxpayers (e.g. individuals, firms, companies, etc.) try to find out some way – legal or illegal – to decrease or even completely evade the tax payment (Bello, 2014). This can be considered as one of the prime reasons for huge differences in the ability to mobilize own resources between developed and developing countries (Adebisi & Gbegi, 2013; Fuest & Riedel, 2009; ITC, 2010; Sandmo, 2005). This is a deep-rooted global problem as governments has to raise revenue to meet public needs (Alm, 2012; Alon & Hageman, 2013). According to International Tax Compact (ITC, 2010), tax evasion is an issue that is plausible as long-standing as taxation. This occurs when a taxpayer deliberately fails to abide by their desired tax responsibility (Simser, 2008). Wu (2012) identified several characteristics associated with the existence of tax evasion: "knowledge; deliberate act; illegal act; failure to comply with the tax law; element of concealment; recklessness; disregard for the tax system; and falsification of documents" (as cited in Smart, 2012). These characteristics have also been found relevant in subsequent studies (Devos, 2014; Sapiei et al., 2014; Saad, 2014; Nurwana et al., 2018)

Tax evasion limits a government's capability to mobilize sufficient resources through tax to meet its expenditure funding requirements. Although tax revenue is the key

source of public finance in virtually all countries irrespective of their nature as developing or developed, tax non-compliance is a severe problem for such economies (Bello, 2014; Fisher, 2014; Turner, 2010). Cobham (2005) estimated that the amount of annual tax loss due to tax evasion is almost $285 billion in developing countries' domestic shadow economy. In the USA, 17 percent of income taxes are unpaid each year (Fisman & Wei, 2004). In Europe, $1.3 trillion is lost every year due to tax evasion (Plogander, 2013). It has been stated in a study (Ahmed, 2018[a]) that according to the NBR estimation, in Bangladesh approximately Tk 40,000 crore is lost each year because of tax evasion and avoidance.

Individual non-compliance can be intentional or unintentional, and intentional non-compliance usually takes the forms of tax avoidance or evasion (Bello, 2014). Intentional non-compliance can be defined as the taxpayer's failure to report the correct amount of tax liability by shadow economy, incorrect tax return, and lawlessness (Naibei, Momanvi & Oginda, 2012). On the contrary, unintentional non-compliance is more highlighted on the failure of the taxpayer to understand the tax system rules and regulations due to tax law complexity or poor tax knowledge (James & Alley, 2002).

Tax avoidance is "the use of legal methods to pay the smallest possible amount of tax" (Collins English Dictionary, 2015). According to Kirchler and Wahl (2010), tax avoidance is legal since a taxpayer tries to reduce his tax burden by legal means through making good tax planning within the jurisdiction of the law. On the contrary, tax evasion is illegal since under this concept a taxpayer tries to escape from paying tax liability through e.g. concealment of income and profits, deception/misrepresentation of the amount and/or sources of income, or deliberate overstatement of admissible deductions and exemptions (Alm & Vazquez, 2007; Chiumya, 2006; Fisher, 2014).

This is an unlawful and illegal activity which violates the law of the country, and which is therefore also subject to fines and penalty according to the relevant provisions of the legal framework applicable in a country (Slemrod & Yitzaki, 2002). Moreover, this unlawful practice has the effect of reducing government revenues (Otusanya, 2011). Studies on cross-national differences in tax evasion ponder various factors, namely tax law, tax rates, and tax morale (Bame-Aldred et. al, 2013; Pickhardt & Prinz, 2014; Shafiq, 2015).

3.3.3 Tax Gap vs Tax Capacity vs Tax Effort

Generally, the term "tax gap" indicates the difference between the amounts of tax collection that a tax authority should have been collected against what is actually collected (Poesoro, 2015). Such a gap arises due to the existence of noncompliance, in the forms of underreported income and overstated admissible expenses amount (Falanni, 2015). Moreover, the net tax gap can be obtained by considering the difference between potential tax revenue and true tax liability, while true tax collection arises from the voluntary contribution by taxpayers and tax enforcement by tax authority (Falanni, 2015). Brondolo et al (2008) has illustrated tax graph as follows (Figure 3.2):
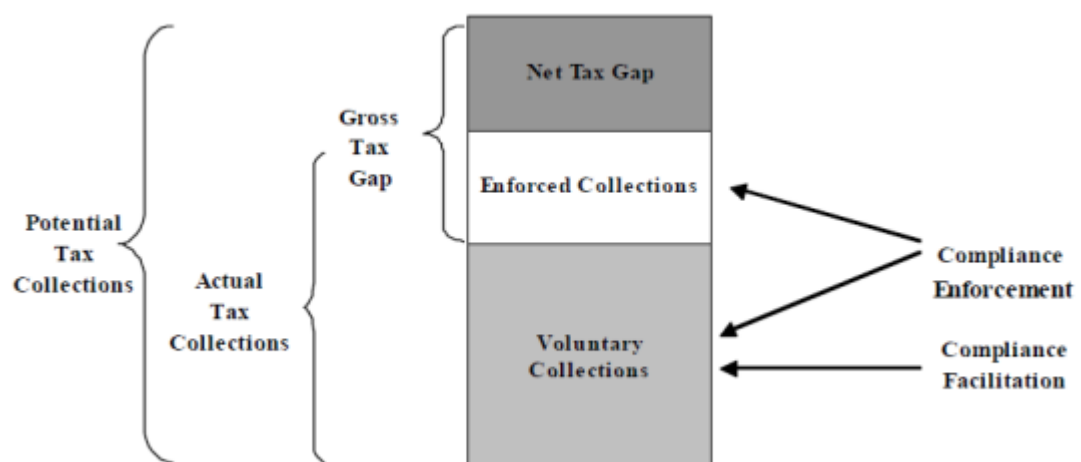
Figure 3.2. The Tax Gap Concept, Adapted from Brondolo et al. (2008)

Brondolo et al (2008) has also suggested that the government can decrease the tax gap by ensuring compliance enforcement and compliance facilitation, as these two means can enhance both enforced and voluntary tax collection. Understanding the nature of the tax gap helps to get a clear picture of the relative size and nature of tax non-compliance (Poesoro, 2015). On the other hand, Tax capacity refers to the maximum level of tax revenue that a country can achieve. Moreover, the tax capacity may vary from country to country based on their structural factors (Brun & Diakite, 2016). In many cases, tax capacity measures the predicted tax-GDP ratio, considering a country's specific economic, demographic, and institutional features (Le, Dodson, & Rojchaichanin, 2008). Meanwhile, tax effort is defined as an index of the ratio between the share of the actual tax collection in GDP and taxable capacity (Poesoro, 2015). According to Brun and Diakite (2016), the actual tax revenue collection depends on the tax effort carried by tax authority under the guidelines of the tax policies set by the exchequer.

3.4 Theories Explaining Tax Compliance Behavior

The government of any country is responsible to ensure the social welfare of its citizens which requires them to mobilize necessary resources, mostly through tax revenue, to mitigate the public needs (Alaaraj, Mohamed & Bustamam, 2018). As a result, all the countries have an untiring effort to enhance tax compliance by tackling the widespread problems of tax non-compliance (Jimenez & Iyer, 2016). Several previous research studies have been conducted to identify the determinants that influence the tax compliance behavior of an individual taxpayer. However, explaining taxpayer's behavior remains a difficult and somehow unresolved problem (Fjeldstad, Schulz-Herzenberg & Sjursen, 2012). Moreover, in those studies, researchers have depicted

many theories to evaluate the tax compliance behavior of the individual, agents, and corporate taxpayers. However, previous studies have no agreement on the nature and number of determinants that affect the tax compliance behavior of individual taxpayers. Moreover, as the earlier studies have used different theories to explain tax compliance behavior, a single theory cannot be chosen as a reference for understanding the taxpayer's compliance behavior (Zaqeba, Hamid & Muhammad, 2018). Under such circumstances, a sensible analytical context to integrate them is needed.

Models of taxpayer compliance behavior are based on any of the five institutional theories/schools of thought. These are: "(1) economic deterrence; (2) fiscal exchange; (3) social influences; (4) comparative treatment; and (5) political legitimacy. These theories are to some extent interconnected, and some denote an evolution of the others" (Bello & Danzuma, 2014, p. 36). Since, the last three are very much interconnected, they are also grouped as behavioral models of tax compliance (Ali, Fjeldstad & Sjursen, 2014).

3.4.1 Theory of Economic Deterrence

The economic deterrence theory is one of the most significant and revolutionary theories in the field of tax compliance behavior research. The main theme of this model depicts that an economically rational taxpayer's tax evasion decision exists as long as he expects that the benefits from tax evasion are greater than the expected cost of being caught (Hasseldine & Bebbington, 1991). The bases of this theory mainly comprise of the classic model of tax compliance of Allingham & Sandmo (1972), based on the study of Becker (1968) about the economics of crime model. According to this theory, tax evasion depends on deterrence and economic factors i.e. probabilities of detection, tax

rates, and penalty rates. This model shows that tax compliance increases with the increase in audit probability (the risk of detection) and the penalty rate (the punishment) and vice-versa. Srinivason (1973) & Kolm (1973) viewed the economic deterrence model from the taxpayer's perspective on the notion that taxpayers were utility maximizers. This classical approach sets the taxpayer in a gambler's dilemma, choosing between legal and illegal decisions i.e. to comply or to evade (Alm et al, 2010; Casagrande et al, 2015; Castro & Scartascini, 2015; Christian & Alm, 2014).

The economic definition of taxpayer compliance views taxpayers as "perfectly moral, risk-neutral or risk-averse individuals who seek to maximize their utility and chose to evade tax whenever the expected gain exceeded the cost" i.e. individuals make some kind of cost-benefit analysis (Milliron & Toy, 1988). The economic deterrence model has generated a large amount of follow-up research that directed to understand genuinely the taxpayer behavior even though, it has been criticized, especially about the simplicity of its assumptions (Devos, 2014). Andreoni et al. (1998) term such assumptions as unrealistic, which has also been reflected in the study of McKerchar & Evans (2009). The first mark of a real exit from the Allingham and Sandmo's model was provided by Yitzhaki (1974). According to him, in case of a risk-averse taxpayer, an increase in the tax rate would result in a decrease in evasion (as cited in Devos, 2014).

Allingham & Sandmo (1972) model has later been used by many authors to develop new extended models. The extensions have been done through mainly the inclusion of new determinants or exclusion of the existing determinants in the original model (Ritsatos, 2014). The extension of the model opened the room to explore alternative explanations. Alm, McClelland, and Schulze (1992) have identified the boundaries of

the neoclassical paradigm. They have illustrated that lower tax cost and higher overall income tends to motivate a taxpayer in reporting higher income levels. Moreover, Alm et al. (1992) also introduced the notion of 'tax morale' as a determinant of tax compliance behavior.

Several studies have illustrated the fact that only financial or economic determinants are not enough to explain the full notion of tax compliance (see e.g., Alm et al. 1992; Devos, 2014; Frey & Feld, 2002; Siqueira & Ramos, 2005). Unlikely, Jackson & Milliron (1986) indicate that tax compliance is determined by numerous factors and is not limited to economic factors. Moreover, by the late 1980s, several studies have attempted to expand the basic economic deterrence model considering some other relevant factors like tax rate, sanctions, randomness, taxpayer welfare, complexity, etc. (See e.g. Cowell, 1985; Graetz & Wilde, 1985; Jackson & Milliron, 1986; Scotchmer & Slemrod, 1989, etc.).

Jackson and Millron (1986) have introduced fourteen key determinants for tax compliance in their comprehensive study that was an attempt to expand the classic financial self-interest model. These determinants are "age, sex, education level, income level, occupation, peer influence, income sources, ethics, fairness, complexity of the tax system, tax authority contact, penalty, probability of detection and tax rate". Fischer et al. (1992) has illustrated a model considering these fourteen key determinants under four categories. This model is popularly known as Fischer et al.'s model of tax compliance. Fischer's model is a wide-ranging model incorporating economic, sociological, and psychological factors. Chau and Leung (2009) have proposed an expanded version of Fischer's model incorporating one additional determinant, culture.

During the 1990s and early 2000s, considering its limitations, some studies have taken initiative to come up with some modified version of the pure economic deterrence model. Falkinger and Walther (1991) have observed the impact of persuasive factors going beyond the traditional economic deterrence factors that are mostly punitive. They have emphasized that the blending of penalties and rewards may ensure a more compliant tax system, comparing to the system that mainly relies on only sanctions (as cited in Devos, 2014). Examining other non-economic factors, Alm, Sanchez, and Juan (1995) concluded that most empirical work does not reflect the economic deterrence theory solely which has resulted the need for further refinements and improvement of this theory.

The economic deterrence model has been criticized for its excessive dependence on the coercive side of compliance. This excessive focus may hamper the consensual side of compliance (Sandmo, 2005). Moreover, the importance of deterrence measures cannot be ignored as these have been successfully applied to address the tax non-compliance issues (McKerchar & Evans, 2009). Moreover, "an increase in deterrence on honest taxpayers will disrupt a balance" (Torgler & Schneider, 2001). So, taxpayers shouldn't be treated harshly as the main focus of any tax administration, rather they should emphasize the policy of enhancing compliance through bringing more taxpayers under the tax net. Punitive measures may not work successfully in this regard to ensure future compliance (Frey, 2003; Kirchler, Muehlbacher & Schwarzenberger, 2011; Murphy, 2005). Devos (2014) opined that the human aspect must be included in the measurement of tax compliance behavior since every person interacts with each other in accordance with social norms in the society and their belief and attitude is also influenced accordingly. Thus, human behavior in terms of attitude, belief, and norm is a concern of the behavior concept of compliance.

Some researchers argued that "agent-based tax evasion models" may also be categorized into an "economics" and "econophysics" domain (Hokamp & Pickhardt, 2010; Pickhardt & Seibold, 2014). The "econophysics" domain emphasizes the global perspective of tax evasion starting from the micro-perspective of the "agent-based" description. Here, it also considers the economic determinants under the work by Allingham and Sandmo (1972). The econophysics domain has been initiated by several researchers. The way to do it was mainly based on some suitable revision of the Ising model (Ising, 1925). This Ising model has been initially recognized from the theory of magnetism (e.g. Lima, 2010; Lima & Zaklan, 2008; Zaklan, Westerhoff & Stauffer, 2009). As cited in Hokamp & Seibold (2014), Bloomquist (2006) and Pickhardt & Prinz (2014) have summarized the deterrence model within the parameter of the economics domain highlighting the results of late 2000s studies (see Andrei, Comer & Koehler, 2014; Antunes et al., 2007; Bloomquist, 2008; Davis, Hecht & Perkins, 2003; Hokamp, 2014; Korobow, Johnson & Axtell, 2007; Meder, Simonovits & Vincze, 2012; Mittone & Patelli, 2000; Nordblom & Zamac, 2012; Pellizzari & Rizzi, 2014; Szabo, Gulyas & Toth, 2010).

Some researchers argue that the standard economic model is not able to forecast the tax compliance level reliably, as its forecast has been frequently found much lower than what is observed (Feld & Frey, 2002; Luttmer & Singhal, 2014; Slemrod, 2007). The economic deterrence model has also been criticized for not considering relevant behavioral factors like attitudes, perceptions, and moral values, etc. (Lewis, 1982); codes of conduct and tax morale (Sour, 2004); and social norms (Rethi, 2012). The combination of such criticisms has thus led to the direction that tax compliance is influenced by not only the economic factors, but also by some other nature of factors –

especially behavioral, and subsequently to identify the determinants of taxpayers' (non)compliance behavior.

3.4.2 Theory of Fiscal Exchange

Fiscal challenges are considered as one of the most fundamental characteristics of modern welfare states (Kiser & Karceski, 2017; Martin, Mahrotra & Prasad, 2009; Morgan & Prasad, 2009). The fiscal exchange theory has been mainly originated from the theme of the economic deterrence and the social psychology models (McKerchar & Evans, 2009). The main theme of the fiscal exchange theory is that there exists a societal, interactive, or psychological contract between the government and the citizens, and the presence of government expenditures may motivate the level of compliance (Alm, 1999; Alm, McClelland & Schulze, 1992; Fjeldstad, et al., 2012; Frey & Feld, 2002; Torgler, 2003). This argument is very keen on the discipline of economics and political science (Cowell & Gordon, 1988; Moore, 2004; Slemrod, 2003; Tilly, 1992). This model suggests that a government can increase the level of tax compliance by considering the citizen's perceptions regarding the attitude towards government spending. In this regard, the government should provide goods and services to its citizens in the most effective, efficient, and accessible manner. Moreover, the government should take initiative to convince the citizens that sufficient tax revenue is needed to ensure the receipts of government services in a satisfactory manner (Fieldstad et al, 2012).

Accordingly, the main concern of taxpayers is that they pay taxes when they perceive that it actually serves to finance public goods or services. In this viewpoint, tax revenue and government services basically act as a consequence of the implied contractual

affiliation between the citizens and the government. This affiliation is based on common rights and requirements, rather than on benefaction and compulsion (Braütigam, 2008; Moore, 2004). They think that their contributions could be used for purposes other than intended and would need evidence or motivations to get others to contribute (Fjeldstad & Semboja, 2001). Thus, the eagerness to comply will be increased with the increased pleasing amenities from the government, even in the absence of deterrence i.e. punitive measures (Torgler, 2003). Negative attitude towards government spending may motivate them to adjust their benefits against the tax, by increasing non-compliance measures (Alm, 1999; Palil, 2010; Smith, 1992).

The fiscal exchange theory suggests that spending government money for the welfare of its citizens may enhance the level of compliance, that may also improve the attitude towards the government (Ali et al., 2014). This is also considered as the key to ensuring relations of responsibility, mutual civil rights, and commitments between the country and society. This idea is supported by several studies highlighting the fact that compliance is affected by the collective decision process (Alm, 1999; Fjeldstad, et al., 2012). Richupan (1987) suggests that the taxpayer's compliance is always conditional, and it will differ based on the government's efforts to serve its citizens. Taxpayer's attitude may vary towards the initiative, governance, sincerity, transparency, and other determinants of government reliability. Without a sensible return, satisfactory compliance cannot be expected from the citizens. Moreover, it is tough to assess the exact value of return against taxes as taxpayers have their general impressions and attitudes in this regard. Thus, people's willingness to pay taxes is increased when they have the perception that their money is spent transparently by the government to ensure social welfare (Braütigam, Fjeldstad & Moore, 2008).

Several research studies suggest the existence of constructive tax bargaining in many situations (Prichard, 2010; as cited in Fjeldstad et al, 2012):

- Various taxpayers bargain more benefits when they observe that they have common interests (Moore, 2008; Prichard, 2009);

- The taxpayers possess a greater degree of mutual faith amongst themselves (Fjeldstad, 2004);

- Being politically well organized, taxpayers have more courage and harmony to bargain fruitfully with the government (Prichard, 2009);

- When the level of education and awareness is high, people may engage more actively in political affairs that may enhance their bargain power (Prichard, 2009);

- Taxpayers are well aware of the relationship between tax revenue and its expenditure by the government (Bahiigwa et al., 2004);

- Quasi-voluntary compliance is comparatively important, as it increases the government's ability to offer tax bargain against reasonable incentives (Bates & Lien, 1985); and

- "There is a minimum level of trust between taxpayers and government" which in turn leads to bargaining (Prichard, 2010).

The empirical results of this theory are mixed. Some studies (Bodea & LeBas, 2014; Cowell & Gordon, 1988; Das, Holla & Mohpal, 2014) indicate that even in dynamic analysis of tax where the increase in the tax rate leads to the shadow economy, tax evasion decreases when public goods and services are sufficiently provided by the government. Furthermore, authors as Ali et al., (2014); Alm et al., (1992), and Timmons (2005) found empirical evidence of this theory. D'Arcy (2011) suggested that tax

behavior goes beyond the simple relationship between two actors; taxpayer and tax administration. According to her, tax evasion decision depends not only on the relation between a citizen and the tax authorities but also how that citizens view other fellow citizens, as their tax contribution will be used to finance public goods and services for their purpose as well as also for the consumption of other fellow citizens in the society. This explanation represents a self-centered image of the taxpayer and justifies the use of non-economic explanations of the taxpayer's behavior (Cummings et al., 2005; Fjeldstad et al, 2012). Studies from multiple disciplines put evidence that behavioral factors influence non-compliance (e.g., Alm et al., 1992; Erard & Feinstein, 1994; Grasmick & Scott, 1982; Smith, 1992; Spicer & Lundstedt, 1976). Accordingly, Andreoni et al. (1998) suggested that the economic deterrence model should be expanded and revised through integrating other psychological, moral, and social determinants (in broad term behavioral factors) to explain the tax compliance behavior.

3.4.3 Theory of Social Influences

Social influence is concerned with how our thoughts, feelings, and behavior change with the presence of others (Crisp & Turner, 2007). This theory highlights the relationship between social interactions and tax payment. The main theme of the social influence theory is that the tax compliance behavior and their attitude towards the overall tax structure are influenced by the behavior and social norms of their referral groups (Prinz, Muehlbacher & Kirchler, 2014). Hence, the studies done under the theme of social psychology theories have also found evidence of the influence of personal and social norms respectively. They play vital roles in determining tax compliance (Alm & Torgler, 2011; McKerchar & Evans, 2009; OECD, 2010; Sour, 2004).

Sometimes, taxpayers get the motivation to evade tax when they feel that others are also evading. Sometimes, they exercise tax evasion as a tool to fight or protest against some unfair decisions of the government. Both attitudes and beliefs arise from the interactions of people from different horizontal and vertical layers of society (Bazart & Bonein, 2014; Hashimzade et al, 2014). Moreover, it is reasonable to assume that human behavior relating to taxation is influenced by social norms and interactions, and their effects also influence them individually through social interactions, such as loss of status, guiltiness, and disgrace (Casagrande et al, 2015; Snavely, 1990). In linking with tax compliance, social influence theory identified peer opinions and the degree of social influence in socialization as the key determinants of compliance (Sutinen & Kuperan, 1999). Ronan & Ramalefane (2007) pointed out some of the other variables e.g. stigma, reputation, and social norms that have a significant impact on the tax compliance decision of a taxpayer.

Findings from the tax compliance studies based on western countries commonly reveal that the people who comply feel that their peers and friends also comply and vice versa (Andreoni et al., 1998). Taxpayer's attitude towards taxes is influenced by their norms which are normally difficult to adjust and also beyond the scope of government policy. These personal norms reflect the taxpayers' values, ethics, mentality, and tax morale related to tax perception (Franzoni, 1999). However, it cannot be always assumed that a high level of tax morale will lead to a high level of tax compliance (Christian & Alm, 2014; Lisi, 2015). Some researchers argued that wrong acts like tax evasion may induce "feelings of anxiety, guilt, or negative self-image" in the taxpayer's mind. Such guilty feelings may have a superior preventive effect than external economic factors of punitive measures (Sour, 2004; Taylor, 2001).

Thus, an individual's tax compliance behavior is assumed to be positive with the similar attitude of his peer reference groups, and vice-versa, which has been also reflected in several studies of tax compliance (Ali, et al., 2014; Bobek & Hatified, 2003; Fjeldstad, et al., 2012; Franzoni, 1998; OECD, 2010; Song & Yarbrough, 1978; Walsh, 2012). Thus, a compliance custom is important to ensure a strong culture of taxpayer compliance.

3.4.4 Theory of Comparative Treatment

The comparative treatment model is based on equity theory (Ali, *et al*., 2014) and suggests that better compliance can be achieved if it is possible to reduce the taxpayer's perception of getting less return in against their contribution to the government. It is the general tendency of people that they will comply with the provisions of law when they believe that the outcome from the compliance will be reasonable, impartial, and fair; and vice versa (GIZ, 2010; McKerchar & Evans, 2009; OECD, 2010; Sour, 2004).

So, an individual taxpayer's perceived attitude towards the fairness of the tax system is also linked with other person's tax compliance behavior and tax burdens (Sour 2004; Walsh, 2012). This judgment is not only a reflection of their perception about the country but also about their corresponding citizens (D'Arcy, 2011). The level of compliance is increased when an individual taxpayer assumes his tax burdens to be "…of about the same magnitude as that of comparable others …" (Feld & Frey, 2006). The level of tax evasion is enhanced with people's perception that their tax burdens are greater than people of their similar level and category (Spicer & Becker, 1980). These levels of categories can be done in terms of profession, wealth, education, age, religion, ethnicity, etc. In the same manner, under the comparative treatment theory, it is

suggested that individuals (who perceive that they, and their group) getting a fair return from the government will have the more intention to comply.

OECD (2010) has enumerated three categories (levels) of fairness in taxation: (i) "*distributive* fairness", i.e. the tax burden is distributed equitably among the citizens and the government distributes the resources rationally as good custodian; (ii) "*procedural* fairness", i.e. tax authority is neutral in adopting tax provisions and its applications; and (iii) "*retributive* fairness", i.e. tax authorities are neutral and fair in applying punitive measures when the tax rules or norms are violated. Walsh (2012) pointed out that the distributive fairness is linked more with "fiscal exchange theory", while "procedural fairness" and "retributive fairness" are more relevant to the theory of comparative treatment that can be influenced by the tax authorities through improving the fairness and transparency in tax imposition and collection procedure.

3.4.5 Theory of Political Legitimacy

The main theme of the political legitimacy theory is that the citizens will comply with the tax provisions when they can keep faith in the government. The level of voluntary compliance increases when the citizens consider their government as "legitimate" (Fauvelle-Aymar, 1999; Hardin, 2007; Hechter, 2013; Kirchler et al., 2008; Tayler, 2006). "Legitimacy" exists when the citizens have faith or trust in government bodies and institutions; and have the perception that the government's effort to ensure social welfare is trustworthy (Ali, *et al*., 2014; Fjeldstad, *et al*., 2012; Williamson, 2017). Jackson et al. (2012) argued that legitimacy exists when both the citizens and governments exercise morality. Similarly, Langham & Paulsen (2015) illustrate that citizen's willingness to pay depends on the degree of having a positive attitude towards

the tax administration of the country. The more fair the government is with taxpayer's money, the more reasonable its activities become, and to obtain the support of taxpayers, governments must reveal clear connections between taxation and public spending (Fjeldstad et al. 2012; Prichard, 2010). Palil (2010) noted that attitude and support towards government also influence the level of tax compliance. Supporters of the ruling government tend to be more compliant as they believe that the government is trusted, efficient and equitable; whereas opposition supporters might be less compliant with the opposite perception.

Metsola (2015) has highlighted the difference in the degree of legitimacy among the states and governments with an emphasis that "legitimacy is always context-related". The nature of continuous changes in the process of legitimacy has also been highlighted by Weigand (2015). Roitman (2005) illustrated that legitimacy of taxation is meaningful when the economy can be understood within the purview of the political context. Moreover, it has been observed that the rate of tax non-compliance is higher when the government's level of legitimacy is comparatively lower (Levi, 1988). Picur & Riahi-Belkaoui (2006) have conducted a study on the nature of tax compliance behavior in 30 developed and developing countries. They observed that level of tax compliance is higher in countries with low levels of corruption and bureaucracy. A similar result has been found by Persson (2008) from a study done in the African context. Richardson (2008) thus recommends that governments should work to increase their acceptability and trustworthiness to gain the taxpayer's trust.

3.4.5 Other Popular Behavioral Theories explaining Tax Compliance Behavior

It has already been observed that the previous studies suggested two basic approaches to review the problem of tax compliance: "the economic deterrence approach" and "the

behavioral approach" (James & Alley, 2002). While "the economic deterrence approach" inclines to evaluate compliance in terms of economic costs and incentives with an emphasis on efficient resource allocation, the "behavioral approach" observes behavior within the scope of psychology and sociology with an emphasis on fairness (James & Alley, 2002). In addition to the theories discussed earlier, the two leading theoretical frameworks used in explaining human behavior (Ajzen & Fishbein, 1991) are the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). These two theories have also widely been used to explain tax compliance behavior.

3.4.5.1 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) was developed by Ajzen and Fishbein (1980) to explain human behaviors that are influenced by the voluntary engagement of an individual. According to this theory, the tendency of human behavior is dependent only on the motivation of an individual regarding his willingness to perform or not. The two key determinants that influence the behavioral intention of an individual are "attitude towards behavior" and "subjective norms". The first one is personal in nature and the other is related to social influence.

Attitude towards behavior is termed as an individual's assessment of acting the behavior (Manstead, 2004). According to Ajzen (2006), such behavior often comprises of two independent components, namely "affective" and "instrumental attitudes". While "affective" attitude deals with emotions that arise during the performance of certain behavior, "instrumental" attitude refers to the specific nature of reasonable behavior considering the gain from performing such behavior. Subjective norms refer to social pressures felt by an individual, based on which he or she decides whether to act or not a certain behavior (Ajzen, 2006; Manstead, 2004). The belief that triggers it

is referred to as normative belief when individuals act with the belief that his action or behavior is considered meaningful and important by other referent groups (Bidin, Samsudin, & Othman, 2014). The basic overview of the TRA is presented below in Figure 3.3:
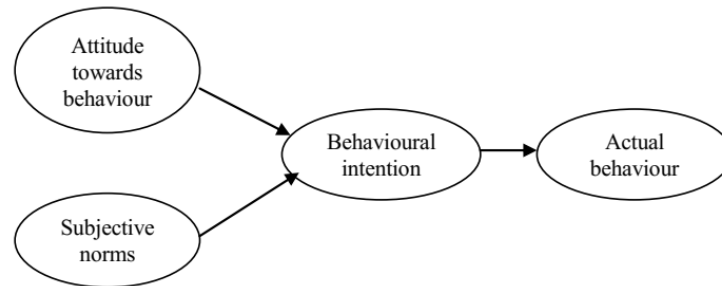
Figure 3.3. Theory of Reasoned Action, Adapted from Ajzen & Fishbein (1980, p84)

Devos (2014) has presented graphically a detailed concept of TRA highlighting the tax compliance behavior based on the work of Ajzen & Fishbein (1980) and Lewis (1982). Hanno & Violette (1996) has found the relevance of using the theory of reasoned action in explaining tax compliance behavior. Despite having the ability to forecast and interpret human behavior and behavioral intention, TRA has been criticized for its limited scope of considering only volitional behaviors. Moreover, the TRA was found to be unsuitable for forecasting and interpreting behaviors that involve "skills or resources" to perform (Liska, 1984).

Such limitations have opened the room for further improvement and extension to the TRA. Later a new model, the Theory of Planned Behavior, has been emerged addressing such limitations (Saad, 2011). Figure 3.4 presents the detailed concept of TRA where the broken arrow presents the likely justifications for perceived relations between external factors and behavior; the unbroken arrow represents the steady notional relations linking beliefs to behavior:
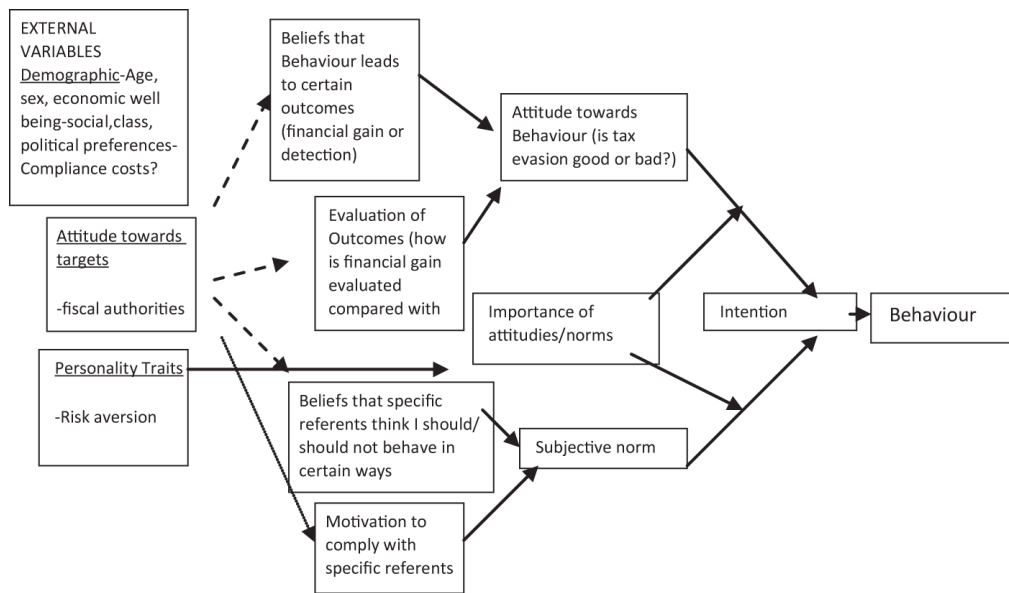
Figure 3.4. Theory of Reasoned Action in Detail, Adapted from Devos (2014, p24), based on Ajzen & Fishbein (1980) and Lewis (1982)

3.4.5.2 Theory of Planned Behavior (TPB)

This theory emerges as an extended model of the TRA to mitigate the limitations and gaps in explaining human behavior (Ajzen & Fishbein, 1991). This theory has been well accepted and has been used by several researchers in numerous studies to explain human behavior (Ajzen, 2002; Beck & Ajzen, 1991; Taylor & Todd, 1995). Comparing to the TRA, a new construct "perceived behavioral control" has been proposed in the TPB. The main theme of this construct is to measure the individual's perception regarding the level of difficulties faced to perform the behavior. The actual behaviors of an individual are the outcomes of both internal (e.g. knowledge, skills) and external factors (e.g., time, opportunity, and resources) (Kraft et al., 2005).

According to the theory of planned behavior, the compliance decision of an individual depends on the attitudes, subjective norm, and perceived behavioral control of an individual (Ajzen & Fishbein, 1991). In addition to attitudes towards behavior and

subjective norms, one's aim to accomplish a certain behavior is also influenced by the

individual's perception regarding the easiness or level of difficulty to perform such

behavior (Allen, 2004; Saad, 2011). In the TPB, the behavior is formed through the

combination of underlying attitude, subjective norm, and perceived behavioral control

(PBC), represented graphically in a diagram in Figure 3.5:
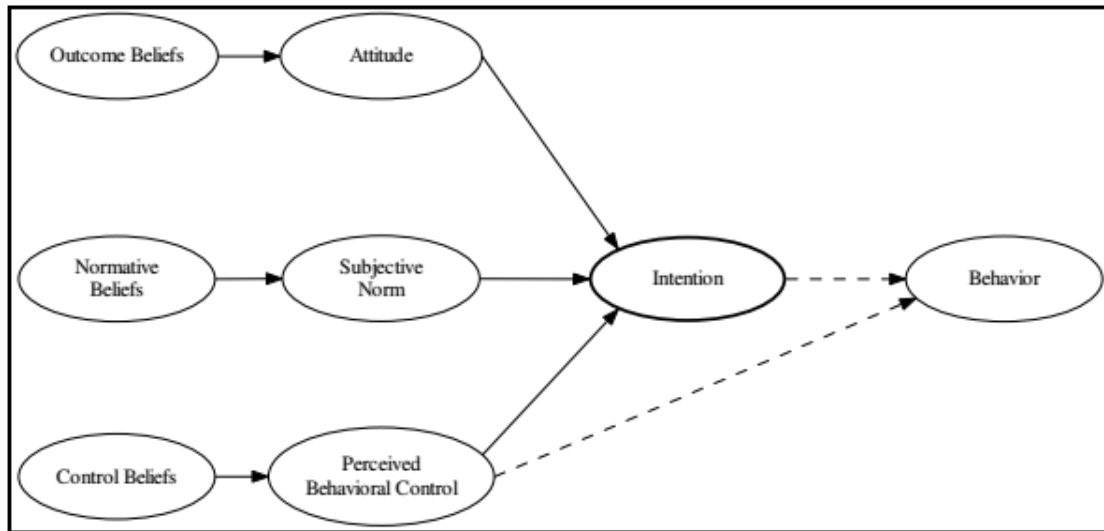
Figure 3.5. Theory of Planned Behavior, Adapted from Benk, Çakmak & Budak (2011), based on Armitage & Connor (2001) and Ajzen, (2006)

Several studies have been conducted to examine tax compliance behavior using the

Theory of Planned Behavior in many countries such as the USA (Bobek, Hageman &

Kelliher, 2013; Bobek & Hatfield, 2003); Canada (Trivedi, Shehata, & Mestelman,

2005); Turkey (Benk, et al., 2011); Australia (Langham, Paulsen & Hartel, 2012); New

Zealand (Saad, 2012; Smart, 2012); Malaysia (Saad, 2012); Indonesia (Nurwanah, et

al., 2018); Ghana (Razak & Adafula, 2013); Indonesia (Awaludin, 2014; Damayanti, et

al., 2015); Bangladesh (Hasan, Mohammad & Alam, 2017).

3.5 Tax Compliance Behavior Models

Several studies have presented some models to explain tax compliance behavior. Among those, some of the most famous are the Financial Self-Interest Model, Weigel's Social and Psychological Model, Lewi's Parallel Model of Income Tax Evasion, Strumpel's Model of Tax Compliance, Fischer et al.'s Model, Slippery Slope Framework, etc. The following paragraphs depict a brief idea about these relevant models:

3.5.1 Financial Self-Interest Model

Allingham and Sandmo (1972) relied basically on the financial self-interest model. This model has been derived from Becker's (1968) economics-of-crime approach for their work. This model is based on economic deterrence theory and within the framework, three factors, e.g. tax rate, audit probability, and penalty structure play the role as the determinants of tax compliance behavior. However, empirical research studies have specified more factors comparing to only three as suggested by the financial self-interest model, and also pointed out that the relationship among the factors is not straightforward as depicted in the model (Fischer, 1993). While going for an extension and elaboration, Fischer et al (1992) presented the financial self-interest model as shown in figure 3.6:
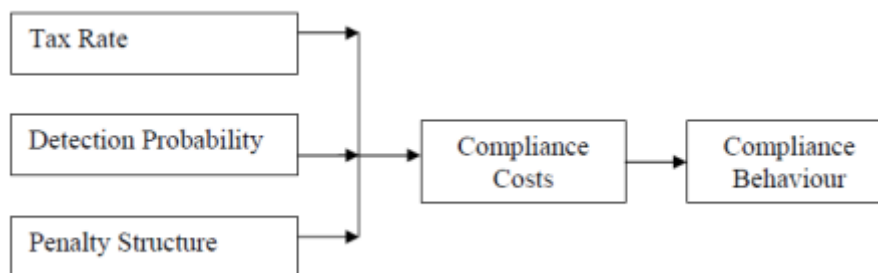
Figure 3.6.: Financial self-interest model presented in Fischer et al, (1992)

Several studies have used the Financial Self-Interest Model to explain tax compliance behavior. These studies have analyzed the influences of the factors and identified their relevance in the tax compliance behavior related decisions (Gemmel, 2016; Hallsworth et al., 2017; Slemrod, 2007; Slemrod et al., 1995; Skov, 2013).

3.5.2 Weigel's Social and Psychological Model

To present the tax compliance model more meaningfully, Weigel, Hessing, and Elffer (1987) have incorporated both social and psychological factors in their model. This model is popularly known as Weigel's Social and Psychological Model. The model has two segments. The first segment focuses on social conditions with two subdivisions namely, situational instigations and situational constraints, that may influence tax noncompliance decisions. On the other hand, the second segment focuses on the psychological conditions, which also consist of five subparts grouped into personal instigation and personal constraints. In sum, the model directs two instigations for engaging in tax non-compliance and two constraints against tax non-compliance behavior each under social conditions and psychological conditions, respectively (Elffers, Weigel & Hessing, 1987; Fischer, 1993).

In line with this model, income tax evasion has become a behavioral problem that extremely impends the resource mobilization capacity of the government to raise government revenue. This tendency has created a problem in a particular economy regarding their failure to generate sufficient resources through potential tax revenues. Gradually, this has become a global problem surpassing the cultural and political boundaries of the economies (Hessing et al., 1988).

Elffers et al. (1987) has illustrated tax evasion as illegal. He has also termed it as an intentional violation of legal requirements to reduce the tax liability, therefore the person who violates is committing a crime. The major criticism of this model is that it undermines the relevance of economic determinants (Alabede, 2012). Figure 3.7 depicts a clear scope of the model:

SOCIAL CONDITIONS
1. Situational Instigations
   - Financial strain
     (monthly income)
   - Social Norms
     (perceived incidence of non-compliance, norms for non-compliant behavior)

2. Situational Constraints
   - Opportunity
     (opportunity for evasion in occupational group)
   - Legal controls
   - Social controls
     (frequency of evasion in occupational group)

PSYCHOLOGICAL CONDITIONS
1. Personal Instigations
   - Personal strain
     (comparison of benefit with previous earnings. satisfaction with household situation)
   - Personal Orientation
     (Competitive social orientation, alienation)

2. Personal Constraints
   - Perceived opportunity
     (opportunity for evasion in occupational group)
   - Perceived risk of punishment
     (certainty of being caught, severity of punishment
   - Intolerance of evasion
     (moral beliefs about evasion)

Tax Evasion Behavior (Non-compliance)

Figure 3.7.: Weigel's social and psychological model adapted from Wiegel et al, (1987), as cited in Alabede (2012)

3.5.3 Lewis's Parallel Model of Income Tax Evasion

Lewis's model (Lewis, 1982) depicts a similar concept and later modified by Weigel et al. (1987) through Weigel's Social and Psychological Model. It is divided into two parallel segments (policy level and individual level) incorporating economic factors accompanied by social and psychological factors. According to Webley et al (1991), the input of Lewis's model is that it includes variables on government fiscal policy, tax enforcement structure & policy, and policy maker's assumption about taxpayer's behavior. However, Lewis's model is not free from limitations as it is not extensive enough to consider many other variables that may influence tax compliance behavior (Alabede, 2012). Figure 3.8 shows a summary of Lewis's Parallel Model of Income Tax Evasion:
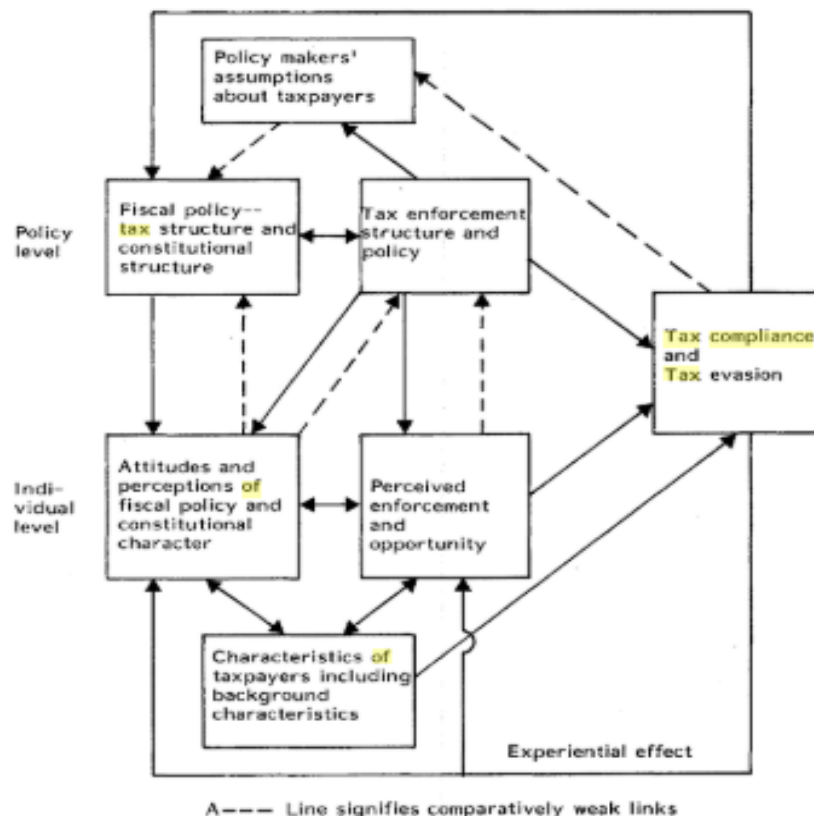
Figure 3.8.: Lewis's Parallel Model of Income Tax Evasion adapted from Hessing et al, (1988), in the edited book Handbook of Economic Psychology by Van Raaij et al., (1988), p. 531

3.5.4 Strumpel's Model of Tax Compliance

In the late 1960s, Strumpel (1969) has conducted a study on international perspective under the dimension of the fiscal psychology models. The study aimed to reveal the factors affecting tax compliance behavior. The findings of the study were formalized in the model using two general categories of independent variables (Hessing, et al., 1988):

1. "Rigidity of assessment" terms the degree of conflict between the taxpayers and tax administration. It includes the procedural requirements including the provisions of penalty, fine, assessment process, and the bureaucratic involved in dealing with the tax authorities.

2. "Willingness to cooperate" denotes the individual attitudes towards the tax system which is also known as "tax mentality".
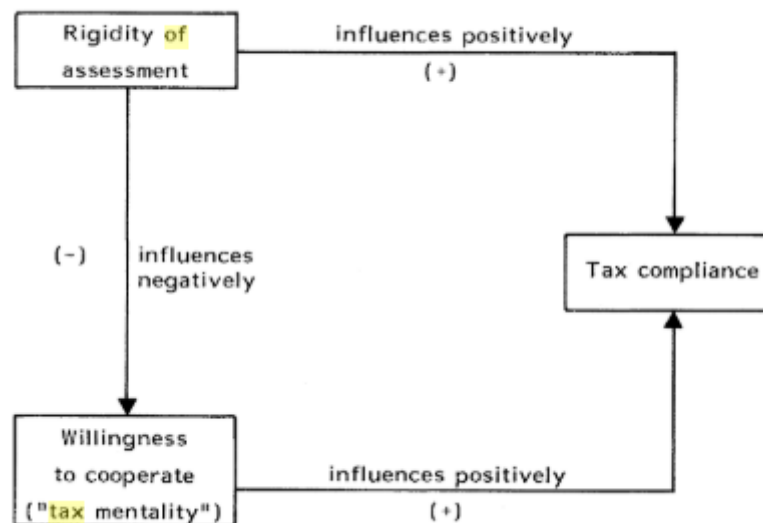
Figure 3.9: Strumpel's Model of Tax Compliance adapted from Hessing et al, (1988), in the edited book Handbook of Economic Psychology by Van Raaij et al (1988), p. 526

Strumpel's (1969) model emphasizes that application of strict enforcement of legal provisions by the tax administration will ultimately reduce the level of tax compliance as per the legal requirements, and as Kinsey's (1986) opinion, "willingness to co-

operate" positively influences the tax compliance (as cited in Devos, 2014). Figure 3.9

presents the concept of Strumpel's model in brief.

3.5.5 Fischer et al.'s Model

Jackson and Millron (1986) have introduced fourteen key determinants for tax

compliance in their comprehensive study that was an attempt to expand the classic

financial self-interest model. Fischer et al. (1992) has later grouped these determinants

into four categories in his expanded model which is popularly known as "Fischer et

al.'s Model of Tax Compliance". The expanded model has become a comprehensive

one with its consideration of economic, sociological, and psychological factors. Later,

Chau & Leung (2009) has added one more determinant (culture) through an expansion

of this model.
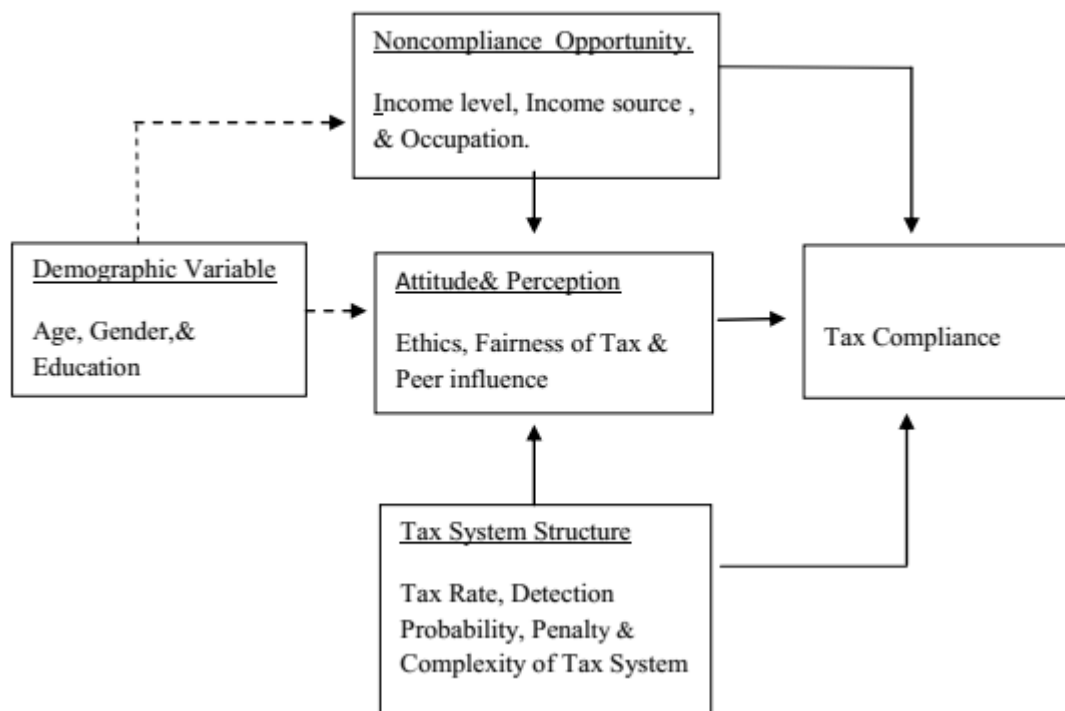
Figure 3.10.: Fischer et al.'s model of Tax Compliance presented by (1992); adapted from Alabede (2012) and Chau & Leung (2009)

The inclusion of socio-economic and psychological determinants has added value to the "Fischer et al.'s Tax Compliance Model" to provide a sound context to understand the effect of these determinants on the tax compliance behavior of a taxpayer (Chau & Leung, 2009). Moreover, some researchers have further expanded the Fischer's model to include some other relevant factors to describe taxpayer compliance behavior (Saw, 2019).

3.5.6 Slippery Slope Framework

Kirchler, Hoelzl, and Wahl (2008) introduced the "Slippery Slope Framework" with a new dimension in explaining tax compliance behavior. This framework analyzes tax compliance behavior through two dimensions, *trust in authorities* and *power of authorities*. "*Trust in authorities"* is defined as the "general opinion of individuals and social groups that the tax authorities are benevolent and work beneficially for the common good", and "*power of authorities"* is defined as the "taxpayers' perception of the potential of tax officers to detect illegal tax evasion …and to punish evasion" (Kirchler, et al., 2008, p. 212). According to these dimensions, tax authorities will play the lead role to ensure "enforced compliance" through sufficient power and capacity to exercise the power (e.g. tax audit, fines, penalty). On the other hand, enhancing trust in government and tax administration (e.g. by providing smooth services to ensure simplicity and convenience in compliance) results in enhanced voluntary compliance (Kogler, Muehlbacher & Kirchler, 2013). This framework highlights the importance of the blending of power and trust. Any reduction in the power and/or trust may result in a slippery slope: initially, there will be a little overall decrease in tax compliance, but if no measure is taken then it may cause a radical decrease in the tax compliance (Prinz et al., 2014).
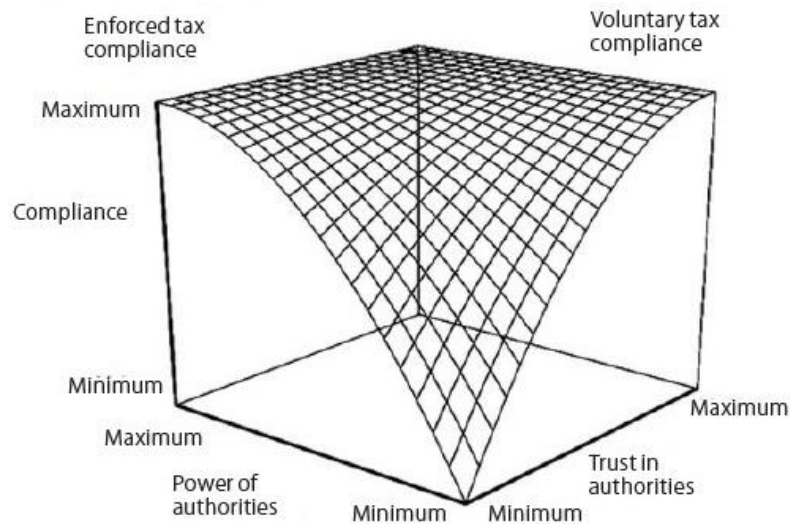
Figure 3.11: Slippery Slope Framework presented by Kirchler, et al., 2008, p. 212

3.5.7 Other Expanded Models of Tax Compliance Behavior

Several researchers have added one or more variables to their proposed model using Fischer's model as a base (Alabede, 2012). Some of the expanded models are illustrated below:

3.5.7.1 Mustafa's Model of Tax Compliance
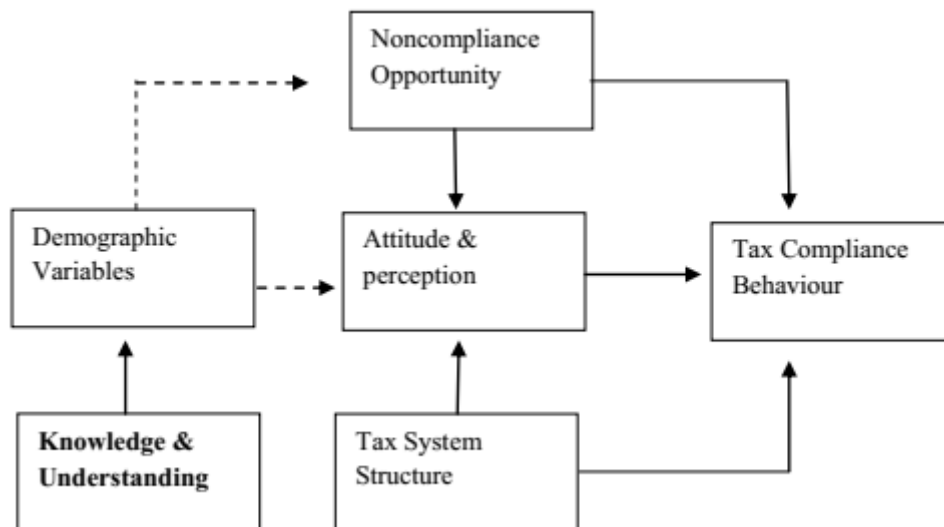
Figure 3.12.: Mustafa's Model of Tax Compliance Behavior presented by Mustafa, (1997); adapted from Alabede (2012)

Mustafa (1997) has incorporated knowledge and understanding of the tax system as a new variable. According to this study, the right knowledge and understanding of the tax system will enhance the tax compliance behavior (as cited in Alabede, 2012). Mustafa's model is shown in figure 3.12.

3.5.7.2 Tayib's Model of Tax Compliance Behavior

Tayib (1998) adapted and expanded Fischer's model by adding two more variables, namely quality of service provided by local government, and financial information disclosure. The study considered tax collection performance as the dependent variable, which depends directly on tax compliance behavior. The study illustrates that the quality of public service provided by local government affects the tax compliance behavior, although the study did not measure the degree of quality comprehensively using any quality service model (as cited in Alabede, 2012).

Tayib's model is shown in the following figure below:
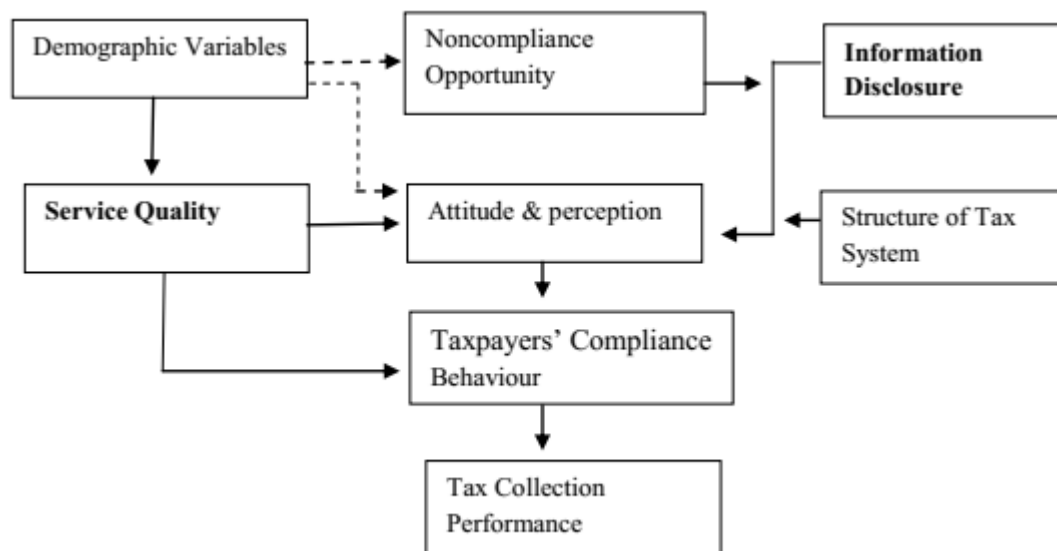
Figure 3.13.: Tayib's Model of Tax Compliance Behavior by Tayib, (1998); adapted from Alabede (2012)

3.5.7.3 Chau and Leung's Model of Tax Compliance Behavior

Chau and Leung (2009) introduced culture as a new variable to revise Fischer's model. He opined that culture, as an environmental factor, influences tax compliance behavior. Chau and Leung's Model is shown in the following figure:
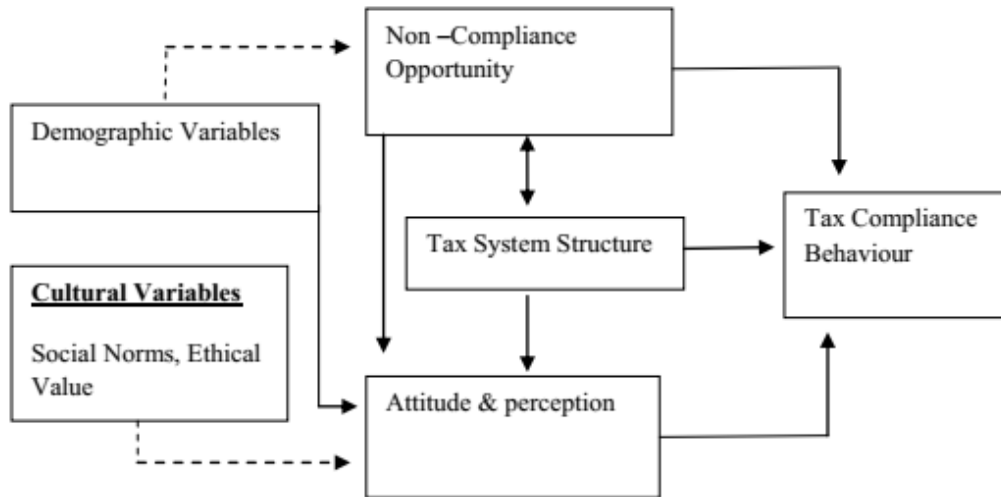
Figure 3.14.: Chau and Leung's Model of Tax Compliance Behavior presented by Chau and Leung, (2009); adapted from Alabede (2012)

3.5.7.4 Alabede's Model of Tax Compliance Behavior
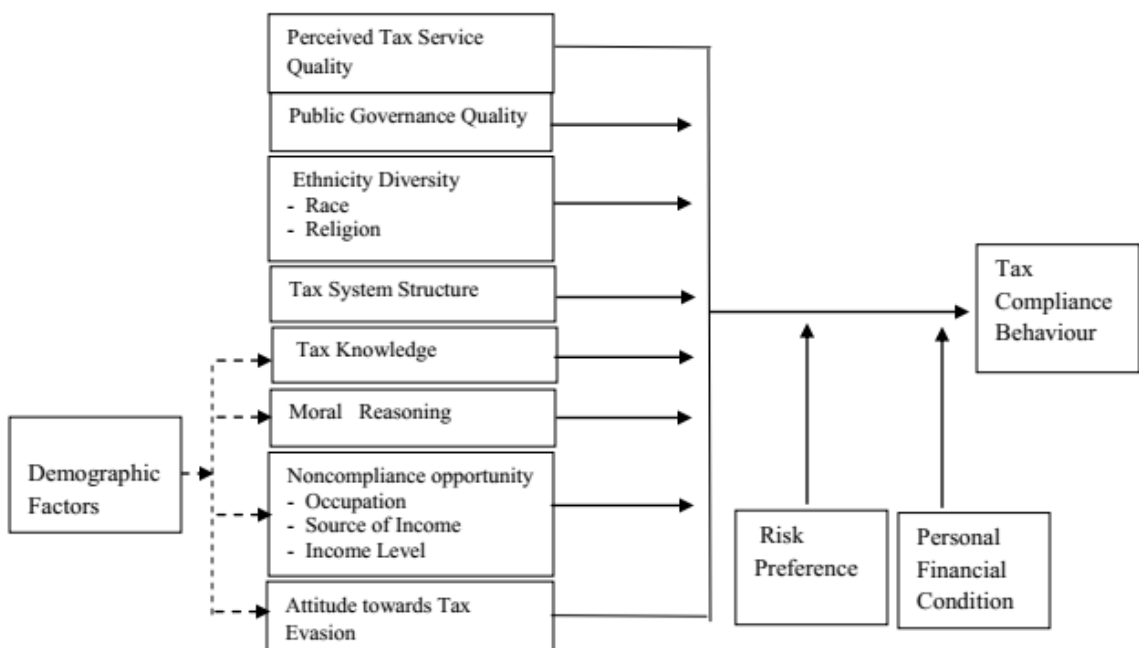
Figure 3.15.: Alabede's Model of Tax Compliance Behavior presented by Alabede (2012)

Alabede (2012) has proposed a model in his study considering the environmental, social, and cultural peculiarity of Nigeria. Alabede's model is also an expansion of Fischer's model. This model (Figure 3.15) has included some additional variables, namely, perceived tax service quality, public governance quality, ethnic diversity, taxpayer's financial condition, and risk preference (Alabede, 2012).

3.5.8 Responsive Regulation Model / ATO Compliance Model

The responsive regulation model of tax compliance presents a framework of tax compliance in the tax administration (Ahmed, 2016). This model is also known as the cooperative compliance model or the Australian Taxation Office (ATO) model. This model has been introduced by the Australian Taxation Office (ATO) during the nineties with an intention to enhance the voluntary compliance of taxpayers (Whait, 2012). This model is also used by tax authorities in the UK, New Zealand, East Timor, Indonesia, and Pennsylvania (Braithwaite, 2007). The ATO model demonstrates the existence of an interaction between scientific research and fiscal practice.

The main theme of this model is "influencing the community's commitment to pay tax through respectful treatment, through attending to resistance and reforming faulty processes, through fairly directed and fully explained disapproval of non-compliant behavior, through preparedness to administer sanctions, and capacity to follow through to escalate regulatory intervention in the face of continuing non-compliance" (Braithwaite, 2007; p. 3). This model illustrates that if taxpayers make mistakes through ignorance or poor financial planning and are ready to confess and acknowledge their mistakes, they should be helped. If they are set to be cooperative when irregularities are identified, they should be helped to rectify the issues and move on (Ahmed, 2018).

Australian Taxation Office Compliance Model (ATO)

Business profile
* Structure - sole trader, partnership, trust, company
* Business activities - type; local, inter-state, international
* financial data
* business age

Psychological
* risk
* fear
* trust
* values
* fairness/equity
* opportunity to evade

Technology & Data

Economic
* interest rates
* tax system
* Govt policies/international influence
* inflation

Industry factors
* industry definition
* region
* size, segment, participants
* profit margins
* cost structures
* industry regulation
* industry issues
 - competition
 - seasonal factors
 - infrastructure
 - labour

Sociological
* norms
* reciprocity
* age
* gender
* education level
* ethnic background

Factors influencing taxpayers' behavior

high

Level of compliance costs

low

Have decided not to comply — Use full force of the law

Don't want to comply — Deter by detection

Try to, but don't always succeed — Assist to comply

Willing to do the right thing — Make it easy

AIM = create pressure down

ATTITUDE TO COMPLIANCE   COMPLIANCE STRATEGY

Figure 3.16.: ATO Compliance Model, compiled by the author based on Nichita (2012); Murphy (2004) & ATO (2019)

The ATO compliance model has become unique in the sense that it has emphasized an organized means of tax compliance improvement procedure. Moreover, it also helps to identify and assess the determinants influencing tax compliance behavior and to apply the most suitable compliance strategy relevant to them. As illustrated by ATO (2019), Taxpayers' behavior is influenced by six different types of factors: *business, industry, technology and data, sociological, economic, and psychological factors.* In figure 3.16, this model is graphically represented in the form of a regulatory triangle and accompanying circle of influencing factors.

The ATO compliance model represents a range of taxpayer's attitudes towards tax compliance. The model suggests different types of support and intervention under different circumstances to generate public revenue. This model also advocates that the tax authorities can influence tax compliance behavior through its helping attitude and positive interaction with taxpayers (ATO, 2019).

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3.6 Literature on Bangladesh Tax Evasion, Compliance, and Reform

Although several studies have been conducted on Bangladesh tax evasion, compliance, and reform initiatives, etc., but the number of studies on specific tax compliance behavior related topic was very insignificant. However, most of the studies have directly and indirectly addressed the reasons for tax evasion, avoidance, and poor tax performance in Bangladesh, a brief review of which is presented in this section of the thesis. Moreover, most of these studies have recommended many strategies to tackle the deep-rooted tax evasion problem, as well as to enhance the domestic resource mobilization in Bangladesh. Empirical evidence on tax compliance is limited (Alm & McClellan, 2012).

Some studies explored tax compliance in Bangladesh at the firm level on VAT (e.g. Ahmed, 2013, 2019; Ahmed et al., 2012; Faridy et al., 2016, 2014; Saleheen & Siddiquee, 2013; Sarker et al., 2015; Smith et al., 2011; Siddiquee & Saleheen, 2020; etc.) and corporate tax (e.g. Bhuiyan, 2012; Hoque et al., 2011). Very few studies have been conducted on specific individual income tax compliance behavior (e.g. Ashir & Hasanuzzaman, 2019; Hasan 2014$_a$; Khan et al., 2019; Rana & Masukujjaman, 2017). Most other studies have focused on other topics like tax reform and administration, domestic resource mobilization, underground and shadow economy, etc. The following paragraphs will depict a brief review of the literature on Bangladesh tax-related topics.

Sarker (2006) has pointed out that in the FY 1999-2000, in the case of personal income taxes only 13 percent of taxpayers paid around 73 percent of the total personal income tax amount collected in Bangladesh. Based on the data from the NBR Annual Report 2017-2018, it has been observed that in the FY 2017-2018, 31 percent of taxpayers paid

around 80 percent of the total personal tax in Bangladesh. The comparative picture reveals that a few people share the burden of income taxes in Bangladesh that put the government in a challenge to distribute the tax burden among different types of taxpayers in a fair manner. The study has also revealed some reasons in this regard. The reasons behind this uneven burden of taxes are tax exemptions, narrow tax base, inequality of taxing urban and rural sectors, special privileges to the public sectors, repeated tax amnesty, etc.

Rahman and Yasmin (2008) opined that the self-assessment system bears significant responsibility for tax revenue losses in Bangladesh because 80% of the Bangladeshi population live in rural areas and are not familiar with the self-assessment tax system. The study also revealed that taxpayers in Bangladesh submit fictitious returns showing lower income or hide some of their other sources of income and claim false deductions and liabilities. In a subsequent study, Rahman, Rahman, and Yasmin (2010) highlighted that the major factors responsible for the leakage of tax revenues in Bangladesh are lack of awareness, official harassment, complexities of tax laws, and lack of social benefit.

To control tax evasion, some preventive measures have been suggested by Hoque, Bhuiyan, and Ahmad (2011) that include "effective implementation of tax rules and provisions, creating awareness of the tax payers for paying reasonable taxes, arranging more and more publicity for paying taxes, appointing adequate trained tax officials, ensuring access of the tax officials to the bank accounts and relevant software of the tax payers". Bhuiyan (2012) supplemented that effective implementation of Income Tax Ordinance and appointing qualified tax officials are also essential.

According to Shaheen (2014), the prevailing revenue system in Bangladesh is not capable of providing sufficient legal, institutional, and economic motivation for the taxpayers to pay due tax to the government. As a result, the country failed to show notable achievements in revenue generation, keeping the Tax-GDP ratio at a very low level. The study also highlighted that high non-compliance is due to "the lack of good governance, concentration of wealth to some individuals and corporations, perfunctory regulatory enforcement and weaknesses of the existing legal and regulatory framework, lack of tax education among the taxpayers, absence of motivation for genuine taxpayers, non-compliance with proper accounting standards followed by poor public relation activities, under-performance of tax officials and inadequate penalty provisions for errant taxpayers, high marginal rates of tax". The study recommended a broad-based tax system with fewer exemptions and deductions with lower marginal tax rates.

According to Nobi and Waheeduzzaman (2016), surprisingly, less than 1.2% of the population pays income tax in Bangladesh. Rana and Masukujjaman (2017, p.10) has ascertained that "the corrupting practice of government tax and administration authority, inefficient tax return system, lack of transparency in the tax collection system, the harassments by the tax officer and low punishment and risk of getting caught are the major factors that influence the tax evasion or avoidance in Bangladesh". To tackle these weak points, the study (p. 1) has also suggested some recommendations such as "taking rapid action against the corruption and inefficiency of tax administration personnel, employing effective technology-based tax administration, and increasing the knowledge level of tax system employees".

Haque (2013) has found that the existence of big size underground economy in Bangladesh is also a problem for the tax system. Regarding the size of the underground economy, the study estimated that it was only 7% of nominal GDP in 1973, and with rapid growth in 2010, it stood at 62.75% of GDP. However, according to the data of another study (Medina & Schneider, 2018), using a different methodology, in Bangladesh, the average ratio of the underground economy to the GDP for the 1991-2015 period was found to be 33.59 percent, which is consistent with the earlier findings (Schneider & Enste, 2002; Buehn & Schneider, 2012). The government provided the black money whitening facility several times over the last four decades. Haque (2013) also pointed out that the prominent citizens' groups think that such an opportunity discourages honest taxpayers to pay tax on time. According to the National Board of Revenue (NBR), between 1971 and 2017, a total of Tk. 18,372.13 crore was whitened by several people. From the amount, the government received Tk1,529.46 crore in taxes.

Hasan (2014) has found that demographic factors (income level, number of dependents, religion, gender, marital status, and education level) have more influence than intellectual factors (knowledge and technique) on tax evasion in Bangladesh. The study has also emphasized that a solid ethical conviction will motivate more people in becoming an exemplary taxpayer. In another study Hasan (2014$_a$) has found that "ability to calculate their income tax, low level of income and high wastage and corruption of government are the factors that have a significant influence on prospective tax payers compliance and non-compliance behavior".

Hasan et. al (2017) conducted a study focusing on the psychological aspects of tax compliance behavior in Bangladesh by applying the theory of planned behavior (TPB). The result indicates that "subjective norm has a significant influence on tax compliance behavior while intention mediates it and moderated by religion. Attitude and perceived behavioral control were found to have a significant influence on intention (p. 87)".

In a comparative study of tax system between Bangladesh and Pakistan, Alam (2017, p. 8) has viewed the structural weaknesses as the main cause of poor tax performance in Bangladesh. The study has characterized these weaknesses through "narrow tax base, inconsistent tax policy, low compliance level, excessive exemptions, low coverage and weak audit and enforcement, poor co-ordination among various tax departments". To overcome this situation the study has emphasized a planned reform initiative with all-out effort for accomplishment.

According to Khan et al. (2019), although the number of total TIN is about 3.4 million (as of May 2018), only half of them submit returns. Designing effective policies for curbing tax evasion requires understanding the behavioral aspects of the tax compliance decision, particularly for income tax collection. Skill (education) and experience play a role in increasing tax compliance with the support from greater digitization of the tax system.

Ashir and Hasanuzzaman (2019) conducted a study on income tax non-compliance behavior in Bangladesh using a micro direct approach. They found that monthly income, tax morale, tax education, and occupation significantly influence income tax non-compliance in Bangladesh. Higher-income earners, tax educated, and people

having occupational regulation to pay tax are more compliant. Similarly, Shakila (2019) has highlighted some causes of tax evasion and avoidance in Bangladesh. These are corruption by tax officials, high tax rate, lack of tax knowledge, lack of verifying self-assessment data, inefficiency of tax administration, complex tax law, lack of enforcement, lack of political commitment, taxpayer's attitude towards tax payment, lack of governance in government expenditure, high tax compliance costs.

Tax reform initiatives in Bangladesh are mostly funded by international donor agencies (e.g. IMF, DFID, WB, ADB, IFC, etc.) International Tax Compact (2015, p. ix) highlighted that "international co-operation can make very important contributions to tax reform, attributing reform outcomes to international assistance can be a challenge and requires robust monitoring and evaluation". To enhance the level of compliance, the study emphasized simultaneous "tax policy reform and tax administration reform, broadening the tax base, identifying and registering potential taxpayers, simplifying tax procedures, fighting corruption, strengthening the NBR, focusing on specific areas such as taxpayer segmentation, reengineering and streamlining, outreach to the taxpayer community, and developing mechanisms for greater public accountability".

Mansur (2015) has stated that a narrow tax base, widespread exemptions, and administrative inefficiencies are the main factors behind the poor Tax-GDP ratio in Bangladesh compared to the neighboring countries. Although Bangladesh ranks the highest among the South Asian countries with a tax buoyancy ratio of 1.15, compared to the potential, the tax effort in Bangladesh is still very low with a ratio of 0.657 that has put Bangladesh in the lowest rank among the selected major South Asian Countries.

In a recent study, Mansur (2020) has highlighted some political and institutional constraints in raising domestic revenues in Bangladesh. He argued that on the personal income tax side, Bangladesh suffers from a very small tax base, a high tax rate, and a very weak tax administration system. The personal income tax rate is one of the highest in the region and globally. Additionally, despite a rapid expansion of the formal industrial and service sectors, payroll tax collection is very low in Bangladesh. Lack of separation between tax policy formulation and tax administration also causes reduced focus and a slower reform process in both areas. The study has recommended some key functions for the automation e.g. "assigning taxpayers a common TIN for all types of taxes; centralizing tax return processing; implementing a payment system that connects taxpayers, commercial banks, the central bank, and the accountant general's office; and developing an auditing process that selects, monitors, and integrates findings with the payment system and taxpayers' records".

Ahmed (2015) has also considered the low yield from personal income taxes as a major issue of the Bangladesh tax structure. Similarly, Ahmed (2020) has highlighted that the contribution from the personal income tax in Bangladesh has just marginally grown from 1% to 1.3% of GDP during FY 2010 – 2018. Whereas, during this period per capita income has become more than doubled in nominal dollar terms and increased by 92% in real dollar terms. The number of individual taxpayers has been increased from 1.231 million to 2.188 million, compared to the total population of 165 million in 2018. This situation has put Bangladesh in a negative outlier in terms of tax performance. The study has also pointed out that the low level of development or low per capita income is not the main concern in this regard, rather some other factors like government's tax reform efforts, tax administration, and willingness to pay contribute to it. The study

pointed out that a range of factors are responsible for the poor performance of personal income taxes that are "legal tax exemptions and loopholes, political connections, corrupt practices, complexities of tax assessment and collection, inefficient tax audits, and high marginal rates of taxation (p. 19)",

According to the Fair Tax Monitor Report (2015, p. 7, 47), the tax performance is still unsatisfactory as compared to other countries at a similar stage of economic development. "The narrow tax base, widespread exemptions, and administrative inefficiencies are the main factors behind the low tax to GDP ratio in Bangladesh compared to the neighboring or comparative countries". The study also highlighted that "the relative absence of data sharing across departments severely undermines administration, and opens space for collusion, arbitrariness, and abuse, while fragmentation also creates additional costs for taxpayers".

According to Hassan and Prichard (2013, p.11), NBR is characterized by "a weak policy framework, very limited administrative modernization, a high degree of administrative fragmentation, significant human resource constraints, and weak enforcement mechanisms". The result of these weaknesses has caused an extremely high degree of informality and discretion in NBR, by the corresponding prevalence of negotiated tax liabilities. Later, in an extension of this study, Hassan and Prichard (2016) argued that the prevailing tax system in Bangladesh is highly informal, administered manually rather than digitally, and involves high levels of discretion. This has led to the extensive avenues for corruption in the tax administration, and "acts as an important vehicle for political elites to raise funds and distribute patronage and economic rents" (p.5). They have also argued that the reform efforts are constrained by the need to preserve 'political settlement', hence the resulted outcomes from the reform

initiatives are weak or they fail in many cases. This has also been reflected in another study (Mansur, 2015, p. 13) stating that "tax reforms over the last decades could not bring about significant changes in Bangladesh's tax efficiency and productivity.

Similarly, Ahmed (2013) has suggested four mottos (e.g. autonomy, accountability, efficiency, and effectiveness) in designing the reform strategies for organizational development and compliance. Ahmed (2019) has opined that the tax reform initiatives taken by the government are inadequate and are not able to yield the desired revenue outcome in Bangladesh. On the contrary, Chowdhury and Hossain (2019) have opined that the outcome of the reform measures is mixed. Noteworthy achievements are evident in some cases, e.g. the establishment of Large Taxpayers Unit (LTU) (also see Maruf, 2010) and Central Intelligence Cell (CIC), and digitalization of the tax process, while weaknesses are still evident in the area of enforcement, audit, and compliance. Hosen (2019) has emphasized that the dominance of indirect tax in Bangladesh tax structure should be handled properly and to increase the share of direct tax, transformation should be worked under a long-term reform plan rather than quick application, based on the basic rules of equity and social justice of Bangladesh. Ahmed (2016) has also emphasized a sustainable and pragmatic approach in reform initiatives to improve compliance in the long term as no temporary solution to the problem of tax compliance will work effectively.

Ahmed (2019) has illustrated seven main reasons for tax evasion in Bangladesh. These are high tax rates, corruption in the income tax department, political intentions, lack of information, inefficient tax administration, inadequacies and complexities of the tax law, and lack of knowledge. The study has acknowledged that among the reform

initiatives, the arrangement of income tax fair is considered the most successful to enhance the level of voluntary tax compliance.

De Paepe, Hart & Long (2017) has explained the poor tax performance in Bangladesh by narrow tax bases, arising from tax policy choices, and weak tax administration. The perception of corrupt tax administrations acts as an important bottleneck to enhance tax compliance and tax morale (also see Khan et al. 2000). Lack of autonomy exposes the inefficiency of the tax administration in Bangladesh due to political meddling. Although, Bangladesh's 2011-2016 Tax Modernization Plan focused on several strategic areas, to ensure an efficient, taxpayer-friendly, and fair tax regime. However, a lack of political commitment has resulted in reform disappointments and failures.

Nurunnabi (2017) has mentioned that curbing tax evasion and dealing with tax incentives and other reforms could add 5% points to the tax-GDP ratio in Bangladesh. The study has pointed out corruption as the main reason for poor tax performance in Bangladesh. It has recommended rapid administrative reform, regulatory reforms and stringent enforcement are required to tackle tax evasion. According to another subsequent study of Nurunnabi (2019), the scale of average tax evasion in Bangladesh has an increasing trend in recent years (it averaged 31.02% for the period 1981–2014 but was 47.20% in 2014). From 2003 to 2014, this was consistently above 40%. One of the prime reasons is politicized and corrupted tax administration. This view has also been witnessed in the study of Saleheen (2013), Saleheen & Siddiquee, (2013) and Siddiquee & Saleheen (2020).

In a recent study (ADB, 2020), it has been illustrated that the average staff per office is the lowest in Bangladesh among 33 major countries in Asia and the Pacific. This has

led a severe problem to manage the enforced compliance. The study recommended to conduct Taxpayer Satisfaction Survey and Tax Gap Research regularly to identify the aggregate or overall picture of changes in the overall health of the tax system and shifts in compliance levels in specific areas. Moreover, to enhance the level of compliance, reform initiatives should focus "to promote perceptions of trust and fairness in the tax administration and the tax system, and to increase awareness of the likelihood and consequences of detection, including the severity of sanctions." The study has emphasized on improving voluntary compliance, as this is the only affordable and sustainable approach available that may act as an effective tool to enhance the domestic resource mobilization.

Since most of the tax compliance behavior related studies in Bangladesh have considered very few numbers of independent variables with a small sample size, the outcome was to some extent narrow. This has led to the justification of conducting a thorough and detailed study with a larger size of the sample, considering the maximum number of relevant independent variables, i.e. determinants.

3.7 Determinants of Tax Compliance Behavior

Governments in most of the countries rely on effective and efficient allocation of domestic resources through tax revenue to manage the required funds to finance the government's expenditure budget (Alaaraj et al., 2018). Several previous studies related to individual taxpayers provided the theoretical context to describe the factors that have a significant influence on the level of individual tax compliance. However, these factors are varied from study to study (Fischer et al, 1992; Cuccia, 1994; Devos, 2014). Moreover, it has been observed in previous studies about corporate taxpayers that the

theory of individual taxpayer compliance can also be applied to describe and relate the corporate compliance (Abdul-Jabbar, 2009; Tedds, 2010; Sapiei, Kasipillai & Eze, 2014). To reduce the level of tax evasion and non-compliance, it is essential to understand the determinants of tax compliance behavior relevant to the individual taxpayers. In the earlier sections of this chapter, several theories and models, pertaining to the tax compliance behavior, have been analyzed. The researchers of such theories and models have revealed the influence of several factors under the categories of economic, social, psychological, and cultural factors on the tax compliance behavior of an individual taxpayer (Allingham & Sandmo, 1972; Jackson & Millron, 1986; Alm, 1991; Fischer et al., 1992; Chau & Leung, 2009).

The study of Allingham and Sandmo (1972) is considered as the pioneer study in the context of tax compliance behavior. In their study, they proposed a model which is known as the "A-S model" or "Financial Self Interest Model". Under this model, the tax compliance behavior of taxpayers is affected by some economic factors namely, income level, tax rate, audit probability, and fine/penalty. However, several subsequent studies illustrated the limitations of the A-S model revealing more factors influencing the tax compliance behavior in addition to the economic factors suggested in the A-S model. These studies considered the relevance of psychological, social, and demographic factors on tax compliance behavior. (Fischer et al., 1992; Alm, 1991; Jackson & Millron, 1986).

Jackson and Millron (1986) have identified fourteen key determinants for tax compliance in their comprehensive study that was an attempt to expand the classic financial self-interest model. These determinants are "age, sex, education level, income

level, occupation, peer influence, income sources, ethics, fairness, complexity of the tax system, tax authority contact, penalty, probability of detection and tax rate". These fourteen key determinants were later grouped into four categories in the "Fischer et al.'s model of tax compliance" (Fischer et al., 1992). Fischer's model has incorporated economic, sociological, and psychological factors. In addition to these, demographic factors like gender, age, education, income level, and employment status have also been considered in the model (Alabede, 2014). Chau and Leung (2009) have proposed an expanded version of Fischer's model incorporating one additional determinant, culture. After the good acceptance of the study by Jackson and Milliron (1986), several studies have been conducted that identified numerous factors that are almost similar to the study of Jackson and Milliron (Chau & Leung, 2009; Fischer, Wartick, & Mark, 1992; Hanno & Violette, 1996; Riahi-Belkaoui, 2004; Saad, 2014; Trivedi, Shehata & Mestelman, 2005).

Kirchler (2007) has focused that research based on the behavioral aspect of taxation mainly focused on attitude, norms, fairness, and taxpayer decisions. He has classified the tax compliance determinants into six categories namely, "political perspective, social psychological perspective, mental representation, decision-making perspective, self-employment and interaction between tax authorities and taxpayer".

Faa (2008) has classified the determinants into four major categories, namely: demographic determinants (age, gender, education, and income level); economic determinants (probability of detection and perceived probability of detection; tax audit, probability of audit and prior audit; sanctions; and tax rates); behavioral determinants

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(fairness; peer influence; ethics/tax morale and ethical decision making); non-compliance opportunity (income source, types of reporting and occupation).

On the other hand, Palil (2010, p. ix) has classified such factors into five main different categories, namely "1) economic factors (tax rates, tax audits, and perceptions on government spending); 2) institutional factors (the role of the tax authority, simplicity of the tax returns & administration and probability of detection); 3) social factors (ethics and attitude, perceptions of equity and fairness, political affiliation and changes on current government policy, referent groups); 4) individual factors (personal financial constraints, awareness of offenses and penalties) and 5) and other factors (age, income, level, culture, education, gender)".

After reviewing the literature on tax compliance behavior among countries, Palil and Mustapha (2011) summarized that many factors affect the level of compliance among countries. They have identified that the USA and Hongkong have been affected by cultural differences and the economic factors have a mixed impact both in positive and negative ways. They concluded that tax audit and tax penalties are the necessary factors to ensure a lower deficiency in tax compliance behavior. Moreover, it has also been advised that the government should review the tax rules to increase law execution and improve their relationship with the taxpayers to reduce the level of non-compliance.

After reviewing the data from previous studies (companies and individuals), Thức (2013, p. 476) has identified the factors under five categories, namely "industry factors (competition, profit margins, industry risk, growth rate, capital structure), accounting factors (accounting knowledge, tax knowledge, and accounting activities),

psychosocial factors (social norms, public spending, moral tax, perceived fairness), tax administration factors (law enforcement, probabilities of detection, penalties, stability and transparency, public services, unofficial costs), and economic factors (interest rates, inflation, and tax rate)".

Another study (Suyapto & Lasmana, 2014) was conducted in East Java I regional tax office observing 145 taxpayers with a survey approach following the Allingham and Sandmo (1972) and Palil (2010) model where both economic and non-economic theory has been considered. It has been found that the financial condition and audit, government spending, and fairness perception have a positive effect on compliance. Meanwhile, the perception of sanctions, tax administration, tax knowledge, and the business sector have less influence in affecting tax compliance.

According to Kiri (2016), the main factors that usually affect tax evasion and non-compliance level in one country are traditional factors (tax rate, penalty rate, and audit probability), institutional factors (corruption, cost compliance, and confidence), socio-cultural factors (age, sex, education, social rules, etc.), macroeconomic factors (GDP, unemployment rate and inflation) and businesses characteristics (size, ownership, and industry).

On the other hand, after conducting a thorough literature review considering 32 studies, Al-Zaqeba, et al (2018) identified that "attitude, subjective norms, fairness, tax knowledge, trust, tax complexity, moral intensity" are among the most significant factors. The study also illustrated the significance of attitude, subjective norms, tax knowledge, and tax fairness as the most important factors. The third rank in terms of importance is trust, tax complexity, and moral intensity followed by the perceived

behavioral control (PBC) as in the fourth important factor. On the other hand, less influence has been observed from some factors like deterrence, tax system, peer influence, religiosity, and procedural justice. It has also been observed by them that the "Theory of Planned Behavior" and "Fairness Theory" are the most used theories in the tax compliance literature.

In another attempt, the Australian Taxation Office (ATO) (2019) illustrated interrelated factors influencing taxpayer's compliance decision and categorized these factors under six different heads: business profile, industry factors, psychological factors, sociological factors, technology & data, and economic factors. According to ATO (2019), none of the factors can be unrelated; they are interrelated in shaping the taxpayers' decisions to comply.

As the discussed tax compliance behavior models and theories have depicted several factors under different categories, tax compliance behavior can be termed as a complex behavior. From the literature review, it appears that there exist differences in the findings and a general consensus cannot be drawn in this respect (Biabani & Ramezani, 2011). Moreover, Alm (1999) argued that "no single model can account for the enormous factors influencing tax compliance decision and submitted that other factors may well be relevant in explaining tax compliance behavior".

Under such circumstances, for this study, the discussed determinants have been grouped into five categories: economic, institutional, socio-psychological, individual, and other non-economic determinants. Each of these categories has considered some relevant identical determinants, subject to further analysis and elaboration. The list is not fully

predictable due to differences in theories and models. However, the study has attempted to consider the necessary number of determinants in such a manner so that it can cover the most crucial determinants.

3.8 Hypotheses Development

Integrating the logical beliefs with published literature, considering the boundaries and constraints leading the situation, is crucial in developing a scientific basis for investigating the research problem (Sekaran & Bougie, 2016). The relevant hypotheses are derived based on the research questions set up for the study.

3.8.1 Economic Determinants and Tax Compliance Behavior

Several studies have illustrated the relevance of many economic factors in explaining tax compliance behavior. Some of such factors are tax rate, fines & penalty, income level, tax benefits, tax compliance costs, future tax cost, tax incentives & rebate, etc. The effect of the tax rate on tax compliance is mixed. Some studies found a negative correlation between the increase in tax rate and level of compliance in both developed and developing countries. The level of tax burden ultimately affects the tax compliance attitudes of individuals and also influences them to make their compliance decisions, based on their perception on it (Abubakari & Christopher, 2013; Doerrenberg & Peichl, 2010; Helhel & Ahmed, 2014; Jayawardane, 2016; Molero & Pujol, 2012; Torgler & Murphy, 2004; Williams & Krasniqi, 2017; Williams & Martinez, 2014). Torgler (2005) has conducted a study on tax morale considering 17 Latin American countries. The study illustrated that over 46% of the respondents evaded tax because of their perception of having a high tax burden. "Because the taxes are too high" was the most frequently stated reason in the study. Opposite of the view, some researchers found out

a positive relationship between tax compliance and tax rate (Allingham & Sandmo, 1972; Alm, 1995). On the other hand, Torgler (2007) and Kirchler e al. (2008) found no relationship between tax compliance and tax rate.

Considering penalty and fines, their impact on tax compliance behavior is somewhat not clear (Bărbuţă-Mişu, 2011). Moreover, Fishcher, et al. (1992) revealed inconsistent findings on the relationship between fines and tax compliance. Considering income level, studies revealed that lower and middle-income earners are more compliant in comparison to higher-income earners (Murphy, 2003; Ross & McGee, 2012; Sá, Martins & Gomes, 2014; Torgler, 2012; Torgler & Friedrich, 2005; Torgler & Murphy, 2004). Some studies found a positive correlation between higher income level and tax compliant attitudes in several transition countries (Torgler, 2003); Australia (Devos, 2008); Macedonia (Ristovska et al., 2013); Malaysia (Al Mamun et al., 2014); Ghana (Ibrahim et al., 2015); and New Zealand (Marriott, 2017). The mixed nature of the findings justifies its consideration in tax compliance behavior related studies.

Moreover, future tax costs may also have an impact on the tax compliance behavior of an individual taxpayer (Jackson & Jones, 1985 as cited in Hai & See, 2011). Future tax costs generally include fines, penalties, and imprisonments that may be borne by the taxpayer. These costs are generally associated with the deterrence theory in tax non-compliance literature (Allingham & Sandmo, 1972; Ching, 2013). Based on the economic model, when the taxpayers find that the benefits from evading tax are greater than the fines or punishment, if they are being caught later, they may decide to go for tax non-compliance activities (Bărbuţă-Mişu, 2011). Economic determinants are mainly associated with the costs and benefits relevant to performing the actions of

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compliance / non-compliance (Loo, 2006). The tax compliance scholars have focused more on positive incentives for tax compliance as a tool to enhance the level of compliance. Moreover, they have also suggested not to rely only on deterrence measures like detection and punishment, to enhance compliance (Slemrod, 1992). Some researcher suggests a combination of both enforcement efforts and positive incentives to enhance the level of tax compliance. But to have a better result, positive incentives should be distributed to the concerned taxpayers immediately (Alm, Jackson, & McKee, 1992).

Since the mixed nature of relationship between the economic determinants and tax compliance behavior has been previously identified in literature, the hypotheses below are developed to achieve the second objective of this study:

H_1 : Economic determinants have no influence on tax compliance behavior

H_{1a} : Tax rate has no significant influence on tax compliance behavior

H_{1b} : Fines & penalty has no significant influence on tax compliance behavior

H_{1c} : Income level has no significant influence on tax compliance behavior

H_{1d} : Tax benefit has no significant influence on tax compliance behavior

H_{1e} : Tax compliance cost has no significant influence on tax compliance behavior

H_{1f} : Future tax cost has no significant influence on tax compliance behavior

H_{1g} : Tax incentives & rebate have no significant influence on tax compliance behavior

3.8.2 Institutional Determinants and Tax Compliance Behavior

Despite influenced by the demographic and economic determinants, it has also been found that institutional factors also influence the compliance decisions of an individual

taxpayer (Palil, 2010). Some relevant institutional factors include audit probability, unofficial costs, information certainty, simplicity of tax return, tax law complexity, harassments by the tax office, documentation of accounts, lack of tax awareness program, inconsistence tax policy etc.

According to the expected utility theory, "if audit probability and productivity are higher, the expected loss of being caught will be higher" (Allingham & Sandmo, 1972). Moreover, it is expected that the level of tax compliance will be increased if higher audit rates can be implemented (Alm, 1999; Kinsey, 1992; Shreffinn & Triest, 1992). In contrast, taxpayers who have never been audited might think that it will not be a problem if they hide some of their income or claim false deductions (Palil, 2011).

Corruption has been found as one of the important causes to ignite the taxpayer's perception of perceived unfairness in the tax system (Ching, 2013). Wider corruption (e.g. unofficial costs or bribe and harassments by the tax officers) is associated with lower tax morale, hence has a negative impact on the tax compliance behavior of a taxpayer (Gerstenbluth et al., 2012; Jahnke, 2017; Torgler, 2006; Torgler et al., 2008; Williams & Krasniqi, 2017; Williams & Martinez, 2014).

Marandu, Mbekomize & Ifezue (2015) have summarized the lists of determinants that may influence tax compliance behavior. Some of the determinants are linked to the tax administration of a country. The tax authority of a country can play a vital role to minimize the existing tax gap through enhancing voluntary compliance (Palil, 2010). The role of the tax authority may also influence the tax compliance behavior as they are responsible to ensure the information certainty about tax rules, simplicity of tax return

and tax laws, setting documentation requirements of accounts to submit, tax awareness programs, etc.

The government designs the tax system of a country to impose a tax on certain things. In this regard, the necessary legal framework and collection mechanisms are designed by taking necessary reform measures to ensure a consistent tax policy (Hasseldine & Li, 1999). Baer and Silvani (1997) have emphasized on the simplification of the tax return to enhance the level of compliance. A simple tax return will reduce the compliance costs as the taxpayers will be able to complete the tax return personally without taking any assistance from the tax lawyer. Moreover, previous studies have identified that a complex return filing procedure increases the possibility of errors that are detected by audits, causing hassles (Palil, 2010).

The study of Richardson (2008) attempted to investigate the determinants of tax evasion considering 47 countries including the USA, UK, Argentina, Thailand, Canada, Chile, and Brazil. The findings emphasized the role of a government to ensure positive attitudes towards tax. The tax authority should ensure a simple, but logical, tax return that will help the taxpayers to complete the tax returns accurately. Moreover, the information required in the tax return should be at an optimum level so that it can ensure proper documentation from taxpayers' business and personal records (Palil, 2010).

Since the mixed nature of relationship between the institutional determinants and tax compliance behavior has been previously identified in literature, the hypotheses below are developed to achieve the third objective of this study:

H$_2$: Institutional determinants have no significant influence on tax compliance behavior

H$_{2a}$: Audit probability has no significant influence on tax compliance behavior

H$_{2b}$: Unofficial cost has no significant influence on tax compliance behavior

H$_{2c}$: Information certainty has no significant influence on tax compliance behavior

H$_{2d}$: Service of tax office has no significant influence on tax compliance behavior

H$_{2e}$: Complexity of tax return has no significant influence on tax compliance behavior

H$_{2f}$: Tax law complexity has no significant influence on tax compliance behavior

H$_{2g}$: Harassments by tax office has no significant influence on tax compliance behavior

H$_{2h}$: Documentation of accounts has no significant influence on tax compliance behavior

H$_{2i}$: Lack of Tax awareness program has no significant influence on tax compliance behavior

H$_{2j}$: Lack of law enforcements has no significant influence on tax compliance behavior

H$_{2k}$: Tax policy reform has no significant influence on tax compliance behavior

3.8.3 Socio-Psychological Determinants and Tax Compliance Behavior

The tax compliance behavior of a taxpayer can also be influenced by different determinants from a social perspective. They comply looking at other people's (friends, family members, peer groups) behavior and their surrounding social environment (Torgler, 2007). As social factors also encompass the psychology of the taxpayers, they should be considered in a broader sense (Kirchler, 2007; Palil, 2010). The relevant factors considered in this regard are attitude towards taxes, stress and equity, perceived opportunity for evasion, perceived tax burden, peer influence, religious observance,

perceived fairness of tax system, tax morale, perception on government spending, social norms & culture, etc.

Several countries have adopted the "Self-Assessment System" emphasizing voluntary compliance in the tax system. Taxpayers' standard of ethics and attitude is "extremely important" in the success of this system (Song and Yarbrough, 1978 as cited in Palil, 2010). Song and Yarbrough (1978) also suggested that tax compliance behavior is determined by "ethics, legal environment, and other situational factors" that prevail in a specific time and place. It is presumed that a taxpayer with strong ethical background tends to be more compliant (Kirchler *et. al.,* 2008 as cited in Palil, 2010). Moreover, the psychological characteristics of a taxpayer set the "ethics, attitudes, and moral beliefs" which in turn act upon the tax compliance behavior (Elffers, et al., 1987).

Roth *et. al.* (1989) endorsed a positive correlation between moral pledge and tax compliance behavior. Moreover, a taxpayer is very much concerned about the government's use of public money. If they perceive a lack of governance in government spending, they may also show negative attitudes towards the tax authority, which ultimately influences their tax attitudes and ethics (Kirchler *et. al.,* 2008). Perceived higher tax burden compared to peer groups may also lead to tax non-compliance (Spicer & Becker, 1980). Similarly, the perceived unfair tax system ignites a taxpayer to be less compliant. Several studies have illustrated a positive correlation between fairness and tax compliance attitude, such as in China (Ho et al., 2013); Ghana (Abubakari & Christopher, 2013); Yemen (Helhel & Ahmed, 2014); Zimbabwe (Nyamwanza et al. 2014); some African countries (Ali et al., 2014); Sri Lanka (Jayawardane, 2016). The

level of voluntary tax compliance is expected to be enhanced when the taxpayers perceive that the tax system of the country is "equitable and fair" (Palil, 2010).

According to Allingham and Sandmo (1972), tax evasion decisions sometimes are influenced by "peer-group i.e. family members or friends". A similar concept was supported by Spicer & Lundstedt (1976) and Clotfelter (1983). As cited in Hernandez, et al. (2019, p. 12) "By highlighting the benefits of taxation; eliciting notions of fairness, responsibility, and morality; emphasizing social norms; and framing information differently, taxpayer behavior can be nudged in a way that uncovers bottlenecks unaddressed by traditional notions of deterrence" (see Hallsworth et al. 2017; Hernandez et al. 2017). As cited in Horodnic (2018), the more effective the government spending is perceived (Barone & Mocetti, 2011; Molero & Pujol, 2012; Sipos, 2015; Alasfour, Samy & Bampton, 2016; Vythelingum, Soondram & Jugurnath, 2017), the higher the level of tax morale can be expected. A similar finding has been revealed when the level of the perceived benefits is higher in a society (Alm & Gomez, 2008).

Chan *et. al.* (2000) found that cultural differences significantly influence taxpayer's attitudes towards taxation. Hence, in this way culture plays a significant role in determining tax compliance behavior. Another study (Richardson, 2008), revealed that culture has an impact on tax morale and the legislators should also focus on cultural determinants along with legal, political, and religious determinants while designing an optimal tax system. Inter and intracultural attributes among countries may also influence the tax morale and tax compliance (Alm & Torgler, 2006; Brink & Porcano, 2016; Feld & Torgler, 2007; Horodnic & Williams, 2016; Kountouris & Remoundou, 2013; Torgler, 2012).

Considering religion, it has been found that people with higher religious values/obligations are found to have higher tax morale (Alm & Torgler, 2006; Andriani, 2016; Bilgin, 2014; Feld & Torgler, 2007; Leonardo & Martinez-Vazquez, 2016; Martinez-Vazquez & Torgler, 2009; Russo, 2013; Sá et al., 2014; Torgler, 2012; Trüdinger & Hildebrandt, 2013; Vythelingum et al., 2017). Some studies observed no difference in the level of compliance and tax morale among different religions (Alasfour et al., 2016; Kanniainen & Pääkkönen, 2010).

Since the mixed nature of relationship between the socio-psychological determinants and tax compliance behavior has been previously identified in literature, the hypotheses below are developed to achieve the fourth objective of this study:

H_3 : Socio-Psychological determinants have no significant influence on tax compliance behavior

H_{3a} : Attitude towards taxes has no significant influence on tax compliance behavior

H_{3b} : Stress & Equity has no significant influence on tax compliance behavior

H_{3c} : Perceived opportunity for evasion has no significant influence on tax compliance behavior

H_{3d} : Perceived tax burden has no significant influence on tax compliance behavior

H_{3e} : Peer influence has no significant influence on tax compliance behavior

H_{3f} : Religious observance has no significant influence on tax compliance behavior

H_{3g} : Perceived fairness of tax system has no significant influence on tax compliance behavior

H_{3h} : Tax morale has no significant influence on tax compliance behavior

H$_{3i}$: Perception on government spending has no significant influence on tax compliance behavior

H$_{3j}$: Social norms & culture has no significant influence on tax compliance behavior

3.8.4 Individual Determinants and Tax Compliance Behavior

A taxpayer's tax compliance decision may be affected by several factors, but the final decision is made by the individual. A taxpayer's tax compliance decision is highly reliant on the taxpayer's personal judgment (Barrand, Harrison & Ross, 2004). Factors like a personal financial constraint, tax knowledge, tax planning, multiple payments of taxes, probability of detection, guilty feeling, etc. are therefore influences the tax compliance behavior significantly.

When a taxpayer faces personal financial constraints, he may feel encouraged to prioritize the fulfillment of his basic needs rather than paying required taxes (Palil, 2010). It has been observed that people with personal financial constraints evade taxes more comparing to the solvent people with less financial difficulties (Mohani, 2001). In some cases, the opposite findings were also evident. Sometimes, the level of tax evasion was found more serious among people with no financial difficulties, comparing to people with financial distress (Warneryd & Walerud, 1982). Paying multiple taxes in an economy may lead to financial distress also as it increases the total tax liability of a taxpayer.

Income tax laws are normally difficult to understand as they use some typical terminologies that are used in the discipline of law which is different from other general disciplines (Bărbuţă-Mişu, 2011). In such cases sometimes it becomes very tough to comply with the legal provisions due to having poor tax knowledge. Several studies

have found the influence of tax knowledge on tax compliance behavior (Mohamad Ali *et. al.*, 2007). Obid (2004) argued that little tax knowledge tempts the taxpayers to evade tax, whereas sound tax knowledge may make them able to do effective tax planning through tax avoidance rather than tax non-compliance (Kasipillai & Jabbar, 2006).

The economic model assumes that taxpayers will evade tax if they think that the benefits from tax evasion are greater than the risk of detection and punishment. Allingham and Sandmo (1972), revealed that an increase in the probability of detection will always lead to better compliance through declaring larger income. This conclusion was also admitted by several studies (Cummings et al., 2005; Obid, 2004; Nichita, 2012; Palil, 2010; Williams & Horodnic, 2016). On the contrary, if a country is full of corruption, citizens will have very little trust in public establishments and their tax morale will decrease accordingly. In such cases, the citizens may feel cheated and may lose the motivation to accept the obligation of paying taxes as the duty of a good citizen (Saitta, 2017; Chan et al., 2018).

Since the mixed nature of relationship between the individual determinants and tax compliance behavior has been previously identified in literature, the hypotheses below are developed to achieve the fifth objective of this study:

H_4 : Individual determinants have no significant influence on tax compliance behavior

H_{4a} : Personal financial constraint has no significant influence on tax compliance behavior

H_{4b} : Tax knowledge has no significant influence on tax compliance behavior

H_{4c} : Tax planning has no significant influence on tax compliance behavior

H_{4d} : Multiple payment of taxes has no significant influence on tax compliance behavior

H_{4e} : Probability of detection has no significant influence on tax compliance behavior

H_{4f} : Guilty feeling has no significant influence on tax compliance behavior

3.8.5 Other Non-Economic Determinants and Tax Compliance Behavior

This section illustrates some other factors (mostly non-economic) that have been considered as relevant for tax compliance behavior in some earlier studies. These include public governance quality, civic sense of duty, etc. Public governance quality is a very sensitive element as it dictates the quality of transparency in a government, i.e. it may have some political stands. In this regard, very few researchers considered it in the study of tax compliance behavior (Ching, 2013). If the government can build a positive image regarding the quality of its transparency and governance, the citizens will have more faith in the government. It will enhance voluntary tax compliance by the citizens which shows their supports to the government (Alabede, 2012; Cummings et al., 2005). Voluntary tax compliance decision is positively correlated with the trust in government and administration of a country (Bărbuţă-Mişu, 2011; Kirchgassner, 2010). As cited in Horodnic (2018), the higher the perceived fairness of the government, the higher the level of tax compliance (Alasfour et al., 2016; Alm & Gomez, 2008; Çevik, 2016; Cummings et al., 2005; Cyan et al., 2016; Niesiobędzka, 2014; Torgler et al., 2008; Vythelingum et al., 2017). On the other hand, a stronger sense of community and civic sense of duty are positively associated with tax morale. Such a positive attitude ultimately helps in the enhancement of the tax compliance

positively (Andriani, 2016; Çevik, 2016; Cyan et al., 2016; Russo, 2013; Trüdinger & Hildebrandt, 2013).

From the earlier discussion, several outcomes and theories have been found to illustrate the determinants of tax compliance behavior. In most of the cases, the researchers were not in any kind of agreement regarding the nature and number of determinants relevant to measure the tax compliance behavior. Various theoretical models have been used in both developing and developed countries. The findings have illustrated a wide variety of relevant determinants on the compliance behavior of taxpayers. Moreover, the earlier studies also did not depict any agreement regarding a single theory that can be used as a reference for understanding the tax compliance behavior of an individual taxpayer (Biabani & Ramezani, 2011; Zaqeba et al., 2018). Alm (1999) argued that "no single model can account for the enormous factors influencing tax compliance decision and submitted that other factors may well be relevant in explaining tax compliance behavior"

Since the mixed nature of relationship between the other non-economic determinants and tax compliance behavior has been previously identified in literature, the hypotheses below are developed to achieve the sixth objective of this study:

H$_5$: Other non-economic determinants have no significant influence on tax compliance behavior

H$_{5a}$: Public governance quality has no significant influence on tax compliance behavior

H$_{5b}$: Civic sense of duty has no significant influence on tax compliance behavior

3.8.6 Demographic Characteristics and Tax Compliance Behavior

The demographic characteristics of an individual taxpayer may also influence the citizens of a country to comply with the legal provisions of tax acts (Torgler, 2007). The relevance of demographic characteristics (gender, age, education, occupation, and sources of income) in tax compliance behavior are explored here.

Most of the tax compliance behavior related studies have considered gender as one of the most important determinants. Most of the studies on tax compliance behavior conducted on both developed and developing countries revealed the relevance of gender in tax compliance behavior. A positive correlation between female and tax compliance attitudes have been observed in most of the studies. It has also been observed that women are more compliant, found in particular, studies in Canada (Torgler, 2003); USA (McGee, Nickerson & Fees, 2006); Albania (Gërxhani, 2007); Estonia (McGee, Alver & Alver, 2008); Australia (McGee & Bose, 2009), Germany (McGee et al., 2006); New Zealand (Gupta & McGee, 2010); The Netherlands (Ross & McGee, 2012); Spain (Martinez-Vasquez & Torgler, 2009); Italy (Kastlunger et al., 2010); Malaysia (Kasipillai & Abdul-Jabbar, 2006); Russia (Alm, Martinez-Vasquez & Torgler, 2009); Yemen (Helhel & Ahmed, 2014); Pakistan (Cyan, Koumpias & Martinez-Vasquez, 2016); Wenzel, 2002; Hasseldine & Hite, 2003; Williams & Martinez, 2014; Windebank & Horodnic, 2016; Chan, Supriyadi & Torgler, 2018. On the other hand, Kirchler & Maciejousky (2001) and Kaplan et al (2009) reported women's higher negative effect on taxpayers' attitudes toward tax compliance than men. Similar results have also been revealed in some studies such as in Romania (McGee, 2006) and Turkey (McGee & Benk, 2011).

Nevertheless, several studies found no significant difference toward tax compliance behavior based on gender (Roshidi, Mustafa & Asri, 2007), namely in Poland (McGee & Bernal, 2006); Spain (Alm & Gomez, 2008); Argentina (McGee & Rossi, 2008); Southern China and Macau (McGee & Noronha, 2008); India (McGee & George, 2008); Kazakhstan (McGee & Preobragenskaya, 2008); China (McGee, 2014); Hong Kong (Ho, Ho & Young, 2013; McGee & Butt, 2008); Macedonia (Ristovska, Mojsoska-Blazevski, & Nikolov, 2013); Malaysia (Al-Mamun et al., 2014); and Zimbabwe (Nyamwanza et al., 2014). However, most of the research studies have revealed that male taxpayer's tendency to evade tax is more than females (Slemrod, 2007).

Considering age as an influencing determinant in tax compliance behavior, it has been found that the older age group people are more compliant than younger in most developed countries, namely in Canada (Torgler, 2003); Australia (Devos, 2008); Spain (Martinez-Vazquez & Torgler, 2009); Estonia (Randlane, 2012); and New Zealand (Gupta & McGee, 2010; Marriott, 2017). The similar results have been revealed by some other studies (Al-Mamun et al., 2014; Chan et al., 2018; Ristovska, et al., 2013; Torgler, 2012; Wenzel, 2002; Windebank & Horodnic, 2016). On the other hand, some studies found that younger people's attitude toward tax compliance is more positive than older age group people (Ross & McGee, 2012; Torgler & Schneider, 2007). However, several studies found no significant impact of age on tax compliance behavior (Helhel & Ahmed; 2014; Ho, et al., 2013; McGee, 2014; Nyamwanza, et al., 2014; Ross & McGee, 2011).

In tax compliance behavior studies, researchers always consider the level of education as a control variable (Radtke, 2005). In general, many studies revealed that better-educated taxpayers are more compliant as they understand tax procedures in a better manner and vice versa (Al-Mamun et al., 2014; Devos, 2012; Gupta & McGee, 2010; Obid, 2004; Randlane, 2012; Ross & McGee, 2011). On the other hand, several studies also identified a negative relationship between education and tax compliance attitude (Alm & Gomez, 2008; Murphy, 2003; Torgler, 2013). Some studies illustrated no relationship at all (Ho, et al., 2013; Ibrahim, Musah & Abdual-Hanan, 2015; McGee & Bose, 2009; Nymwanza et al., 2014; Torgler & Murphy, 2004). As the determinant of education revealed some mixed results in tax compliance behavior studies, further study may reveal a clearer picture.

Considering occupation, several studies found that the level of tax compliance is better in case of full-time employees rather than self-employed or part-time employees (Devos, 2008; Doerrenberg & Peichl, 2010; Marriott, 2017; Martinez-Vazquez & Torgler, 2009; Torgler & Schneider, 2007; Williams & Martinez, 2014;). However, some studies had opposite results e.g. no effect (Ibrahim et al., 2015); lower labor groups are more compliant than other groups (Cyan et al., 2016). The diversity in defining the nature of occupational status makes it very tough to reach generalizations regarding its impact on the tax compliance behavior of a taxpayer (Richardson & Sawyer, 2001).

In this study, demographics characteristics have been considered as moderating variables and the study has set the following hypotheses regarding their impact on tax compliance behavior:

H₆: Gender has no effect on tax compliance behavior

H₇: Having training on tax / prior tax knowledge has no effect on tax compliance behavior

H₈: Assistance of tax lawyer has no effect on tax compliance behavior

H₉: There is no difference in level of tax compliance among individual taxpayers in terms of their income tax rate.

H₁₀: There is no difference in level of tax compliance among individual taxpayers in terms of their level of education.

H₁₁: There is no difference in level of tax compliance among individual taxpayers in terms of their average monthly income.

H₁₂: There is no difference in level of tax compliance among individual taxpayers in terms of their sources of income.

H₁₃: There is no difference in level of tax compliance among individual taxpayers in terms of their age.

H₁₄: There is no difference in level of tax compliance among individual taxpayers in terms of their occupation.

An extensive literature review on both local and global studies of tax compliance behavior has depicted the evidence that several considerable empirical studies have been conducted to reveal the factors affecting tax compliance behavior. However, the findings were much different that no homogeneousness in the types and number of determinants of tax compliance has been achieved. Several different illustrative factors have been proposed in the literature as determinants of tax compliance, both for developed and developing countries. Such dissimilarities place a researcher in uncertainty to select a set of relevant simple variables from a large set of predictor variables to undertake an empirical study. Keeping these issues in mind, the study has

considered a set of simple variables that have been found as common in different studies, theories, and models.

3.9 Identification of Constructs influencing Tax Compliance

Models/Theories/Literature	Constructs	Effect
Financial Self-Interest Model Becker (1968) Allingham & Sandmo (1972)	**Economic Determinants**	
Weigel's Social and Psychological Model Weigel, et. al (1987)	**Economic Determinants Socio-Psychological Determinants**	
Lewis's Parallel Model of Income Tax Evasion Webley et al (1991)	**Socio-Psychological Determinants Institutional Determinants**	
Fischer et al.'s Model Jackson and Millron (1986) Fischer et al. (1992)	**Economic Determinants Socio-Psychological Determinants Institutional Determinants**	**Tax Compliance Behavior**
Slippery Slope Framework Kirchler, et al., (2008)	**Economic Determinants Socio-Psychological Determinants Institutional Determinants**	
Responsive Regulation Model ATO (2019)	**Economic Determinants Socio-Psychological Determinants Institutional Determinants**	
Alm (1991) Mustafa (1997) Tayib (1998) Faa (2008) Chau and Leung (2009) Palil (2010) Alabede (2012) Devos (2014) Kiri (2016)	**Economic Determinants Socio-Psychological Determinants Institutional Determinants Individual Determinants Other Determinants**	

Figure 3.17.: Identification of Constructs for the Study

CHAPTER FOUR
METHODOLOGY

4.1 Introduction

This part elaborates on the research methodology followed to conduct the study revealing the outline of the information accumulation systems utilized for the study, and the methods and inspecting procedure used to analyze the information. This is presented under the relevant sub-headings containing study areas like conceptual framework for the study, hypothesis development on the basis of the objectives, philosophical paradigms and research design, target population, sampling procedure, data collection instruments and procedure, data analysis and presentation methods to be used in the study. In this chapter, the steps involved in the study were explained in detail and have been carried out thoroughly to achieve a high degree of consistency and rationality.

4.2 Conceptual Framework

The conceptual model of this study is basically developed based on the theoretical framework made through the detailed and critical review of relevant literatures in the earlier chapter. The importance of the conceptual / theoretical framework is significant for a study as it encompasses the identification of a network of relationships among the variables considered important and relevant to the problem where both the model and the theory flow logically from the literature reviewed in the problem area (Sekaran & Bougie, 2016). Figure 4.1 represents the basic model of the study. The model has considered five constructs (complex variables), namely, economic determinants, institutional determinants, individual determinants, socio-psychological determinants

and other non-economic determinants. The model has also considered some moderating variables which are basically the demographic determinants. Unlike the models of Fischer (1993) and Alabede (2012), this study has considered these demographic variables as moderating variables.

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┌─────────────────────────────────┐
│      Economic Determinants      │ ──►  ┐
└─────────────────────────────────┘      │
┌─────────────────────────────────┐      │        ╭───────────╮
│    Institutional Determinants   │ ──►  │        │    Tax    │
└─────────────────────────────────┘      │        │ Compliance│
┌─────────────────────────────────┐      ├──►     │ Behavior  │
│      Individual Determinants    │ ──►  │        ╰───────────╯
└─────────────────────────────────┘      │
┌─────────────────────────────────┐      │
│  Socio-Psychological Determinants│ ──► │
└─────────────────────────────────┘      │
┌─────────────────────────────────┐      │
│  Other Non-economic Determinants │ ──► ┘
└─────────────────────────────────┘

          ┌─────────────────────────────────────────────┐
          │          Demographic Determinants           │
          │  Gender, Age, Education, Occupation, Sources of income │
          └─────────────────────────────────────────────┘
```
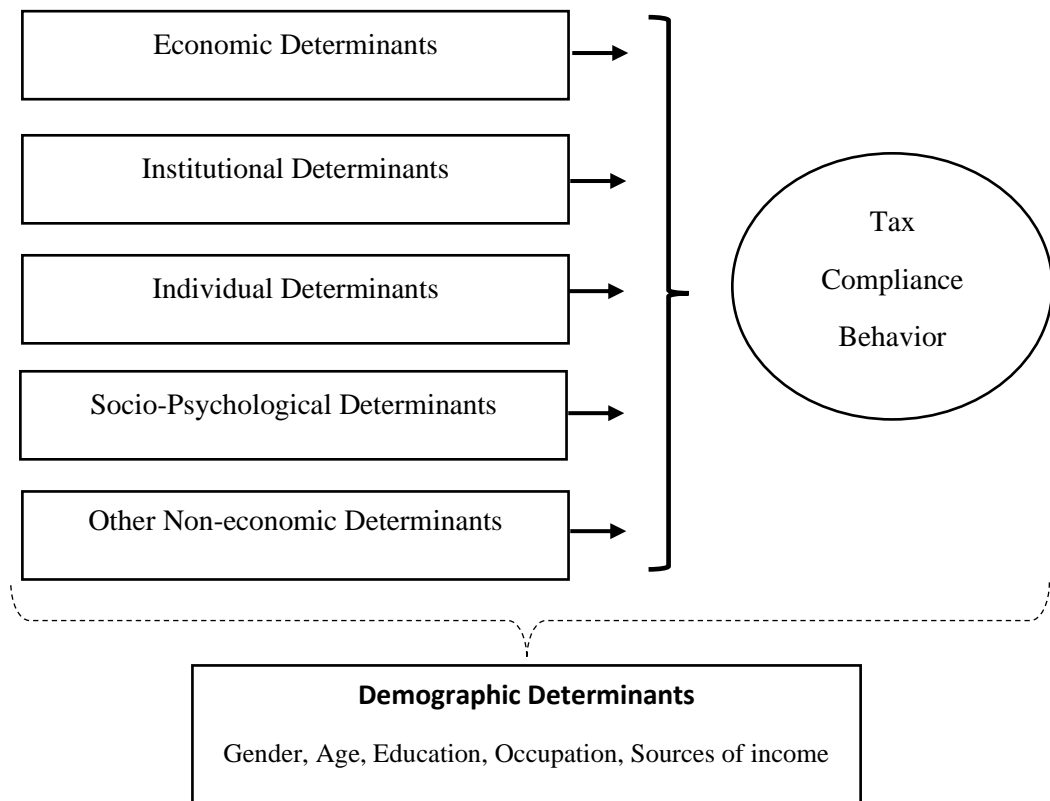
Figure 4.1. Basic Conceptual Model of the Current Study

As the discussed tax compliance behavior models and theories have depicted several factors under different categories, tax compliance behavior of an individual can be termed as a complex behavior. From the literature review, it appears that there exist differences in the findings and a general consensus cannot be drawn in this respect (Biabani & Ramezani, 2011). Moreover, Alm (1999) argued that "no single model can account for the enormous factors influencing tax compliance decision and submitted that other factors may well be relevant in explaining tax compliance behavior".

However, the study has attempted to consider several determinants under the constructs to get fruitful findings. Figure 4.2 presents the detailed conceptual model:

Economic Determinants
Tax rate
Fines & Penalty
Income level
Tax benefits
Tax compliance costs
Future tax cost
Tax incentives & rebate

Institutional Determinants
Audit probability
No unofficial costs
Information uncertainty
NBR Service
Complexity of tax return
Tax law complexity
Taxmen assistance
Documentation
Lack of tax awareness
Lack of law enforcements
Tax policy reform

Individual Determinants
Personal financial condition
Tax knowledge/education
Tax planning
Multiple payment of taxes
Probability of detection
Guilty feeling

Tax Compliance Behavior

Socio-Psychological Determinants
Attitude towards taxes
Stress and equity
Perceived opportunity for evasion
Perceived tax burden
Peer influence
Religious observance
Perceived fairness of tax system
Tax morale
Perception on government spending
Social norms & culture

Other Non-economic Determinants
Public governance quality
Civic sense of duty

Demographic Determinants
- Gender
- Age
- Education
- Occupation
- Sources of income

Figure 4.2.: Detailed Conceptual Framework for the Study

4.3 Linkage of Hypotheses, Objectives and Research Questions

Section 3.8 of Chapter 3 has presented the hypotheses development in detail based on the literature review. Table 4.1 presents the summary of the hypotheses along the study's objectives and research questions.

Table – 4.1 Linkage of Hypotheses, Objectives and Research Questions

Research Questions	Objectives	Hypotheses(H)
1. What are the major determinants influencing the tax compliance behavior of individual taxpayers in Bangladesh?	➢ To identify the economic determinants influencing the tax compliance behavior of individual taxpayers	H_1 H_{1a} to H_{1g}
	➢ To identify the institutional determinants influencing the tax compliance behavior of individual taxpayers	H_2 H_{2a} to H_{2k}
	➢ To identify the socio-psychological determinants influencing the tax compliance behavior of individual taxpayers	H_3 H_{3a} to H_{3j}
	➢ To identify the individual determinants influencing the tax compliance behavior of individual taxpayers	H_4 H_{4a} to H_{4f}
	➢ To identify the other non-economic determinants influencing the tax compliance behavior of individual taxpayers	H_5 H_{5a} to H_{5b}
2. Is there any difference in the degree of influence based on the nature/category of the determinants?	As above, showing the moderating effects	H_6, H_7 H_8, H_9 H_{10}, H_{11} H_{12}, H_{13} H_{14}

4.4 Study Area

The study was conducted among the individual taxpayers of the Tax Zones situated in Dhaka, Chittagong, Rajshahi, and Rangpur divisions. According to the NBR Jurisdictions, among the total 31 tax zones of Bangladesh 21 is situated in those four divisions having more than 60 percent of the registered individual taxpayers as per the NBR Annual Report 2016-2017.

4.5 Philosophical Paradigms and Research Design

As per Bryman and Bell (2011), the exploration outline is a general procedure for guiding the study with a specific culmination to answer the research question. For any study, this is a strategic plan regarding data collection, measurement, and analysis in addressing the specific research problem. Considering the attributes of different research designs, the present study is exploratory in nature since the study intends to identify the determinants that influence the tax compliance behavior of the individual taxpayers' in Bangladesh.

4.5.1 Research Philosophies

The difficulty in conducting research today is intensified by the existence of differences in the classification of research philosophies among the researchers. It is quite natural that each individual may have a different view of the way of looking at the world to other individuals. The basic terminology in this regard is "paradigm" and there is the existence of different paradigms (Kuhn, 1970). According to Slevitch (2011, p.74), "a paradigm can also be termed as a cognitive perspective or a set of shared beliefs to which a particular discipline adheres". Although there are differences among individuals in view of the world, the nature of such differences is not infinite in number.

In relation to research arena over the last one hundred years or more, it has been observed that there are two major ways of "looking at the world" (Mason, 2014). Mason (2014) has also elaborated that one sight considers the world as "largely objective" (i.e. having one or a limited number of explanations that can be measured in terms of numbers). On the other hand, the other view considers the world as "largely subjective" (i.e. having the possibility of different explanations where it is not always possible to be measured in terms of numbers, or where words can express more clearly). In summary, these two views are usually termed as "the quantitative" and "the qualitative paradigms", respectively. According to Mason (2014, p.74), "when comparing paradigms there are three important questions:

➢ What is real (ontology)? i.e. nature of reality

➢ How can we know anything (epistemology)? i.e. views on truth and legitimate knowledge.

➢ What methods should we use to conduct research (methodology)? i.e. the aims and principles of scientific investigation".

Taylor and Edgar (1999, p. 27) briefly summarized the links among the above three terms in stating that: "the belief about the nature of the world (ontology) adopted by an enquirer will affect their belief about the nature of knowledge in that world (epistemology) which in turn will influence the enquirer's belief as to how that knowledge can be uncovered (methodology)" In short, "relationships among these constructs are as such: ontology defines epistemology, which in turn defines methodology, which then determines applied methods" (Slevitch, 2011, p.75).

Ontological standpoints are, however, intertwined with the epistemological paradigm of choice that guides inquiry, which, as revealed by Johnson and Gray (2010) in their study, ultimately helps in developing a corresponding philosophical paradigm. This is a significant issue because "the philosophical assumptions of paradigms guide social inquiry decisions" (Greene & Hall, 2010). According to Saunders, Lewis, and Thornhill (2009), the philosophical paradigm can be explained under four different philosophical dimensions in the context of ontological, epistemological, and axiological posture. These four philosophical paradigms are positivism, realism, interpretivism, and pragmatism.

Under the dimension of the social sciences, positivism is espoused by those scholars who generally look for objectivity to assess social reality. Here, the researchers are assumed to be disconnected from the topics under study. The findings of such studies are generally based on "empirical evidence and tested theories" i.e. derived through a precise and systematic deductive approach (McKerchar, 2008). In this regard, quantitative methods (e.g. surveys, experiments, etc.) are normally used by positivist researchers in their research process (Saad, 2011).

Realism is another philosophical paradigm which generally emphasizes the scientific inquiry to reveal the outcomes. In this case, what the senses depict as reality is the ultimate answer i.e. 'what exists in reality' is independent of the human mind. Saunders et al. (2009) contrasted two forms of realism, namely "direct realism and critical realism". The concept of "direct realism" indicates that "what we experience through our senses portrays the world accurately" i.e. seeing is believing. On the contrary, "critical realism" depicts "what we experience are sensations, the images of the things

in the real world, not the things directly". In a social and psychological context, the reality is termed as an inter-subjective formation which goes through continuous recreation by the relevant parties based on their concern inter-subjective understanding (Hellström, 2008). The realist researchers can generally adopt both quantitative and qualitative methods in designing their research (Saunders et al., 2009; Slevitch, 2011).

Table – 4.2 Comparison of four research philosophies

	Pragmatism	Positivism	Realism	Interpretivism
Research Approach	Deductive/Inductive	Deductive	Deductive/Inductive	Inductive
Ontology	Objective/Subjective	Objective	Objective.	Subjective
Epistemology	Either or both observable phenomena and subjective meanings can provide acceptable knowledge.	Only observable phenomena can provide credible data, facts.	Observable phenomena provide credible data, facts.	Subjective meanings and social phenomena can provide credible data, facts.
Exiology	Values play a large role in interpreting results.	Research is undertaken in a value-free way.	Research is value laden; the researcher is biased by certain issues.	Research is value bound, the researcher is part of what is being researched, cannot be separated.
Data Collection techniques most often used	Mixed or multiple, method designs, quantitative and qualitative	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth, investigations, qualitative

Source: Saunders, et al., (2009), p. 119; Collis & Hussey, (2014), p. 54

On the other hand, interpretivism, which sometimes referred to as anti-positivism, assumes that the researcher cannot be separated from the study topics. The theme of social reality is set based on the subjective judgment of the researcher. Hence, the interpretation may also be influenced by the researcher's understandings, opinions, experiences, and existing knowledge. Under interpretivism philosophy, it is crucial that the researcher has to adopt an assumed stand. In this respect, interpretivist researchers

mostly employ qualitative methodology (e.g. interviews) to get the outcomes through inductive reasoning (McKerchar, 2008; Saunders et al., 2009).

Lastly, as a popular research paradigm, pragmatism has embraced its philosophical foundation by focusing the plurality of methods (Maxcy, 2003). Pragmatism doesn't conclude the philosophical concepts such as universal truth and reality. Rather, it admits that "there can be single or multiple realities that are open to empirical inquiry" (Creswell & Clark, 2011). Under this paradigm, the researcher is free to choose the appropriate philosophical and/or methodological approach, as he thinks fit best, for his evaluation on a particular subject investigated (Tashakkori & Teddlie, 2008). In this regard, it is often associated with mixed methods i.e. both quantitative and qualitative methodology (Creswell & Clark, 2011; Goldkuhl, 2012; Morgan, 2007).

4.5.2 The Quantitative/Qualitative Debate

From the literature, it is evident that there are three approaches or methods of research i.e. quantitative, qualitative, and mixed that are available to researchers for conducting research studies (Biesta, 2010; Freshwater & Cahill, 2012; Greene & Hall, 2010; Guba & Lincoln, 2005). Quantitative research emphasizes "a deductive, objective and generalizable approach", whereas, qualitative research emphasizes "an inductive, subjective and context-specific approach" (Brierley, 2017). Perhaps being strict to personal epistemologies, some single method supporters seemed doubtful that different data types could benefit each other through providing a rational and logical version of reality (Symonds & Gorard, 2008). Moreover, due to a significant difference in the philosophical beliefs, strong debate prevails over time about the appropriateness of these two approaches (Haq, 2014).

Quantitative method supporters argue that social reality can only be understood using quantifiable facts. It believes in the replication and generalizability of findings and evaluates the outcome through the quantifiable facts of a specific construct (Rai, 2018). The quantitative research results are comparatively reliant as they can be statistically tested and gets greater credibility with policymakers (Johnson & Onwuegbuzie, 2004; as cited in Rai, 2018)

On the contrary, the qualitative paradigm implies that it is not possible to reach an objective conclusion regarding reality since all realities exist in society (Maxwell, 2012; Shah & Corley, 2006; as cited in Haq, 2015). The qualitative method has "the strengths of generating rich and detailed understandings of human experiences, emotions, beliefs, behaviors depending on the original contexts through attaining an in-depth analysis of complex human, family systems, and cultural experiences. Therefore, qualitative approaches respond to the social conditions, local settings, and the needs of the stakeholders" (Rai, 2018, p.133). Keeping such characteristics in mind, Maxwell and Loomis (2003, p. 342) define this as "two fundamentally different ways of thinking about explanation".

The gap between the two approaches has justified the evolvement of a third approach called "mixed methods". Under the mixed-method, a blending of both quantitative and qualitative approaches is adopted to go for research output. Rai (2018, p. 134) refers to the mixed-method research as "an emergent methodology that advances the systematic integration, or 'mixing', of QUAN and QUAL data within a single investigation or sustained program of inquiry. The 'mixing' may be nothing more than a side by side or

sequential use of different methods, or it may be that different methods are being fully integrated into a single analysis".

Similar concepts have been depicted in several studies (Brierley, 2017; Johnson & Onwuegbuzie, 2004; Tashakkori & Creswell, 2007). Brierley (2017, p.5) stated that "mixed methods research may overcome some of the drawbacks with qualitative research, including: (1) the problem of trying to test hypotheses and prior theories. (2) the influence of the researcher's personal biases when interpreting research results. (3) the problem of generalizing results to other subjects". Similarly, Brierley (2017, p.6) has also specified that some of the drawbacks with quantitative research may also be handled by the mixed research, such as: "(1) quantitative research models may overlook important constructs that could be identified by using qualitative methods to generate theory. (2) replication of quantitative research models from prior quantitative research results may not reflect the understandings of potential research subjects. (3) generalized quantitative research results may not be in a useful form that can be applied to individual subjects". Hence, by applying a mixed-methods approach, researchers can use quantitative data to justify the findings generated from the qualitative data and vice versa. McKercher (2008) has also argued that the mixed-method "is a more pragmatic approach" and it can serve the researcher with an improved way of understanding the phenomenon i.e. the limitations of one approach can be mitigated through the better use of other approaches. Considering the philosophical paradigm, several researchers have suggested "pragmatism" as the most appropriate method of conducting researches under the mixed method (e.g. Brierley, 2017; Creswell, 2012; Denscombe, 2008; Johnson and Onwuegbuzie, 2004; Maxcy, 2003; Morgan, 2007; Scott and Briggs, 2009).

4.5.3 Research Philosophy and Design adopted for the Study

This study employed both qualitative and quantitative research design (i.e. mixed) under pragmatism philosophy that would allow it to collect necessary information about the determinants and factors that influence the tax compliance behavior among the individual taxpayers' in Bangladesh. Such a design is a systematic empirical inquiry since the researcher does not have any direct control of independent variables and they cannot be manipulated. Since the mixed-method approach considers both quantitative and qualitative approaches, it is believed that combining different methods will provide richer generalizability of findings (Creswell, 2012). Loo, McKerchar & Hansford (2009) also highlighted a similar opinion to blend different approaches in conducting a study, particularly in the area of taxation. They argued that mixed method is a more realistic approach to reveal the more appropriate phenomenon of the study under investigation.

Under such circumstances, the relevant research philosophy for this study is pragmatism, or the 'philosophy of free choice', as this is the most appropriate epistemology for mixed methods which has also an important contribution in taxation studies (Brierley, 2017; Johnson & Onwuegbuzie, 2004; McKercher, 2008; Morgan, 2007).

4.6 Methodology for Quantitative Research Design

The following subsections illustrate the methodological overview taken for the quantitative research design for this study. A brief review of the target population, sampling procedure, research instruments and measurements, data collection method, and data analysis techniques and the procedure is provided in the following paragraphs:

4.6.1 Target Population

A populace is a gathering of people, persons, articles, or things from which tests are taken for estimation (Saunders *et al.*, 2009). The target population is "the collection of objects, which possess the information required by the researcher and about which an inference is to be made to reach a conclusion" (Bajpai, 2016). For this study, the target population consists of all the Bangladeshi individual taxpayers' who have submitted their income tax return within November 30 during the assessment year 2018-2019. The number of such individual taxpayers is 20,06,715 as of December 02, 2018 (NBR, 2019).

4.6.2 Sample Size

The sample is a portion of a population or universe (Tailor, 2005). The acceptance of any quantitative study depends on the determination of the appropriate sample size, as the results generated from this sample size will represent the whole target population. When the target population size is very big, it gets almost impossible to include each respondent due to impracticality, cost, time, and resource constraints. For example, the target population in this study is Bangladeshi individual taxpayers', submitting the income tax return, which is around 20 lac (NBR, 2019). It is unlikely and nearly impossible to have responses of 20 lac respondents in the given short period at a reasonable cost and time. Hence the appropriate sample size has been calculated in this regard.

According to Israel (1992, p.1), determination of the appropriate size of the sample is influenced by several factors, namely "1) the purpose of the study; 2) the size of the population; 3) the risk of selecting a "bad" sample; and, 4) the allowance for sampling

error that may be occurred". In addition to these, "three criteria usually will need to be specified to determine the appropriate sample size: the level of precision (i.e. sampling error), the level of confidence or risk, and the degree of variability in the attributes being measured" (Miaoulis & Michener, 1976; as cited in Israel, 1992; p.1).

$$
\begin{cases}
\text{n= N/ (1+Ne}^2); \textit{Where, n = sample size, N=population size, e=0.05 is} \\
\textit{the level of precision (i.e. 95\% confidence level)} \\
\text{n = 20,06,715/1+20,06,715 (0.05*0.05) = 20,06,715/5,016.79 = 400}
\end{cases}
$$

According to Israel (1992, p. 2), "there are several approaches available for determining the sample size. These include using a census for small populations, replicating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size". The decision on sample size introduced by Israel (1992) is more technically computed by using formulas in different approaches. While there are various ways of determining the appropriate sample size (e.g. Alreck & Settle, 1995; Roscoe, 1975; Weisberg & Bowen, 1977), Yamane (1967) provided a simplified formula to calculate the sample size and applying the formula, the recommended sample size stands at 400.

Another reference for determining the sample size is introduced by Krejcie and Morgan (1970). The authors provided a table for reference identifying the sample size (n) over the given population size (N), and based on the table (Appendix A) since the population size in this study has exceeded 1 million, the recommended sample size is determined as the minimum of 384 responses. In sum, it is expected that the sample

size exceeding 384 participants is more applicable in this study, considering the constraints of time, money, and resources.

4.6.3 Sampling Procedure

To conduct the study, non-probability sampling was being chosen as the sampling procedure. Although, "non-probability sampling has a lot of limitations due to the subjective nature in choosing the sample and thus it is not a good representative of the population, but it is useful especially when randomization is impossible like when the population is very large" (Etikan et al., 2016, p.1). Rowley (2014, p. 318) has mentioned that in reality, most social science research relies heavily upon non-probability samples. He has specified three reasons in this regard:

> "First, researchers often do not have a clear view of the population to which they are seeking to generalize, and boundaries regarding who might or might not be included in the population are vague. Second, it is often very difficult to compile a complete sampling frame, although there may be a variety of partial lists of members of the population held by various organizations or government agencies. Finally, even in the unlikely instance that a researcher does manage to gather a good sampling frame, and apply probabilistic sampling, they are unlikely to achieve a 100 percent response rate; non-response is another source of potential bias. For example, although the sample that is drawn might have equal numbers of men and women, the response set may not; the same could be the case for any other important variable in a study."

For this study, the use of the non-probability sampling method is justified based on the following reasons:

First, no lists of individual taxpayers are publicly available during the study, thus, respondents cannot be given an equal chance to be randomly selected.

Second, in Bangladesh, the taxpayers' database is maintained by the National Board of Revenue (NBR). According to **Section 163** of the Income Tax Ordinance, 1984, any statement, returns, etc. submitted to NBR is confidential and any disclosure of such information by any tax officer is a punishable offence with **upto 6 months imprisonment, or with fine.** So, the list of individual taxpayers' who have submitted income tax returns cannot be obtained from NBR.

Third, as individual income tax-related information is sensitive and confidential, respondents were invited to answer the questionnaire based on their availability and willingness, and under such circumstances, convenience sampling was taken place in this study.

Fourth, while doing any type of research, it would be best to use the whole population, but in most cases, due to time and cost constraints, it is not possible to include every subject because the population is almost finite.

Cook and Campbell (1979) argue that non-probability sampling may be useful if a sample is carefully constructed. They argued more that although some researchers prefer probability sampling because of its methodical merit, convenience samples are the norm within the context of developmental science. Bornstein, Jager, & Putnick,

(2013) has done a comparative analysis regarding the use of probability versus nonprobability sampling from 2007 to 2011 in five prominent developmental science journals.

Considering the specific sampling strategy of these studies, it has been found that 92.5% utilized a convenience sample, whereas probability sampling accounted for only 5.5% of studies. Moreover, the same study revealed that the count of recent publications in reputed journals in developmental science illustrates the convenience sample as the preferred one, which was 16 times more likely to be used than probability samples.

Since the present study has the objective to identify the determinants that influence the tax compliance behavior of an individual taxpayer, purposive sampling was also applied as a sampling technique as it refers to a procedure where respondents are being selected based on the fulfillment of certain criteria set by the researcher while conducting the study (Sekaran & Bougie, 2015). Some specific criteria considered while selecting the respondents are:

➢ The respondent should have the twelve-digit e-TIN number;
➢ The respondent has submitted his income tax return in the assessment year 2018-2019
➢ The respondent has submitted his income tax return at least once prior to the assessment year 2018-2019
➢ The respondent has minimum tax knowledge regarding his income tax rate.

Keeping the above criteria in mind, the researcher has approached to around 600 respondents from Dhaka, Chittagong, Rajshahi, and Rangpur divisions, of which

responses from total 464 questionnaires were found useful and complete and considered for the study. Although the calculated sample size was 384, the researcher has considered comparatively a larger sample because of using non-probability sampling technique in the study. On the other hand, to justify the findings of the study, the researcher has also done some analysis using qualitative research design techniques e.g. semi-structured interviews. Under such circumstances, applying the mixed method will enhance the credibility of the study.

4.6.4 Scale-development methodology

Churchill's (1979) scale development pattern, one of the most accepted scale development methodology, with some modification suggested by other researchers (Arnold & Reynolds, 2003; Bagozzi et al., 1991; Forsythe et al., 2006; Garg et al., 2014; Patyal & Koilakuntla, 2015; as cited in Singh, et al., 2019) has been adopted for the study. Figure 4.1 summarizes the scale development pattern adopted for this study under three phases considering relevant steps:
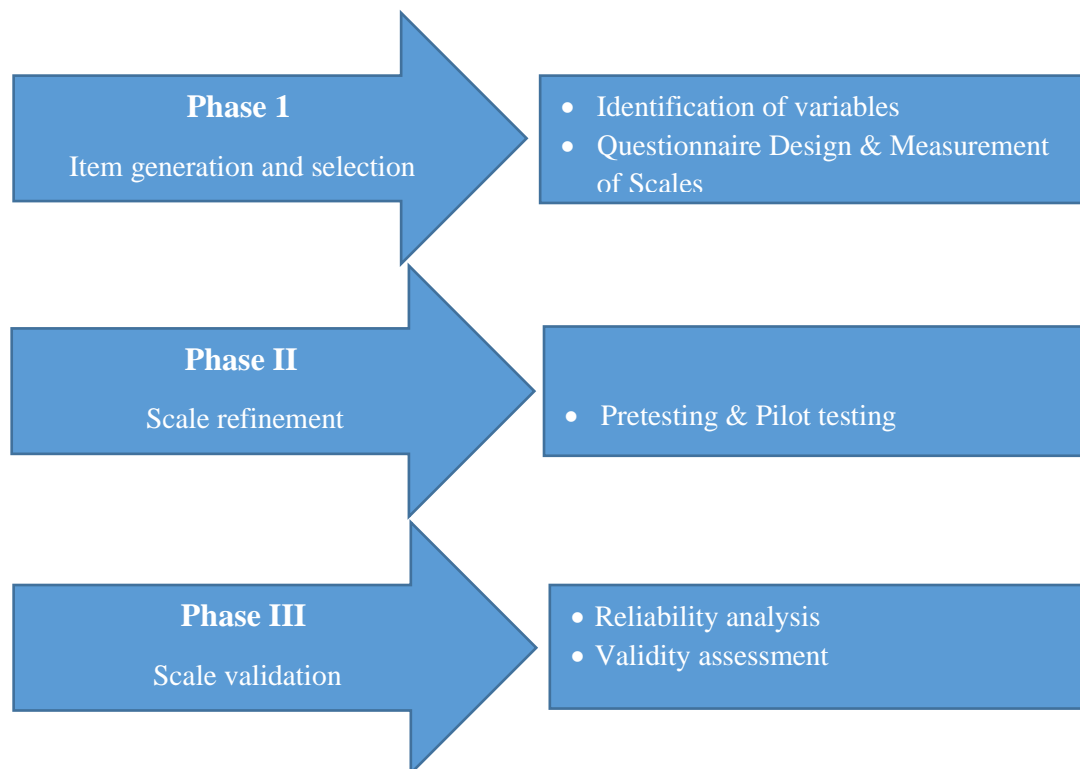
Figure 4.3. Scale development methodology

4.6.4.1 Identification of Variables

A rigorous and systematic review of the literature was conducted to identify the relevant determinants that may influence the tax compliance behavior of a taxpayer. While doing the literature review, a total of 54 factors have been identified influencing the tax compliance behavior of which 36 factors have been finally considered relevant for the study based on the expert's opinion. Some of the factors were excluded as they are related to corporate tax and some of the factors were relevant for developed countries.

Based on the Expert's opinion, these 36 factors have been grouped under five different categories of determinants influencing tax compliance behavior, namely: economic determinants (7), socio-psychological determinants (11), individual determinants (6), institutional determinants (10), and other determinants (2). In addition to these, some other variables have also been considered reasoning on demographic profile and other relevant means of the respondents in settling tax payments. Some of the demographic variables are gender, age, education, occupation, sources of income, etc. All these variables measured with items are adapted from several studies and finalized considering the expert's opinion and pretesting (*See Figure 3.16 and Figure 3.17 in the Literature Review section*).

4.6.4.2 Questionnaire Design and Measurement of Scales

To conduct the study, a carefully designed self-administered questionnaire has been used to collect data from the respondents. Good questionnaire design is crucial for a study (Bajpai, 2016; Creswell, 2012; Rowley, 2014; Sarantakos, 2007). The questionnaire is a well-established tool within social science research for obtaining information from a respondent regarding social characteristics, present and past

behavior, attitudes and beliefs, and reasons for action with respect to the topic under study (Bulmer, 2004). Moreover, questionnaires have been used as the prime data collection instrument in several studies on tax compliance behavior (Ahmed, 2016; Alabede, 2012; Ching, 2013; Devos, 2014; Loo, 2006; Palil, 2010; Saad, 2011; Smart, 2012). The questionnaire used in this study has been designed based on these studies, particularly in developing the phrasing and tactic used in the questionnaire, as asking individual tax-related questions would be uncomfortable and would cause sensitivity to the respondents (Palil, 2010).

Spicer and Lundstedt (1976) have argued some strengths of using a questionnaire as a tool for data collection. It brings honest responses and also generates a valid indirect measure of respondent's behavior. Moreover, it ensures the respondent regarding complete confidentiality. In addition to this, Elffers *et. al.* (1992) suggested that self-reporting (where the respondents are asked to self-disclose their compliance behavior attributes) is the most popular method in conducting tax evasion/compliance behavior related studies. Under such circumstances, the use of questionnaires was more meaningful and justifiable for the present study.

While designing the appropriate questionnaire for this study, the questionnaire design methodology suggested by Evans *et al.,* (2005) and Rowley (2014) was embraced to meet the objectives of this study. Some of these attributes are 1) user-friendliness (the questions were short and simple to understand for ensuring high response rate); 2) administrative simplicity (standard A4 size paper was used); 3) comprehensiveness (the total number of questions was 61). Moreover, to reduce the impact of language being a barrier to understandability to some respondents, the questionnaire used in this study

was made available in both English and Bangla languages following the suggestions of the above two studies.

The questionnaire used in this study consists of 7 pages starting with two cover letters (one from the researcher as a courtesy to express gratitude to the respondents and one from the supervisor as an endorsement). The third page is the title page revealing a basic idea about the topic. The rest of the 4 pages are divided into five sections and consists of 61 questions in total. The first section relates to general information where the taxpayers' have been asked about their tax knowledge, income tax rate, tax return submission way, sources of income, number of years submitting the income tax return, and reasons of paying income taxes. Section two incorporates total 37 questions reflecting the determinants of tax compliance behavior (of which questions 1 - 36 reflects simple variable, and question 37 reflecting overall tax compliance behavior).

Some of the questions in this section are being adapted from the study of other researchers, mostly from Loo, (2006); Kasipillai and Jabbar (2006); Ho et al. (2006); Palil, (2010); Saad, (2011); Alabede, (2012), Ching, (2013); and Devos, (2014). Most of the questions are then being reviewed and revised, to outfit its relevance in the context of Bangladesh. A 5-point Likert scale is being used in this section for respondents to specify the extent of their agreement or disagreement of each statement, from 1 to 5, where 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and, 5 = strongly agree.

Section three reveals the taxpayer's perception of the suitability and usefulness of ten conceivable ways to improve the level of individual tax compliance in Bangladesh. This

section has been designed based on the suggestions of the study conducted by Ching (2013). The respondents were asked to rate each of the items with the Likert scales ranging from 1 to 5, where 1 = least effectively contributes in improvement of tax compliance and increasingly to 5 = most effectively as a solution to the improvement of tax compliance level. Section four relates to the demographic information of the respondents, where, questions were being asked about their gender, age, education level, number of dependents, occupation, and their average annual monthly personal income. Section five is the follow-up section which is also the last section of the questionnaire. In the questionnaire, all questions are constructed into the closed-ended form of statements as the closed-ended questionnaires are generally cheaper, more reliable, and faster to code, and analyze the collected data. Moreover, it allows the respondents to answer the questions in a hassle-free way (Bajpai, 2016).

4.6.4.3 Pre-testing and Pilot Testing

Keeping in mind the acceptability and understandability of the questionnaire to ensure the organized survey of the study, a pilot test has been conducted before collecting the primary data through the questionnaire. A pilot study refers to "mini versions of a full-scale study (also called 'feasibility' studies), as well as the specific pre-testing of a particular research instrument such as a questionnaire" (Teijlingen & Hundley, 2002, p. 33). They also stated that well designed and well-conducted pilot studies help to evaluate and uncover the weaknesses of the questionnaire, detect and remove the ambiguous and confusing questions, helps to select the appropriate measurement scales.

15 respondents were asked to provide their opinion about the questionnaire. All these respondents were selected purposively all of whom were individual taxpayers having

good knowledge about Bangladesh Income Tax Structure (including professional accountants, university professors, businessman, government service holders, etc.). As the questionnaire has been adapted with the help of other prior studies, very few suggestions were made, and considering all the suggestions the final questionnaire has been finalized. However, the pilot test result is normally not reported to avoid publication bias as the results might have non-significant effects to be reported (Teijlingen & Hundley, 2002).

4.6.4.4 Reliability and Validity of Research Instrument

Generally, the terms 'reliability' and 'validity' seem to be almost like synonyms. In the research arena, they have different interpretations (Bryman & Bell, 2011).
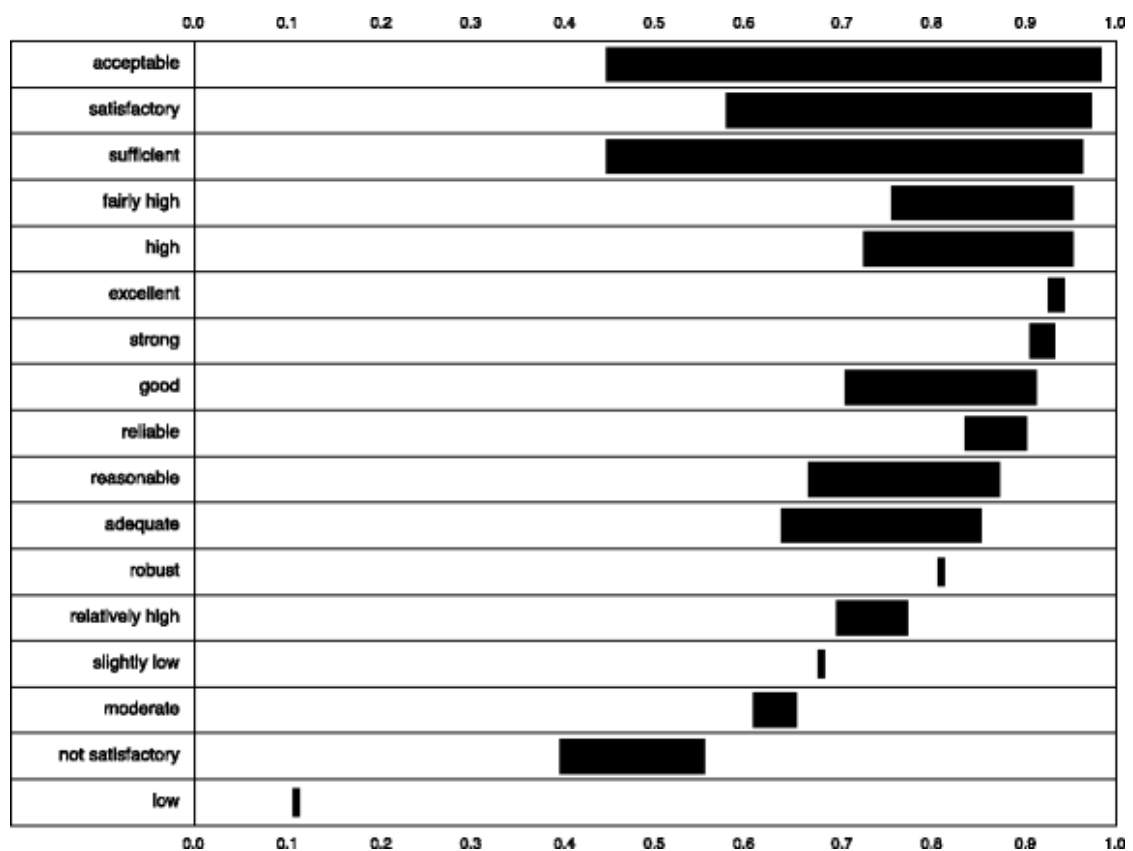
Figure 4.4. Qualitative descriptors used for values/ranges of values of Cronbach's alpha reported in papers in leading science education journals; adapted from Taber (2018, p. 1279)

Reliability relates to the consistency of a measure of a concept (Bryman & Bell, 2011). It is the tendency of the respondents to respond in a similar manner to an identical question/circumstances (Burns & Bush, 2012; Bajpai, 2014). Nowadays, most researchers use a test known as "Cronbach's alpha" to measure reliability. The value of "Cronbach's alpha" varies from 0 to 1, and a value of 0.6 or less is considered unsatisfactory (Bajpai, 2014; Malhotra & Dash, 2016). As stated in Tavakol & Dennick (2011), there are different opinions regarding the acceptable values of alpha, ranging from 0.70 to 0.95. However, a maximum alpha value of 0.90 has been recommended by Streiner (2003). Taber (2018) has summarized a wide range of qualitative opinions regarding the minimum and maximum values to interpret alpha. He has presented a figure showing the wide range of values with the level of acceptance (e.g. acceptable, sufficient, low, etc.).

Table 4.3 *Reliability of Research Instrument*

Case Processing Summary		N	%
Cases	Valid	464	100.0
	Excluded[a]	0	.0
	Total	464	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics for Section two of the Questionnaire	
Cronbach's Alpha	N of Items
.849	36

Reliability Statistics for Section three of the Questionnaire	
Cronbach's Alpha	N of Items
.860	10

Source: Research data

On the other hand, Schmitt (1996) has suggested that conclusions should not always be done based on the generally accepted value of alpha (e.g. 0.70), as instruments with a comparatively lower value of alpha may still prove useful in some circumstances. A satisfactory Cronbach's alpha value of reliability depends on how a measure is being

used (Jung & Goldenson, 2007). These dissimilar opinions advocate that there is no clear consensus regarding the acceptable labels of alpha.

On the other hand, validity refers to the degree to which an "empirical measure satisfactorily reveals the real meaning of the concept under consideration" (Babbie, 2010). Thus, validity refers to the magnitude to which an instrument can measure what it ought to measure. It, therefore, refers to the extent to which an instrument examines the right problems in terms of accuracy and relevance to the study. Writers distinguish several ways of establishing validity, of which three major forms are: content validity, construct validity, and criterion validity (Heale & Twycross, 2015). Content validity is the magnitude to which a research instrument correctly measures all aspects of a construct (Heale & Twycross, 2015). Construct validity is the initial concept, notion, question, or hypothesis that determines the nature of data and its collection procedure (Golafshani, 2003). Criterion validity is the extent to which a research instrument is related to other instruments that can measure or predict the same variables (Heale & Twycross, 2015).

In this study, the content validity of the instrument was determined in three ways. First, as the content of the research instrument (questionnaire), the researcher has adopted most of the items from the study of other researchers, mostly from Loo, (2006); Kasipillai and Jabbar (2006); Ho et al. (2006); Palil, (2010); Saad, (2011); Alabede, (2012), Ching, (2013); Devos, (2014); and Ahmed, (2016). Secondly, the researcher discussed the contents in the instrument with his supervisors, colleagues, and some professional accountants having a clear idea about Bangladesh Income Tax Structure. The discussion with such experts helped in the refinement of the contents with logical grounds in the questionnaire. As the determination of content validity is judgmental,

the suggestions of all these people helped to refine the research instrument and its appropriate measurement scales. Lastly, the pilot study has been used to ensure the validity of the instrument and its measurement scales.

4.6.5 Data Collection Methods

Generally, data collected and used for empirical and experimental tax compliance studies can be categorized into four types, namely, audit data, survey data, data from the tax authority, and data generated through laboratory experiments (Andreoni et al., 1998; as cited in Kim et al., 2006). While designing this study, consideration was given to the issues of data constraints, and to fulfill the objectives of the study, data has been collected from both primary and secondary sources.

4.6.5.1 Primary Data

In the research arena, primary data is the firsthand data that is generally collected from the respondents who are selected through the sampling process. The most popular forms of primary data collection process are telephone interviews, web-based or postal surveys, and structured questionnaires. As cited in Haq (2014), most of the quantitative researchers in social sciences use structured questionnaires for data collection (Driscoll et al., 2007; Jogulu & Pansiri, 2011; Newby et al., 2003). Moreover, it has been observed that the most commonly-used data collection method in tax compliance related studies in both developed and developing countries is self-reporting either on hypothetical scenarios or tax-based questionnaires (Alabede, 2012; Azmi & Perumal, 2008; Chan et al., 2000; Manaf & Abdul-Jabbar, 2006; Mustafa, 1997; Saad, 2011; Song & Yarbrough, 1978). Therefore, primary data has been collected through personal distribution and retrieval of the questionnaire from the respondents. This method was

picked to increase the response rate and assure the respondents of their anonymity, which has been referred by Hair et al. (2010) and Sekaran & Bougie (2015). For primary data collection, several respondents have been randomly approached in the event Income Tax Fair 2018 organized by NBR for the assessment year 2018-2019.

4.6.5.2 Secondary Data

The use of secondary data was also very important to get an overall understanding of the proposed research topic. Moreover, it has also helped to design the direction of doing the current study effectively. In this research, secondary data has been collected from different reference books, journals or articles, conference proceedings, working papers, book chapters published by other researchers, doctoral dissertations, statistical data from different government and international databases (e.g. NBR Annual Reports, different editions of Bangladesh Economic Reviews, Bangladesh Bank Annual Report, Statistical Yearbooks of different years, IMF, World Bank, ADB, OECD databases etc.) for country-specific statistical information and so on.

4.6.6 Data Analysis Techniques

After collecting, the researcher has reviewed all the questionnaires to identify the incomplete responses which have been discarded from the consideration. Then, categorization and coding were done using the Statistical Package for the Social Science (SPSS) Software Version 23. Data has been analyzed using both descriptive and inferential statistical techniques, based on the specific requirements. Some of the techniques are as follows:

4.6.6.1 Descriptive Statistics

Descriptive analysis is generally used to interpret the characteristics of a variable. The collected data has been summarized using descriptive statistics to present it in a meaningful manner. Some of the used tools were frequency distribution, mean, median, mode, range, percentage, etc. Such findings have been presented using various types of charts and tables. It has been observed that several studies on tax evasion and compliance have also used similar techniques (Torgler et al., 2008; Palil, 2010; Saad, 2011; Alabede, 2012; Ching, 2013; Devos, 2014; Ahmed, 2016). The mean, median, mode, and standard deviation were computed for individual items and for the purpose of the interpretation of the mean scores 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). Isa (2012) and Alabede (2011) have used the same method for interpretation of the mean score in their study. The study has used pie charts and bar charts to present the frequency of the demographic profile and also the responses of the individual items.

4.6.6.2 Cross-Tabulation Analysis

To analyze the relationship between two or more variables by examining the intersection under different categories, the cross-tabulation technique was used in this study. To interpret the data more meaningfully, the cross-tabulation analysis was conducted using frequency, percentage, and ANOVA. This technique helps to interpret the data relating to multiple variables at a glance. Furthermore, there is evidence in the tax compliance literature that similar techniques have been adopted in many studies (Palil, 2010; Alabede, 2011; Ching, 2013; Devos, 2014; Ahmed, 2016).

4.6.6.3 Internal Reliability Test

A test of internal consistency and reliability was done through the calculation of Cronbach's alpha since it was considered to be widely used and recommended for social science research (Hair et al., 2010; Sekaran & Bougie, 2015). Generally, a single item cannot explain or measure a concept or variable. In this regard, it is quite usual by the researchers to apply multiple items to ensure enough evidence regarding the concept. Thus, a test of internal consistency is essential to check whether all items in the measurement measure the same variable and they are inter-correlated. (Hair et al., 2010; as cited in Ching, 2013).

4.6.6.4 Inferential Analysis

Moreover, in the case of inferential statistics, some of the used methods were t-test, ANOVA, Pearson's correlation, etc. Such inferential analysis is used to indicate the relationship between variables and also to depict the generalization of the sample to the population. Furthermore, there is evidence in the tax compliance literature that similar techniques have been adopted in several studies (Palil, 2010; Alabede, 2011; Ching, 2013; Devos, 2014; Ahmed, 2016).

4.6.6.5 Factor Analysis

At last, an Exploratory Factor Analysis (EFA) has been conducted to identify the key determinants of tax compliance behavior of individual taxpayers in Bangladesh under several categories. Usually, factor analysis is used as a statistical tool to reduce items from several original simple variables into a reduced number of categorical merged dimensions. In this way, it defines the group of fundamental constructs or dimensions that make up the original variables (Hair et al., 2010). Moreover, Chandarasorn (2012)

has praised the use of factor analysis for having its strength in controlling the measurement error of each questionnaire item, while doing his study on tax compliance behavior in Thailand.

4.7 Methodology for Qualitative Research Design

In the social research arena, the use of qualitative research methodology has gone widespread since the 1960s. The researchers' intended to think that reliance on quantitative methods was not able to meet the needs to understand complex social issues in a more meaningful manner (Alasuutari, 2010). The qualitative method is usually termed with the inductive exploration of social reality with an orientation of understanding and explanation of such social phenomenon (Payne & Williams, 2005). Moreover, qualitative research methods allow a researcher to build and define new variables through rich and in-depth information derived from the participants' viewpoint (Krefting, 1991; Press, 2005; Shah and Corley, 2006). By analyzing subsisted understandings of people, such aim of the researcher is achieved through qualitative study (Elliott et al., 1999; Parker, 2004). As tax compliance data is very sensitive for an individual taxpayer (Lozza et al., 2013; Mohdali et al., 2019), a quantitative survey may not identify all the factors that influence their compliance behavior. The following paragraphs illustrate the methodology adopted for the qualitative research design:

4.7.1 Sampling Procedure

Unlike quantitative research design, sampling procedure has a substantial effect on the ultimate value of the study in qualitative research (Saunders, 2012). The qualitative method doesn't use a larger sample size, rather it focuses on a smaller sample size where

the researcher collects data in a natural environment to reveal its meaning in a range of explanatory and exploratory qualitative techniques (Suter, 2012). Generally, non-probability sampling techniques are used in qualitative research of which the most commonly used techniques are snowball (Suter, 2012) and purposive (Tongco, 2007; Suter, 2012; Jogulu & Pansiri, 2011); or a combination of both (Haq, 2014). To obtain a better understanding, the researcher has used the combination of both snowball and purposive sampling techniques for the study.

According to Morse (2000), several factors should be taken into consideration in determining the sample size of a qualitative study, namely: the scope and nature of the study; the quality of the data; and the study design. Regarding the appropriate sample size for the qualitative study, the researchers are not agreed for a specific sample size because of the absence of specific rules (Saunders, 2012). Bernard (2012) specified that the sample size for a qualitative study should be enough to reach data saturation. The different sample size is evident from the literature regarding the number to reach data saturation, such as:

- ➢ For homogeneous population: 6-8 (Kuzel, 1992); 6-12 (Guest et al, 2006), 4-12 (Saunders, 2012)
- ➢ For heterogeneous population: 12-20 (Kuzel, 1992); 12-30 (Saunders, 2012)

For this study, a total of 13 individual income taxpayers were interviewed to gather their views regarding the determinants of tax compliance behavior in Bangladesh. Besides, sample representativeness was considered by picking respondents with different academic backgrounds, income levels, gender, and occupation.

4.7.2 Data Collection

The data collection process is the most important part of any qualitative study. In a qualitative study, a researcher must ensure the dependability of data so that the true opinion of the participants can be revealed through the interpretation of data (Mohdali et al., 2019). According to Haq (2014), some of the most used data collection methods available in qualitative research are ethnography, focus group discussions, open-ended questionnaires, interviews, analysis of videos and photographs, and archival documents analysis. The most frequently used data collection technique in qualitative research is face-to-face semi-structured interviews (Press, 2005; Eisenhardt & Graebner, 2007; as cited in Haq (2014). The superiority of this method to other methods is in its capacity to ensure the accuracy of data by capturing non-verbal expressions e.g. feelings and body gestures of respondents, in addition to their verbal expressions (Gilbert, 2008). May (2011) argued that this technique is easy to control as data is collected from one respondent by one person, at a time. Under this technique, in-depth information can be collected by "asking both probing and prompting questions" which is not possible in most other techniques (Denscombe, 2010). This is considered as one of the most appropriate methods for a study that involves sensitive issues (Elam & Fenton, 2003; Lozza et al., 2013). Moreover, a semi-structured interview can unveil significant traits of human behavior (Qu & Dumay, 2011), since this method could expose not only the 'what' and 'how' but also the 'why' (Saunders et al., 2009).

Considering the sensitivity of the data, this study used an in-depth semi-structured interview technique to evaluate the findings from the quantitative survey. Similarly, the semi-structured interview was also used to discover any other determinants that may have not been identified from the survey but influences the tax compliance behavior of

an individual taxpayer in Bangladesh. It is anticipated that this approach will provide in-depth understanding and more accurate data, as quantitative study through survey may only reveal a partial picture of social phenomena without providing in-depth understanding that may be revealed by qualitative measures like interview.

4.7.3 Interview Guide Development

To support the researcher during the interview process, an interview guide has been developed consisting of seven questions based on several themes relevant to the study. This interview guide helps the researcher to conduct the interview in a more orderly manner keeping focused on within the specific subject area through managing the limited time and resources (Patton, 1999). While developing the questions for the interview guide, the researcher consulted with some accounting academicians for their suggestions. Finally, some fine-tuning has been done to finalize the wording of the questions used in the interview. A copy of the interview guide is presented in **Appendix D** of this thesis.

4.7.4 Data Analysis

Generally, data analysis is considered more difficult in qualitative research than in quantitative study since data are concealed in the text form in most qualitative research (Bricki & Green, 2007, as cited in Haq, 2014). Most qualitative researchers go for inductive analysis in this regard (Elo & Kyngäs, 2007), where no prior theory developed. Generally, the theory appears from the data collection process (Saunders et al., 2009). From the literature, it has been observed that the most commonly used data analysis techniques for qualitative research are: thematic analysis, discourse analysis, descriptive approaches, interpretative phenomenological analysis, grounded theory,

and narrative analysis (Graneheim & Lundman, 2004; Braun & Clarke, 2006; Bricki & Green, 2007; Arregle et al., 2007; as cited in Haq, 2014).

As cited in Haq (2014), it is evident that in an exploratory or explanatory qualitative research, in which a semi-structured interview technique has been used for data collection, a thematic analysis may be found as the most suitable and widely used technique. The popularity of thematic analysis has been evident due to its flexibility, simplicity to apply, ability to identify similarities and differences across the data set, and its ability to generate unanticipated insights through identifying, analyzing, and reporting patterns or themes from the data (Graneheim & Lundman, 2004; Braun & Clarke, 2006; Bricki & Green, 2007). The code and retrieve process of themes helps researchers providing a basis for an understanding of the data and to draw meaningful inferences (Haq, 2014).

Table 4.4 *Phases of Thematic Analysis*

Sl.	Phases	Process
1	Data familiarization	Transcribing the data (if necessary)
2	Generating initial codes	Coding systematically interesting features of the data; collating data relevant to each code.
3	Search for themes	Collating codes into potential themes
4	Review of themes	Checking if the themes represent the data at phase 1 and phase 2; generate a thematic map of the analysis.
5	Defining and naming themes	Refine the specific themes, the overall indication of the data from the analysis, generating clear definitions and names for each theme
6	Producing the report	Linking back the analysis with the research questions and the literature, producing a scholarly report.

Source: Adapted from Braun and Clarke (2006, p.87); as cited in Saad, 2011 and Hamid, 2013

Considering these points in mind, the researcher used thematic analysis for analyzing the interview data following the six phases of thematic analysis as suggested by Braun and Clarke (2006) – See Table 4.3.

All the above phases were manually conducted by the researcher to analyze the interview data for the study. The researcher took necessary notes while taking the interview and, in some cases, the total interview process was recorded with the permission of the participant. At first, the researcher analyzed the note and transcribed the interview recording into written text, in some cases. After this, the transcribed data was divided into relevant codes that the researcher thought appropriate. After coding, the main interview themes were captured and reviewed, defined with an appropriate name, and finally analyzed to produce a report. To ensure the validity of the findings, member checking procedure has been adopted, as suggested by Creswell and Miller (2000) and used by Hamid, 2013. Under this procedure, some of the interview participants are asked to check whether the themes represent accurate data, i.e. what they wanted to mean. Before finalizing the report, the opinions of four interview participants were taken regarding the themes reported. All of them agreed with the themes presented in the report, hence the findings could be considered reliable and valid.

4.8 Ethical Considerations

As most of the questions asked in this study are related to the tax compliance information of the individual taxpayers, to some extent the study was subject to certain ethical issues. In this regard, in the cover letters and on the front page of the questionnaire, a brief and clear idea has been given about the study. To reassure the

respondents, while distributing the questionnaires, it has also been mentioned orally and in written form that their participation in the study is completely voluntary. Moreover, participants were also fully informed regarding the objectives of the study, and they have also been given the assurance from both the researcher and the supervisor that their responses were treated as confidential and used only for academic purposes through this particular study. In addition to these, none of the participants were maltreated or abused, both physically and mentally, during the passage of the research. The questionnaire was coded by the researcher in such a manner that the respondent's real identity could be kept hidden both in the case of survey and interview. Additionally, the aggregation of responses in this study confirms data anonymity, secrecy, and confidentiality. In the case of the interview, the opinions were presented like Participant -1, Participant -2, etc. Last but not the least, the researcher endeavored to create and maintain a cordial and comfortable environment for the respondents.

4.9 Methodological Limitations

As it is for every study, the approach used for this study had the following limitations:

➢ Firstly, as it was not possible to use a probability sampling procedure, yielding samples to come up with clearer generalizability was not possible;

➢ Secondly, the study was not free from 'non-response bias' as some respondents did not return the questionnaires provided to them.

➢ Thirdly, as tax compliance-related information of an individual taxpayer is a sensitive issue, the respondents may feel uncomfortable in filling up the questionnaire that may reflect their tax compliance behavior. Considering this limitation, it is believed that as the respondents were given the option not to disclose their identity and also the assurance that their information will be kept

strictly confidential, the respondents would be encouraged to disclose the actual information.

➢ Fourthly, the time and cost constraints were also not possible to ignore, hence the study could be more meaningful if those constraints could be controlled solely. The researcher has taken reasonable care to minimize the impact of such methodological limitations.

4.10 Summary

This chapter describes the methodological dimension applied to achieve the objectives set for this research study. The study used two approaches of data collection method, namely quantitative (through questionnaire survey) and qualitative (in-depth semi-structured face to face interview). Detailed discussions were centered on each approach, incorporating the philosophical paradigms and research design; data collection instruments, methods, and techniques; sample selection and procedures with its justification; data analysis techniques. Besides, the methodology associated with reliability analysis, statistical analysis, and thematic analysis was also presented. In the next two chapters, the results of the survey questionnaire data and interview findings are discussed and analyzed.

CHAPTER FIVE

FINDINGS AND ANALYSIS OF SURVEY DATA

5.1 Introduction

This chapter describes the empirical research findings based on the analyses of data collected for the study through the questionnaire survey. Statistical Package for the Social Science (SPSS) Version 23 has been used to conduct the statistical analysis. At first, this chapter has presented the findings from the descriptive analysis, considering the demographic and general information of the respondents. Some of the issues covered are the respondent's gender, age, educational qualification, total income, occupation, etc. Moreover, the general information was also related to some basic characteristics of the taxpayers. Internal reliability test has been used to measure the reliability of the information collected. Then, inferential statistics have been used to measure and assess the relevant relationships related to the variables studied. Some of the techniques used are t-test, ANOVA, Pearson Correlation Test, ordinal logistic regression, etc. Moreover, frequency analysis has been used to identify the most accepted measures by the respondents to tackle the tax non-compliance among a set of recommended measures. The study also used the factor analysis to identify the relevant determinants of tax compliance behavior under different categories to develop a conceptual model.

5.2 Data Screening and Cleaning

The quality of initial data screening and cleaning helps a study to conduct an acceptable analysis. Ignoring this stage would frequently lead to inferiority of output and accuracy of the analytical procedure to be used in the study (Abdulwahab, Dahalin & Galadima,

2011). The general goal of data screening is to handle the issue of missing data as well as to assess and rectify irrational, illicit, and inconsistent data collected during the study before starting the analysis. The issue of missing data arises when a few items in the questionnaire are unanswered or in the data file the value has been missed while entering the data. Whatever the reason may be, if missing data are not handled properly it may cause the data unsuitable for final analysis (Won et al., 2017; Hair et al., 2010). In the case of a significant number of items in the survey is unanswered (for instance, 25 percent or more), the general guideline is to exclude all responses (Sekaran & Bougie, 2015). On the other hand, if the missing responses are not very high (e.g. 10% or less, as suggested by Hair et al., 2010; 5% or less, as suggested by Schafer, 1999), the researcher may substitute a neutral value or imputed response to unravel the missing data issue. As the researcher was able to collect a higher number of responses in comparison to the sample size, all the questionnaires with missing responses have been excluded. To identify the inconsistent data, the frequency table with percentages generated from SPSS has been utilized, and considering the rule of Sekaran and Bougie (2015), the illicit cases have been handled. Moreover, in certain cases, data transformations were carried out as became necessary.

5.3 Demographic Profile of the Respondents

The questionnaire was distributed among around 600 respondents, mainly from Dhaka, Chittagong, Rajshahi, and Rangpur divisions, of which responses were received from 513 respondents within the stipulated time. Out of this 513, in total 464 questionnaires were found complete and useful, hence considered for the study. So, around 77 percent of the questionnaire has been taken into consideration for analysis. The high response rate was possible as the researcher has taken reasonable care to minimize any kind of

confusion for the respondents while filling up the questionnaire. The following

paragraphs depict an overview of the demographic characteristics of the respondents

under different parameters:

Table 5.1 Demographic profile of the respondents

Sl.	Items	Groups	Frequency	Valid %
1	**Gender**	Male	387	83.4
		Female	77	16.6
		Total	**464**	**100.0**
2	**Age**	26-35	289	62.3
		36-45	120	25.9
		46-55	34	7.3
		56-65	19	4.1
		>65	2	.4
		Total	**464**	**100.0**
3	**Education**	Below SSC or Equivalent	1	.2
		SSC/Equivalent	1	.2
		HSC/Equivalent	3	.6
		Graduate	192	41.4
		Post-Graduate	252	54.3
		Others	15	3.2
		Total	**464**	**100.0**
4	**No of Dependents**	<3	260	56.0
		3-5	181	39.0
		>5	23	5.0
		Total	**464**	**100.0**
5	**Occupation**	Govt. Service	68	14.7
		Private Service	326	70.3
		Business	55	11.9
		Others	15	3.2
		Total	**464**	**100.0**
6	**Average Monthly Income**	<BDT25,000	25	5.4
		BDT 25,000 - BDT 50,000	158	34.1
		BDT 50,000 - BDT 75,000	109	23.5
		>BDT 75,000	172	37.1
		Total	**464**	**100.0**
7	**Prior Tax Training / Knowledge**	Yes	147	31.7
		No	317	68.3
		Total	**464**	**100.0**
8	**Income Tax Rate**	10%	193	41.6
		15%	146	31.5
		20%	72	15.5
		25%	43	9.3
		30%	10	2.2
		Total	**464**	**100.0**

Sl.	Items	Groups	Frequency	Valid %
9	Income Tax Return Submission	Personally	239	51.5
		Through tax lawyer	225	48.5
		Total	**464**	**100.0**
10	**Notice Receipt from NBR**	Yes	50	10.8
		No	414	89.2
		Total	**464**	**100.0**
11	**Tax Office Visit**	Yes	171	36.9
		No	293	63.1
		Total	**464**	**100.0**
12	**Sources of Income**	Salary	378	81.5
		House Property	14	3.0
		Agriculture	1	.2
		Business and Profession	62	13.4
		Other sources	9	1.9
		Total	**464**	**100.0**
13	**Years of Paying Taxes**	1 to 5	304	65.5
		5 to 10	84	18.1
		11 to 15	40	8.6
		16 to 20	27	5.8
		21 to 25	5	1.1
		26 to 30	4	.9
		Total	**464**	**100.0**

The data collected on demographic characteristics of the respondents, as presented in Table 5.1, indicates that about 83.4 percent of respondents were male leaving 16.6 percent as female. This is a fair representation with more males in employment and business in Bangladesh. Regarding the age group, the respondents have been classified into five age categories. Although a citizen of Bangladesh may apply for e-TIN after reaching the age of eighteen years, considering the income ability, respondents of more than 26 years of age have been considered eligible for the survey. From Table 5.1, it has been observed that more than 62 percent of the respondents are of 26-35 years of age, followed by the age group of 36-45 years with around 26 percent. Nearly 7 percent and 4 percent of respondents fall into the age group of 46-55 and 56-65 years respectively, leaving the respondents with the age of more than 65 years with less than 1 percent.

In respect of the educational backgrounds of the respondents, most of the respondents had a higher education background as either with Post Graduate Degree (54%) followed by Bachelor (41%) and others (e.g. Doctorate, Professional Accountant, etc.) with 3 percent. Among the respondents, in total, only 1 percent was with an educational qualification of HSC or less. The educational qualification of the respondents was assumed to be sufficient in understanding the questionnaire for their responses.

Another demographic variable was the number of dependents. As clarified from Table 5.1, around 56 percent of the respondents have less than 3 dependents to be taken care of with their income. 39 percent of the respondents was with 3 to 5 dependents, leaving only 5 percent with more than 5 dependents. The distribution of the respondents according to occupation reveals that around 70 percent of the respondent's occupation was private service followed by government service (14.7 percent), business (11.9 percent), and others (3.2 percent, e.g. housewife, professional and technical employees).

Based on average monthly income, around 37.1 percent of the respondents were from the income group with more than Taka 75,000 per month. The second group was the average monthly income with Tk 25,000 to Tk. 50,000. 34.1 percent of respondents were from this group followed by 23.5 percent (Taka 50,000 to Taka 75,000) and 5.4 percent having an average monthly income of less than Taka 25,000.

The respondents have also been asked questions regarding their tax knowledge that they have achieved through training or tax courses. As clarified from Table 5.1, it can be observed that around 32 percent of the respondents had some prior tax knowledge that

they achieved through doing some tax training /courses earlier leaving around 68 percent with no prior tax knowledge and training. In respect of the income tax rate of the respondents, the majority of the respondents fell into the lower tax bracket (less than 15%). 41.6 percent of the respondents are from 10 percent income tax bracket, followed by 15 percent (31.5 percent), 20 percent (15.5 percent), 25 percent (9.3 percent) and 30 percent (2.2 percent) income tax bracket.

Concerning the income tax return submission, as clarified from the Table 5.1, it has been observed that around half of the respondents (51.5 percent) submitted their annual income tax return personally to the concerned tax office or income tax fair; and 48.5 percent took the assistance of the income tax lawyer to do the same. This demographic information on the return submission of the respondents fairly reflected the lack of tax knowledge and fear of hassles that compel almost half of the respondents to hire a tax expert. In terms of notice received from NBR, only around 11 percent of the respondents have received notice from NBR to pay additional tax or any other reasons, while around 89 percent of the respondents have never witnessed this.

An individual income tax payer may need to visit the tax office for many reasons. Sometimes they visit personally or sometimes their lawyer visits on behalf of them. Table 5.1 depicts that around 37 percent of the respondents have visited their tax circle office personally, whenever it was needed. On the other hand, around 63 percent of the respondents have never visited their tax circle office personally. Considering the composition of the respondents on the basis of sources of income, around 82 percent of the respondent's main source of income was from salary, followed by income from business and profession (13.4 percent), income from house property (3 percent), income from other sources (1.9 percent) and the lowest from agricultural income (0.2 percent).

The study has considered only those respondents who have been submitting their income tax returns for at least one year. Table 5.1 also depicts that of total 464 respondents, 65.5 percent of the respondents have been paying income tax for 1 to 5 years, 18.1 percent for 6 to 10 years, 8.6 percent for 11 to 15 years, 5.8 percent for 16 to 20 years, 1.1 percent for 21 to 25 years and 0.9 percent for 26 to 30 years.

5.4 Why do people pay income tax? Findings from Respondent's Perceptions

Table – 5.2 Reasons of paying income tax (Respondent's perceptions)

Reasons of paying tax

	Frequency	Percent	Valid Percent	Cumulative Percent
To avoid troubles (penalties, fines, etc.)	100	21.6	21.6	21.6
To contribute in public services	134	28.9	28.9	50.4
There is no opportunity to evade the tax	37	8.0	8.0	58.4
It's a compulsory payment to the government	176	37.9	37.9	96.3
Do not know	4	.9	.9	97.2
Others	13	2.8	2.8	100.0
Total	464	100.0	100.0	

Generally, tax is considered as a compulsory payment imposed by the government on its citizens. The income tax amount is imposed and assessed as per the provisions of the applicable income tax laws in Bangladesh. An individual income taxpayer, who may earn income from several legal sources, pays income tax when his taxable income exceeds the non-assessable limit set by the government. In this study, the respondents have been asked to reveal their main reason for paying income tax, and the summary of the responses is depicted in Table 5.2 and Figure 5.1. It has been observed that around 40 percent of the respondents pay income tax as it is an obligation towards the government (i.e. it is a compulsory payment to the government). Around 29 percent of the respondents believe that they pay income tax in anticipation of public services (i.e.

it is their contribution to the society). On the other hand, 21.6 percent of respondents pay their income tax as they want to avoid any kind of troubles (penalty, fine, imprisonment, etc.) in this regard. Some of the respondents (around 8 percent) pay income tax as they do not have an opportunity to evade the income tax (e.g. sometimes tax is deducted at the source or they have to submit income tax return to save their job).
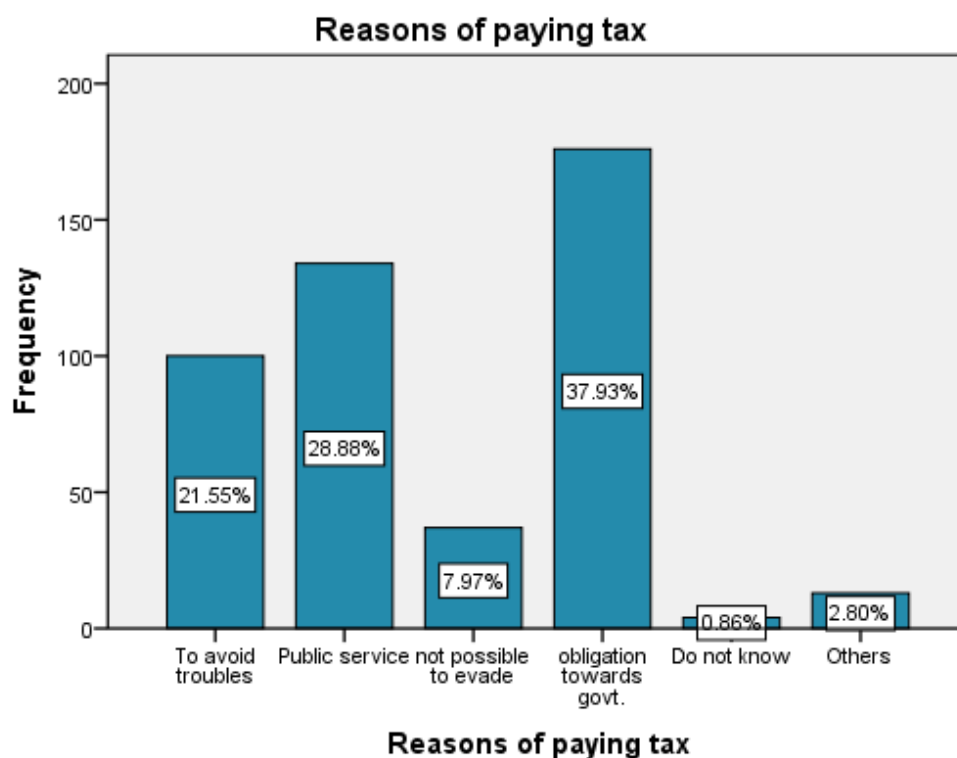
Figure 5.1. Respondent's perception about reasons of paying tax (in percentage)

Table – 5.3 Reasons of paying income tax on the basis of gender (Respondent's perceptions)

			Reasons of paying tax						
			To avoid troubles	Public service	not possible to evade	obligation towards govt.	Do not know	Others	Total
Gender	Male	Count	85	117	30	139	3	13	387
		% within Gender	22.0%	30.2%	7.8%	35.9%	.8%	3.4%	100.0%
		% of Total	18.3%	25.2%	6.5%	30.0%	.6%	2.8%	83.4%
	Female	Count	15	17	7	37	1	0	77
		% within Gender	19.5%	22.1%	9.1%	48.1%	1.3%	0.0%	100.0%
		% of Total	3.2%	3.7%	1.5%	8.0%	.2%	0.0%	16.6%

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Moreover, when these reasons have been analyzed based on gender, a similar trend has been noticed in the respondent's perception irrespective of their gender in terms of percentage within gender. Table 5.3 reveals the trend through the comparison based on percentage within the gender.

5.5 Data Assessment for Normality

Several parametric tests including correlation, regression, t-tests, ANOVA, etc. are based on the assumption that the collected data should form a normal distribution. When the sample size is large enough (> 30 or 40), the relevance of the normality assumption should not be a reason of major problems and under such circumstances, the nature of the distribution of data may also be ignored (Pallant, 2007; as cited in Ghasemi & Zahediasl, 2012). Moreover, in the case of a sufficiently large sample size (>200), the normality assumption is not necessary at all as the Central Limit Theorem certifies that the distribution of disturbance term will approximate normality (King & Eckersley, 2019). As the study has considered the non-probability sampling method, a test of normality may validate the normality of data collected.

Different studies have proposed several statistical methods to test the degree of the normality of data in numerous ways and there is no contemporary and universally accepted gold standard method (Kim, 2013). Kim (2013) suggested that the sample size influences the selection of the method to assess the normality. Kim (2013, p 52) also mentioned the suitability of different tests in this regard stating "the eyeball test may be useful for medium to large-sized (e.g., n > 50) samples, however, may not useful for small samples. The formal normality tests including the Shapiro-Wilk test and Kolmogorov-Smirnov test may be used from small to medium-sized samples (e.g., n <

300), but maybe unreliable for large samples. Moreover, it may create confusion because the 'eyeball test' and 'formal normality test' may show incompatible results for the same data. To resolve the problem, another method of assessing normality using skewness and kurtosis of the distribution may be used, which may be relatively correct in both small samples and large samples".

Table – 5.4 Assessment of Normality using Skewness and Kurtosis

Determinants	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Tax Rate	-.070	.113	-1.050	.226
Penalty	-.892	.113	-.128	.226
Income Level	-.210	.113	-.990	.226
Benefits against Tax	.532	.113	-.868	.226
Tax Compliance Costs	-.166	.113	-.844	.226
Future Tax Costs	-.388	.113	-.696	.226
Tax Rebates	-.028	.113	-.783	.226
Audit Probability	.186	.113	-.952	.226
Unofficial Cost	-.498	.113	-.767	.226
Certainty	.064	.113	-1.101	.226
NBR Service	-.138	.113	-.810	.226
Simplicity of IT Return	.036	.113	-.979	.226
Tax Law Simplicity	.225	.113	-.847	.226
Harassments by Taxmen	-.410	.113	-.703	.226
Easy Documentation	.046	.113	-.951	.226
Tax Awareness by NBR	.074	.113	-1.052	.226
Lack of Law Enforcements	-.107	.113	-1.123	.226
Consistent Tax Policy Reform	-.207	.113	-.543	.226
Attitude towards Tax	-1.184	.113	1.063	.226
Stress	-.072	.113	-1.071	.226
Opportunity to Evade	.383	.113	-.947	.226
Perceived Tax Burden	-.578	.113	-.253	.226
Peer Influence	-.093	.113	-.919	.226
Religious Belief	-.712	.113	-.368	.226
Perceived Fairness of Tax System	.057	.113	-1.028	.226
Tax Morale	-.771	.113	-.103	.226
Perception on Government Spending	-.349	.113	-.986	.226
Social Culture and Norms	.248	.113	-.997	.226
Personal Financial Constraints	-.425	.113	-.793	.226
Tax Knowledge	-.149	.113	-1.100	.226
Tax Planning	-.336	.113	-.617	.226

Multiple Taxes Burden	-.028	.113	-.816	.226
Probabilities of being Detected	-.190	.113	-.451	.226
Guilty Feeling	-.842	.113	.351	.226
Public Governance Quality	.999	.113	.037	.226
Civic Duty	-.117	.113	-1.324	.226

As stated by Kim (2013) "skewness is a measure of the asymmetry of the distribution of a variable". It is utilized to depict the steadiness of the data dissemination; to identify whether it is unequal and tends to move to the other side (right or left) or it is symmetrical with a similar shape on both sides (Hair et al, 2010). On the other hand, Kim (2013, p 53) specified kurtosis as "a measure of the 'flatness' or 'peakedness' of a distribution". Kim (2013, p 53) also stated "the excess kurtosis should be zero for a perfectly normal distribution. Distributions with positive excess kurtosis are called leptokurtic distribution meaning high peak, and distributions with negative excess kurtosis are called platykurtic distribution meaning flat-topped curve."

In the case of a completely normal distribution, the outcomes will show a skewness and kurtosis of zero, which is exceptional in social science studies (Pallant, 2007). These values can be converted to a z-score, and according to Ghasemi & Zahediasl (2012), in the case of small samples, values ± 1.96 are enough to establish normality of the data, and in the case of large samples (200 or more) with small standard errors (1%), this criterion should be changed to ± 2.58. On the other hand, when the sample size is significantly larger (>300), Kim (2013, p 53) suggested that the normality of a distribution may be determined based on "the absolute values of skewness and kurtosis without considering z-values. In this case, an absolute skewness value larger than 2 or an absolute kurtosis (proper) value larger than 7 can be used as reference values for determining significant non-normality of distribution". Table 5-4 represents the absolute value of skewness and kurtosis for all the simple variables from the data

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collected through the questionnaire. The values depict that none of the variables exceeded the desired criterion suggested by Kim (2013), and in this regard, it can be assumed that the distribution of data in this study is normal with respect to skewness and kurtosis.

5.6 Multicollinearity Analysis

Multicollinearity in a dataset means the existence of very high intercorrelation or inter-association among the independent variables (Hair et al., 2010). The existence of multicollinearity in a dataset may lead to misleading interpretations of the findings of the relationship between the dependent and independent variables. In the worst case scenario, if the independent variables are perfectly correlated, it will not be possible to conduct the regression analysis reliably (Vatcheva, et al., 2016). According to Daoud (2017), "Multicollinearity is one of the serious problems that should be resolved before starting the process of modeling the data". Considering its impact, ignoring multicollinearity may cause an adverse impact on data analysis and its interpretation in regression analysis (Vatcheva, et al., 2016).

Several approaches are used to assess the multicollinearity of data. According to Petrini, et al. (2012), some of the popular methods are (1) examination of the correlation matrix, (2) Evaluation of the condition indexes, and (3) assessment of variance inflation factor (VIF). In this study, tolerance and variance inflation factor (VIF) were used to detect multicollinearity issue that is recommended by Hair, et al., (2010). The VIF method is considered as the most commonly used method of detecting the multicollinearity because of its accuracy in determining the problem of multicollinearity (Reddy, Balasubramanyam, & Subbarayudu, 2013).

Table – 5.5 Assessment of multicollinearity using VIF and Tolerance Value

Model	Collinearity Statistics	
	Tolerance	VIF
Tax Rate	.572	1.749
Penalty	.843	1.187
Income Level	.562	1.781
Benefits against Tax	.570	1.755
Tax Compliance Costs	.663	1.509
Future Tax Costs	.828	1.207
Tax Rebates	.690	1.450
Audit Probability	.894	1.118
Unofficial Cost	.725	1.379
Certainty	.742	1.347
NBR Service	.557	1.797
Simplicity of IT Return	.546	1.831
Tax Law Simplicity	.550	1.817
Harassments by Taxmen	.631	1.585
Easy Documentation	.604	1.657
Tax Awareness by NBR	.654	1.528
Lack of Law Enforcements	.722	1.386
Consistent Tax Policy Reform	.683	1.465
Attitude towards Tax	.644	1.553
Stress	.882	1.133
Opportunity to Evade	.745	1.343
Perceived Tax Burden	.791	1.263
Peer Influence	.777	1.287
Religious Belief	.649	1.541
Perceived Fairness of Tax System	.516	1.937
Tax Morale	.732	1.367
Perception on Government Spending	.811	1.233
Social Culture and Norms	.677	1.478
Personal Financial Constraints	.755	1.324
Tax Knowledge	.566	1.766
Tax Planning	.596	1.679
Multiple Taxes Burden	.831	1.204
Probabilities of being Detected	.872	1.147
Guilty Feeling	.653	1.531
Public Governance Quality	.617	1.622
Civic Duty	.680	1.471

Dependent Variable: Tax Compliance

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Much divergence exists regarding the VIF value to be used as a threshold to detect the existence of multicollinearity. As cited in Kock and Lynn (2012), commonly recommended VIF values are 10 (Hair et al., 2010); 5 (Kline, 1998), and 3.3 (Cenfetelli & Bassellier, 2009). Kline (1998) has also suggested that a tolerance value of less than 0.1 indicates the existence of multicollinearity. In this study, VIF and tolerance values have been used to measure multicollinearity.

Table 5.5 depicts that all the tolerance values are more than the cut off value 0.1 and the VIF values are significantly lower than the lowest cut-off value 3.3. Under such circumstances, it can be assumed that there is no issue of multicollinearity among the variables.

5.7 Nature of Influence of the Determinants on Tax Compliance Behavior: Findings from Descriptive Statistics

5.7.1 Nature of Influence of the Economic Factors / Determinants: Descriptive Statistics

Table – 5.6 Economic Factors / Determinants: Descriptive Statistics

Determinants	Mean	Median	Mode	Std. Deviation	Remarks
ED – 1 (Income Tax Rate): The current income tax rate in Bangladesh is reasonable for me	2.9504	3.0000	4.00	1.17925	Negative determinant
ED – 2 (Fines & Penalty): I pay income tax because I don't want to be fined or penalized for not paying tax	3.7457	4.0000	4.00	1.18667	Positive determinant
ED – 3 (Income Level): Income tax amount that I pay is justifiable to my current income level	3.0862	3.0000	4.00	1.16329	Positive determinant
ED – 4 (Tax Benefits): "I receive fair benefits from the government in return for my income tax paid"	2.3448	2.0000	1.00	1.27514	Negative determinant

ED-5 (Tax Compliance Costs): The total time and cost I need to spend for complying with the tax return submission process is reasonable	2.9504	3.0000	4.00	1.12680	Negative determinant
ED – 6 (Future Tax Costs): I believe that future tax cost will not influence me to pay my income tax	3.1401	3.0000	4.00	1.12491	Positive determinant
ED – 7 (Tax Incentives & Rebates): The tax incentives / rebate amount that I receive is adequate at the time of paying income tax	2.9483	3.0000	3.00	1.02744	Negative determinant

Table – 5.7 Economic Factors / Determinants: Frequency Analysis

Determinants	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
ED – 1 (Income Tax Rate): The current income tax rate in Bangladesh is reasonable for me	57 (12.3%)	127 (27.4%)	98 (21.1%)	146 (31.5%)	36 (7.8%)	464 (100.0%)
ED – 2 (Fines & Penalty): I pay income tax because I don't want to be fined or penalized for not paying tax	31 (6.7%)	55 (11.9%)	49 (10.6%)	195 (42.0%)	134 (28.9%)	464 (100.0%)
ED – 3 (Income Level): Income tax amount that I pay is justifiable to my current income level	46 (9.9%)	116 (25.0%)	95 (20.5%)	166 (35.8%)	41 (8.8%)	464 (100.0%)
ED – 4 (Tax Benefits): 'I receive fair benefits from the government in return for my income tax paid'	164 (35.3%)	105 (22.6%)	97 (20.9%)	67 (14.4%)	31 (6.7%)	464 (100.0%)
ED-5 (Tax Compliance Costs): The total time and cost I need to spend for complying with the tax return submission process is reasonable	58 (12.5%)	103 (22.2%)	136 (29.3%)	138 (29.7%)	29 (6.3%)	464 (100.0%)
ED – 6 (Future Tax Costs): I believe that future tax cost will not influence me to pay my income tax	49 (10.6%)	81 (17.5%)	127 (27.4%)	170 (36.6%)	37 (8.0%)	464 (100.0%)
ED – 7 (Tax Incentives & Rebates): The tax incentives / rebate amount that I receive is adequate at the time of paying income tax	33 (7.1%)	136 (29.3%)	139 (30.0%)	134 (28.9%)	22 (4.7%)	464 (100.0%)

The nature of the influence of economic determinants on the tax compliance behavior of the respondents is presented in Table 5.6 and 5.7. The tables reveal that among 464 respondents, 182 respondents (39.3%) put their tick in "agree" and "strongly agree" accepting the fact that the current income tax rate is reasonable for them, whereas 184 respondents (39.7%) responded with "disagree" and "strongly disagree". 98 respondents (21.1%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis it is evident that income tax rate *has negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

In case of fines and penalty, 329 respondents (70.9%) put their tick in "agree" and "strongly agree" accepting the fact that they pay income tax because they don't want to be fined or penalized for not paying income tax. On the other hand, 86 respondents (18.6%) responded with "disagree" and "strongly disagree" keeping 49 respondents (10.6%) as neutral. Under such circumstances, considering mean value and frequency analysis it can be concluded that fines and penalty *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

In the case of income level, 207 respondents (44.6%) put their tick in "agree" and "strongly agree" accepting the fact that the income tax amount that they pay is justifiable to their current income level. On the contrary, 162 respondents (34.9%) responded with "disagree" and "strongly disagree"; 95 respondents (20.5%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis, it can be concluded that income level *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

While considering tax benefits, it has been observed that only 98 respondents (21.1%) put their tick in "agree" and "strongly agree" accepting the fact that they receive fair benefits from the government in return for the income tax paid. Most of the respondents (269/57.9%) disagreed with this fact and only 97 respondents (20.9%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis, it can be concluded that tax benefit *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

In the case of tax compliance costs, 167 respondents (36.0%) put their tick in "agree" and "strongly agree", accepting the fact that the total time and cost spent for complying with the tax return submission process is reasonable. On the contrary, 161 respondents (34.7%) responded with "disagree" and "strongly disagree". 136 respondents (29.3%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis it can be concluded that tax compliance cost *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

While asking about future tax costs, 207 respondents (44.6%) put their tick in "agree" and "strongly agree" accepting the fact that future tax cost will not influence them to pay income tax. On the other hand, 130 respondents (28.1%) responded with "disagree" and "strongly disagree"; and 127 respondents (27.4%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis it can be concluded that future tax cost *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

Similarly, considering the mean value and frequency analysis it has been revealed that inadequate tax incentives and rebate *have a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.* In this case, 36.4% of respondents disagreed with the fact that the tax incentives/rebate amount that they receive is adequate at the time of paying income tax. On the contrary, 33.6% agreed and the rest 30.0 % neutral.

In terms of specific economic determinants, four (income tax rate, tax benefits, tax compliance costs, tax incentives & rebates) determinants have a negative influence on tax compliance behavior and three (fines & penalty, income level, future tax costs) determinants have a positive influence. Table 5.8 reveal an overall assessment based on gender:

Table – 5.8 Economic Factors / Determinants: Overall Assessment based on Gender

Determinants	Male		Female		Total		Remarks
	N	Mean	N	Mean	N	Mean	
Tax Rate	387	2.9276	77	3.0649	464	2.9504	Negative determinant for male and positive for female
Penalty	387	3.7132	77	3.9091	464	3.7457	Positive determinant for both male and female
Income Level	387	3.0491	77	3.2727	464	3.0862	Positive determinant for both male and female
Benefits against Tax	387	2.2842	77	2.6494	464	2.3448	Negative determinant for both male and female

Tax Compliance Costs	387	2.9406	77	3.0000	464	2.9504	Negative determinant for male and indifferent for female
Future Tax Costs	387	3.1266	77	3.2078	464	3.1401	Positive determinant for both male and female
Tax Rebates	387	2.9328	77	3.0260	464	2.9483	Negative determinant for male and positive for female
Economic Determinants	387	2.9963	77	3.1614	464	3.0237	Negative determinant for male and positive for female

5.7.2 Nature of Influence of the Institutional Factors / Determinants: Descriptive Statistics

The nature of the influence of the institutional determinants on the tax compliance behavior of the respondents is presented in Table 5.9 and 5.10.

Table – 5.9 Institutional Factors / Determinants: Descriptive Statistics

Determinants	Mean	Median	Mode	Std. Deviation	Remarks
InsD8 – (Audit Probability): I think that NBR will not audit my income tax return	2.7565	3.0000	2.00	1.13408	Negative determinant
InsD9 – (No unofficial cost): I have never paid any unofficial costs/bribe at the time of tax return submission	3.4030	4.0000	4.00	1.21513	Positive determinant
InsD10 – (Information Uncertainty): In Bangladesh, taxpayers' are well informed about the time, mode and place of paying tax	2.8642	3.0000	2.00	1.19253	Negative determinant
InsD11 – (Service of Tax Authority): I am satisfied with the service so far I have received from tax officers of NBR	2.8233	3.0000	3.00	1.08942	Negative determinant
InsD12 – (Complexity of IT Return): I do not face any problem with income tax return filing and completion	2.8815	3.0000	2.00	1.11002	Negative determinant
InsD13 – (Tax Law Complexity): Bangladesh income tax rules are clear and easy to understand	2.6638	3.0000	2.00	1.12650	Negative determinant

InsD14 – (Taxmen Assistance/Tax officer's attitude): I was never harassed by the tax offices	3.1897	3.0000	4.00	1.15281	Positive determinant
InsD15 – (Documentation): I find it easy to maintain documentation for the tax purposes	2.8642	3.0000	2.00	1.08240	Negative determinant
InsD16 – (Lack of Tax Awareness): NBR takes sufficient tax awareness programs to motivate the taxpayers	2.7953	3.0000	2.00	1.13984	Negative determinant
InsD17 – (Lack of Law enforcements): NBR is capable of enforcing legal measures to the tax evaders	2.8987	3.0000	4.00	1.26101	Negative determinant
InsD18 – (Tax Policy Reform): The income tax administration in Bangladesh is updating tax policy on a consistent basis	3.1358	3.0000	3.00	1.05818	Positive determinant

Table – 5.10 Institutional Factors / Determinants: Frequency Analysis

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
InsD8 – (Audit Probability): I think that NBR will not audit my income tax return	60 (12.9%)	162 (34.9%)	99 (21.3%)	117 (25.2%)	26 (5.6%)	464 (100.0%)
InsD9 – (No unofficial cost): I have never paid any unofficial costs/bribe at the time of tax return submission	41 (8.8%)	79 (17.0%)	80 (17.2%)	180 (38.8%)	84 (18.1%)	464 (100.0%)
InsD10 – (Information Uncertainty): In Bangladesh, taxpayers are well informed about the time, mode and place of paying tax	61 (13.1%)	147 (31.7%)	85 (18.3%)	136 (29.3%)	35 (7.5%)	464 (100.0%)
InsD11 – (Service from Tax Authority): I am satisfied with the service so far I have received from tax officers of NBR	67 (14.4%)	104 (22.4%)	155 (33.4%)	120 (25.9%)	18 (3.9%)	464 (100.0%)
InsD12 – (Complexity of IT Return): I do not face any problem in income tax return completion and submission	47 (10.1%)	149 (32.1%)	106 (22.8%)	136 (29.3%)	26 (5.6%)	464 (100.0%)
InsD13 – (Tax Law Complexity): Bangladesh income tax rules are clear and easy to understand	74 (15.9%)	153 (33.0%)	115 (24.8%)	99 (21.3%)	23 (5.0%)	464 (100.0%)
InsD14 – (Taxmen Assistance/Tax officer's	50	76	120	172	46	464

attitude): I was never harassed by the tax offices	(10.8%)	(16.4%)	(25.9%)	(37.1%)	(9.9%)	(100.0%)
InsD15 – (Documentation): I find it easy to maintain documentation for the tax purposes	44 (9.5%)	153 (33.0%)	111 (23.9%)	134 (28.9%)	22 (4.7%)	464 (100.0%)
InsD16 – (Lack of Tax Awareness): NBR takes sufficient tax awareness programs to motivate the taxpayers	61 (13.1%)	152 (32.8%)	95 (20.5%)	133 (28.7%)	23 (5.0%)	464 (100.0%)
InsD17 – (Lack of Law enforcements): NBR is capable of enforcing legal measures to the tax evaders	87 (18.8%)	92 (19.8%)	107 (23.1%)	137 (29.5%)	41 (8.8%)	464 (100.0%)
InsD18 – (Tax Policy Reform): The income tax administration in Bangladesh is updating tax policy on a consistent basis	34 (7.3%)	90 (19.4%)	159 (34.3%)	141 (30.4%)	40 (8.6%)	464 (100.0%)

The tables reveal that among 464 respondents, 143 respondents (30.8%) put their tick in "agree" and "strongly agree" accepting the fact that NBR will not audit their income tax return, whereas 222 respondents (47.8%) responded with "disagree" and "strongly disagree". 99 respondents (21.3%) were neutral in this case. Under such circumstances, considering mean value and frequency analysis it can be assumed that audit probability *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

56.9% of the 464 respondents put their tick in "agree" and "strongly agree" accepting the fact that they have never paid any unofficial costs/bribe at the time of tax return submission. The disagreed and neutral proportion of respondents was 25.8% and 17.2% respectively. Under such circumstances, considering mean value and frequency analysis it can be assumed that 'no unofficial costs' *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

On the other hand, 44.8% of the total respondents disagreed with the fact that in Bangladesh, taxpayers' are well informed about the time, mode, and place of paying tax. The agreed and neutral proportion of respondents was 36.8% and 18.3% respectively. Under such circumstances, considering mean value and frequency analysis it can be assumed that information uncertainty *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

In the case of the service from the tax office, it has been observed that the majority of the respondents (36.8%) revealed their dissatisfaction regarding the service from the tax authority. The agreed and neutral proportion of respondents was 29.8% and 33.4% respectively. Under such circumstances, considering mean value and frequency analysis it can be assumed that service from the tax authority *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Regarding the complexity of income tax return, 42.2% of the total respondents disagreed with the fact that they do not face problems in the income tax return completion and submission process. The agreed and neutral proportion of respondents was 34.9% and 22.8% respectively. Under such circumstances, considering mean value and frequency analysis it can be assumed that the complexity of IT Return *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Regarding tax law complexity, the maximum number of respondents (48.9%) disagreed with the fact that Bangladesh's income tax rules are clear and easy to understand. The agreed and neutral proportion of respondents was 26.3% and 24.8% respectively. These

results put logic to assume that tax law complexity *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

In the case of taxmen assistance/tax officer's attitude, 47.0% put their tick in "agree" and "strongly agree" claiming the fact that they have never been harassed by the tax offices. The disagreed and neutral proportion of respondents was 27.2% and 25.9% respectively. Under such circumstances, considering mean value and frequency analysis it can be assumed that taxmen assistance/tax officer's attitude *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

On the other hand, while asking about the required documentation of accounts for tax purposes, most of the respondents (42.5%) feel difficulty to maintain and collect all relevant documents for the whole year for tax purposes. 33.5% of the respondents consider it easy while 23.9% are neutral. Under such circumstances, it can be assumed that documentation of accounts *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Moreover, 45.9% put their tick in "disagree" and "strongly disagree" claiming their disagreement with the fact that NBR takes sufficient tax awareness programs to motivate the taxpayers. The agreed and neutral proportion of respondents was 33.7% and 20.5% respectively. So, it can be concluded that lack of tax awareness program *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

In case of the view regarding the law enforcement, 178 respondents (38.3%) put their tick in "agree" and "strongly agree" accepting the fact that NBR is capable of enforcing legal measures to the tax evaders, whereas 179 respondents (38.6%) responded with "disagree" and "strongly disagree". 107 respondents (23.1%) were neutral in this case. Under such circumstances, considering mean value it can be concluded that Lack of law enforcement program *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Most of the respondents (39.0%) were agreed with the fact that the income tax administration in Bangladesh is updating tax policy consistently. The disagreed and neutral proportions were 26.7% and 34.3% respectively. Under such circumstances, considering mean value and frequency analysis it can be concluded that tax reform *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

In terms of specific institutional determinants, eight (audit probability, information uncertainty, service from the tax authority, complexity of IT return, tax law complexity, documentation, lack of tax awareness & lack of law enforcement) determinants have a negative influence on tax compliance behavior and three (no unofficial cost, taxmen assistance/tax officer's attitude, & tax policy reform) determinants have a positive influence.

Table 5.11 reveals an overall assessment based on gender:

Table – 5.11 Institutional Factors / Determinants: Overall Assessment based on Gender

Determinants	Male		Female		Total		Remarks
	N	Mean	N	Mean	N	Mean	
Audit Probability	387	2.7752	77	2.6623	464	2.7565	Neg. determinant for both male and female
No Unofficial Cost/bribe	387	3.3953	77	3.4416	464	3.4030	Pos. determinant for both male and female
Information uncertainty	387	2.8605	77	2.8831	464	2.8642	Neg. determinant for both male and female
Service from tax authority	387	2.8114	77	2.8831	464	2.8233	Neg. determinant for both male and female
Complexity of IT Return	387	2.9096	77	2.7403	464	2.8815	Neg. determinant for both male and female
Tax law complexity	387	2.6460	77	2.7532	464	2.6638	Neg. determinant for both male and female
Taxmen Assistance	387	3.1602	77	3.3377	464	3.1897	Pos. determinant for both male and female
Documentation	387	2.8579	77	2.8961	464	2.8642	Neg. determinant for both male and female
Lack of tax awareness	387	2.7597	77	2.9740	464	2.7953	Neg. determinant for both male and female
Lack of law enforcements	387	2.9018	77	2.8831	464	2.8987	Neg. determinant for both
Tax Policy Reform	387	3.1111	77	3.2597	464	3.1358	Positive determinant for both
Institutional Determinants	387	2.9262	77	2.9740	464	2.9342	Negative determinant for both

5.7.3 Nature of Influence of the Socio-Psychological Factors / Determinants: Descriptive Statistics

The nature of the influence of the socio-psychological determinants on the tax compliance behavior of the respondents is presented in Table 5.12 and 5.13.

Table – 5.12 Socio-Psychological Factors / Determinants: Descriptive Statistics

	Mean	Median	Mode	Std. Deviation	Remarks
SPD19 - (Attitude towards taxes): I have positive attitude towards paying taxes	3.9418	4.0000	4.00	1.04482	Positive determinant
SPD20 – (Stress): I feel stress to avoid income tax	3.0302	3.0000	4.00	1.22746	Positive determinant
SPD21 – (Perceived opportunity for evasion): I think in Bangladesh, it is tough to get the opportunity to hide taxable income and evade tax	2.5280	2.0000	2.00	1.23627	Negative determinant
SPD22 – (Perceived tax burden): "I believe that I pay my fair share of the tax burden under the current income tax system"	3.5776	4.0000	4.00	1.04044	Positive determinant
SPD23 – (Peer Influence): I am influenced to pay correct amount of income tax by my friends and family members	3.0517	3.0000	4.00	1.18007	Positive determinant
SPD24 – (Religious Observance): I think tax evasion is a great sin	3.6616	4.0000	4.00	1.19020	Positive determinant
SPD25 – (Perceived fairness of tax system): I think the current tax system in Bangladesh is reasonably fair	2.7629	3.0000	2.00	1.15338	Negative determinant
SPD26 – (Tax Morale): I think it is ethically and morally wrong if I exclude some amount of income in my income tax return	3.6250	4.0000	4.00	1.13148	Positive determinant
SPD27 – (Attitude towards government spending): It is fair not to pay tax if the government doesn't properly spend public money	3.3664	4.0000	4.00	1.28936	Positive determinant
SPD28 – (Social Culture and Norms): I think the social culture and norms in Bangladesh motivates the taxpayers in paying tax	2.6034	2.0000	2.00	1.16744	Negative determinant

Table – 5.13 Socio-Psychological Factors / Determinants: Frequency Analysis

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
SPD19 - (Attitude towards taxes): I have positive attitude towards paying taxes	21 (4.5%)	30 (6.5%)	51 (11.0%)	215 (46.3%)	147 (31.7%)	464 (100.0%)
SPD20 – (Stress and equity): I feel stress to avoid income tax	56 (12.1%)	120 (25.9%)	96 (20.7%)	138 (29.7%)	54 (11.6%)	464 (100.0%)
SPD21 – (Perceived opportunity for evasion): I think in Bangladesh, it is tough to get the opportunity to hide taxable income and evade tax	114 (24.6%)	142 (30.6%)	88 (19.0%)	89 (19.2%)	31 (6.7%)	464 (100.0%)
SPD22 – (Perceived tax burden): "I believe that I pay my fair share of the tax burden under the current income tax system"	17 (3.7%)	61 (13.1%)	105 (22.6%)	199 (42.9%)	82 (17.7%)	464 (100.0%)
SPD23 – (Peer Influence): I am influenced to pay correct amount of income tax by my friends and family members	50 (10.8%)	110 (23.7%)	121 (26.1%)	132 (28.4%)	51 (11.0%)	464 (100.0%)
SPD24 – (Religious Observance): I think tax evasion is a great sin	32 (6.9%)	52 (11.2%)	85 (18.3%)	167 (36.0%)	128 (27.6%)	464 (100.0%)
SPD25 – (Perceived fairness of tax system): I think the current tax system in Bangladesh is reasonably fair	72 (15.5%)	137 (29.5%)	107 (23.1%)	125 (26.9%)	23 (5.0%)	464 (100.0%)
SPD26 – (Tax Morale): I think it is ethically and morally wrong if I exclude some amount of income in my income tax return	31 (6.7%)	48 (10.3%)	86 (18.5%)	198 (42.7%)	101 (21.8%)	464 (100.0%)

SPD27 – (Attitude towards government spending): It is fair not to pay tax if the government doesn't properly spend public money	48 (10.3%)	80 (17.2%)	97 (20.9%)	132 (28.4%)	107 (23.1%)	464 (100.0%)
SPD28 – (Social Culture and Norms): I think the social culture and norms in Bangladesh motivates the taxpayers in paying tax	90 (19.4%)	153 (33.0%)	93 (20.0%)	107 (23.1%)	21 (4.5%)	464 (100.0%)

The tables reveal that 78.0% of respondents believe that they have a positive attitude towards paying taxes, followed by 11.0% of respondents who disagreed with the fact. On the other hand, around 11.0% were neutral in this case. Under such circumstances, considering mean value and frequency analysis it can be concluded that attitude towards taxes has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.

The majority of the respondents (41.3%) agreed with the fact that they feel stress to avoid income tax. 38.0% disagree with the fact and 20.7% were neutral in this case. Considering the mean value and frequency analysis it can be assumed that stress has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.

Similarly, 55.2% of respondents disagree with the fact that it is tough to get the opportunity to hide taxable income and evade tax in Bangladesh. This has led the study to assume that perceived opportunity for evasion has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant. On the other

hand, 60.6% of respondents agreed with the fact regarding their payment of a fair share of the tax burden. This result supports the assumption that the perceived tax burden has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.

39.4% of respondents agreed with the fact that they are influenced to pay the correct amount of income tax by their friends and family members. Around 34.5% disagreed with the fact while 26.1% were neutral in this case. Under such circumstances, considering mean value and frequency analysis it can be assumed that peer influence has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant. 63.6% of respondents believe that tax evasion is a great sin which tends to assume in this study that religious belief has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant. 45.0% of respondents disagreed with the fact that the current tax system in Bangladesh is reasonably fair. It has led the study to assume that the perceived fairness of the tax system has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.

Moreover, with 64.5% of respondents support it has been found that tax morale has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant. On the other hand, 51.5% of respondents think that it is fair not to pay tax if the government doesn't properly spend public money. It indicates that a positive attitude towards government spending has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant. 52.4% of respondents disagreed with the fact that the social culture and norms in Bangladesh motivate the

taxpayers in paying tax. Under such circumstances, considering mean value it can be assumed that social culture and norms have a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.

From the above tables, it has been observed that in terms of specific socio-psychological determinants, seven (attitude towards taxes, stress, perceived tax burden, peer influence, religious observance, tax morale, & attitude towards government spending) determinants have a positive influence on tax compliance behavior and three (perceived opportunity for evasion, perceived fairness of tax system & social culture and norms) determinants have a negative influence.

Table 5.14 reveals an overall assessment based on gender. Table 5.14 has revealed that both the male and female respondents have expressed similarly in both the specific and overall nature of the determinants.

Table – 5.14 Socio-Psychological Factors / Determinants: Overall Assessment based on Gender

Determinants	Male		Female		Total		Remarks
	N	Mean	N	Mean	N	Mean	
Attitude towards Tax	387	3.9483	77	3.9091	464	3.9418	Pos. determinant for both male and female
Stress	387	3.0129	77	3.1169	464	3.0302	Positive determinant for both male and female
Opportunity to Evade	387	2.5426	77	2.4545	464	2.5280	Neg. determinant for both male and female
Perceived Tax Burden	387	3.5917	77	3.5065	464	3.5776	Positive determinant for both male and female
Peer Influence	387	3.0129	77	3.2468	464	3.0517	Positive determinant for both male and female

Religious Belief	387	3.6408	77	3.7662	464	3.6616	Positive determinant for both male and female
Perceived Fairness of Tax System	387	2.7339	77	2.9091	464	2.7629	Negative determinant for both male and female
Tax Morale	387	3.6434	77	3.5325	464	3.6250	Positive determinant for both male and female
Positive attitudes towards Government Spending	387	3.3824	77	3.2857	464	3.3664	Positive determinant for both male and female
Social Culture and Norms	387	2.6176	77	2.5325	464	2.6034	Neg. determinant for both male and female
Socio-Psychological Determinants	387	3.2127	77	3.2260	464	3.2149	Positive determinant for both male and female

5.7.4 Nature of Influence of the Individual Factors / Determinants: Descriptive Statistics

The nature of the influence of the individual determinants on the tax compliance behavior of the respondents is presented in Table 5.15 and 5.16.

Table – 5.15 Individual Factors / Determinants: Descriptive Statistics

	Mean	Median	Mode	Std. Deviation	Remarks
SPD29 – (Personal financial condition): I don't try to pay less taxes when I suffer from personal fin. problems	3.3190	4.0000	4.00	1.17827	Positive determinant
SPD30 – (Tax Knowledge): I have clear idea of calculating income tax, tax rebates and investment allowances	3.1616	3.0000	4.00	1.25124	Positive determinant
SPD31 – (Tax Planning): I always do proper tax planning to take the full advantages of tax exemption and rebates to reduce my income tax	3.3815	4.0000	4.00	1.08741	Positive determinant

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SPD32 – (Multiple Payment of Taxes): The burden of multiple taxes does not influence me to hide some of my income	2.9138	3.0000	3.00	1.11203	Negative determinant
SPD33 – (Probability of Detection): "I believe that the probabilities of being detected by the NBR for not declaring the exact income is low"	3.1767	3.0000	3.00	1.02402	Positive determinant
SPD34 – (Guilty Feeling): I will feel guilty for excluding some of my income in the income tax return	3.7737	4.0000	4.00	1.02795	Positive determinant

The tables reveal that among 464 respondents, 248 respondents (53.4%) put their tick in "agree" and "strongly agree" accepting the fact that they don't try to pay less taxes when they suffer from personal financial problems. 27.4% of respondents disagreed and 19.2% were neutral in this case. Under such circumstances, considering measures of central tendencies value and frequency distribution it can be assumed that personal financial constraint *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

Table – 5.16 Individual Factors / Determinants: Frequency Analysis

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
SPD29 – (Personal Financial Management): I don't try to pay less taxes when I suffer from personal financial problems	39 (8.4%)	88 (19.0%)	89 (19.2%)	182 (39.2%)	66 (14.2%)	464 (100.0%)
SPD30 – (Tax Knowledge): I have clear idea of calculating income tax, tax rebates and investment allowances	48 (10.3%)	115 (24.8%)	87 (18.8%)	142 (30.6%)	72 (15.5%)	464 (100.0%)
SPD31 – (Tax Planning): I always do proper tax planning to take the full advantages of tax exemption and rebates to reduce my income tax	23 (5.0%)	81 (17.5%)	125 (26.9%)	166 (35.8%)	69 (14.9%)	464 (100.0%)

SPD32 – (Multiple Payment of Taxes): The burden of multiple taxes does not influence me to hide some of my income	52 (11.2%)	121 (26.1%)	137 (29.5%)	123 (26.5%)	31 (6.7%)	464 (100.0%)
SPD33 – (Probability of Detection): "I believe that the probabilities of being detected by the NBR for not declaring the exact income is low"	27 (5.8%)	87 (18.8%)	168 (36.2%)	141 (30.4%)	41 (8.8%)	464 (100.0%)
SPD34 – (Guilty Feeling): I will feel guilty for excluding some of my income in the income tax return	18 (3.9%)	37 (8.0%)	90 (19.4%)	206 (44.4%)	113 (24.4%)	464 (100.0%)

In the case of tax knowledge, among 464 respondents, 46.1% put their tick in "agree" and "strongly agree" accepting the fact that they have a clear idea of calculating income tax, tax rebates, and investment allowances. On the contrary, 35.1% responded with disagreement, 18.8% were neutral in this case. Considering measures of central tendencies and frequency analysis, it can be assumed that tax knowledge *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

Considering measures of central tendencies value and frequency analysis, it has been observed that tax planning *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.* In this case, 46.1% of respondents agreed with this fact, whereas 22.5% responded with disagreement 26.9% were neutral.

From Table 5.15 and 5.16, it has been observed that the influence of multiple payments of taxes is negative on tax compliance behavior. Among 464 respondents, 154

respondents (33.2%) put their tick in "agree" and "strongly agree", whereas 173 respondents (37.3%) responded with "disagree" and "strongly disagree". 137 respondents (29.5%) were neutral in this case.

39.2% of respondents agreed with the fact that the probabilities of detection by the NBR for not disclosing the right amount of income is low. On the contrary, 24.6% of respondents disagreed and 36.2% were neutral in this case. Under such circumstances, considering mean value and frequency distribution it can be assumed that "probability of detection" *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

Table – 5.17 Individual Factors / Determinants: Overall Assessment based on Gender

Determinants	Male		Female		Total		Remarks
	N	Mean	N	Mean	N	Mean	
Personal Financial Mgt.	387	3.3127	77	3.3506	464	3.3190	Pos. determinant for both male and female
Tax Knowledge	387	3.1783	77	3.0779	464	3.1616	Pos. determinant for both male and female
Tax Planning	387	3.4031	77	3.2727	464	3.3815	Pos. determinant for both male and female
Multiple Taxes Burden	387	2.8889	77	3.0390	464	2.9138	Negative determinant for male, but positive determinant for female
Probabilities of being Detected	387	3.1964	77	3.0779	464	3.1767	Pos. determinant for both male and female
Guilty Feeling	387	3.7829	77	3.7273	464	3.7737	Pos. determinant for both male and female
Individual Determinants	387	3.2937	77	3.2576	464	3.2877	Pos. determinant for both male and female

On the other hand, among 464 respondents, 319 respondents (68.8%) agreed with the fact that they will feel guilty for not showing some of their taxable income for which they are supposed to pay tax. 11.9% respondent responded with "disagree" and "strongly disagree". 90 respondents (19.4%) were neutral in this case. Under such circumstances, considering measures of central tendencies value and frequency analysis it can be concluded that guilty feeling *has a positive influence on the tax compliance behavior of an individual taxpayer i.e. positive determinant.*

From the Table 5.15 and 5.16, it has been observed that in terms of specific individual determinants, five (personal financial constraint, tax knowledge, tax planning, probability of detection and guilty feeling) determinants have a positive influence on tax compliance behavior and only one (multiple payments of taxes) determinant has a negative influence. So, individual determinants mostly influence positively in the tax compliance behavior of an individual taxpayer.

Table 5.17 reveal an overall assessment based on gender. Table 5.17 has revealed that both the male and female respondents have opined in a similar manner in both the specific and overall nature of the individual determinants, except in the case of the variable 'multiple tax burden'. It has been found that 'multiple tax burden' is a negative determinant for male, but a positive determinant for female.

5.7.5 Nature of Influence of the Other Factors / Determinants: Descriptive Statistics

The nature of the influence of the other determinants on the tax compliance behavior of the respondents is presented in Table 5.18 and 5.19.

It has been found that only 12.5% of the respondents put their tick in "agree" and "strongly agree" accepting the fact that the government uses the public money properly. Most of the respondents (72%) disagreed with this fact whereas 19.2% of respondents were neutral in this regard. Under such circumstances, considering measures of central tendencies value and frequency analysis it can be assumed that 'public governance quality' *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Table – 5.18 Other Factors / Determinants: Descriptive Statistics

	Mean	Median	Mode	Std. Deviation	Remarks
OD35 – (Public Governance Quality): I think government uses the public money properly	1.9741	2.0000	1.00	1.14376	Negative determinant
OD36 – (Civic Sense of Duty): I think it is my duty to pay tax without expectation of any direct return from the government	2.9698	3.0000	4.00	1.37203	Negative determinant

Table – 5.19 Other Factors / Determinants: Frequency Analysis

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
OD35 – (Public Governance Quality): I think government uses the public money properly	217 (46.8%)	117 (25.2%)	72 (15.5%)	41 (8.8%)	17 (3.7%)	464 (100.0%)
OD36 – (Civic Sense of Duty): I think it is my duty to pay tax without expectation of any direct return from the government	96 (20.7%)	93 (20.0%)	66 (14.2%)	147 (31.7%)	62 (13.4%)	464 (100.0%)

On the other hand, 45.1% of the respondents put their tick in "agree" and "strongly agree" supporting the fact that tax should be paid without expectation of any direct return from the government. 40.7% responded with disagreement and 19.2% were

neutral in this case. Under such circumstances, considering measures of central tendencies value and frequency analysis it can be assumed that "civic sense of duty" *has a negative influence on the tax compliance behavior of an individual taxpayer i.e. negative determinant.*

Table – 5.20 Other Factors / Determinants: Overall Assessment based on Gender

Determinants	Male		Female		Total		Remarks
	N	Mean	N	Mean	N	Mean	
Public Governance Quality	387	1.9432	77	2.1299	464	1.9741	Negative determinant for both male and female
Civic Sense of Duty	387	2.9767	77	2.9351	464	2.9698	Negative determinant for both male and female
Other Determinants	387	2.4599	77	2.5325	464	2.4720	Negative determinant for both male and female

From Table 5.20, it has been observed that both the factors (public governance quality and civic sense of duty) have a negative influence on the tax compliance behavior of an individual taxpayer irrespective of their gender. So, other determinants mostly influence negatively in the tax compliance behavior of an individual taxpayer.

5.7.6 Positive & Negative Determinants based on Descriptive Statistics, before considering any Inferential Tests

The study has initially considered 36 simple variables. Based on the opinion of the respondents, 18 determinants have been found having positive influence on tax compliance behavior, leaving rest of the 18 as negative determinants. Table 5.21 presents the list of positive and negative determinants that have been identified based on their mean value, before considering any inferential tests:

Table – 5.21 Positive & Negative Determinants: Overall Assessment based on Descriptive Statistics

Sl	Positive Determinants	Sl	Negative Determinants
1	Fines & penalty	1	Income tax rate
2	Income level	2	Tax benefits
3	Future tax costs	3	Tax compliance costs
4	No unofficial costs	4	Tax incentive & rebates
5	Taxmen assistance/Tax officer's attitude	5	Audit probability
6	Tax policy reform	6	Information uncertainty
7	Attitude towards taxes	7	Service of tax authority
8	Stress	8	Complexity of IT return
9	Perceived tax burden	9	Tax law complexity
10	Peer influence	10	Documentation
11	Religious observance	11	Lack of tax awareness
12	Tax morale	12	Lack of law enforcements
13	Attitude towards government spending	13	Perceived opportunity for evasion
14	Personal financial condition	14	Perceived fairness of tax system
15	Tax knowledge	15	Social culture & Norms
16	Tax planning	16	Multiple tax payment
17	Probability of detection	17	Public governance quality
18	Guilty feeling	18	Civic sense of duty

Table 5.22 depicts the nature of the determinants based on the frequency analysis considering the agreement of the respondents, before considering any inferential tests:

Table – 5.22 Positive & Negative Determinants: Overall Assessment based on Frequency Analysis

Sl.	Determinants	Disagree (%) Negative	Neutral (%) No impact	Agree (%) Positive
1	Tax Rate	39.7	21.1	39.3
2	Penalty	18.6	10.6	70.9
3	Income Level	34.9	20.5	44.6
4	Benefits against Tax	57.9	20.9	21.1
5	Tax Compliance Costs	34.7	29.3	36.0

6	Future Tax Costs	28.1	27.4	44.6
7	Tax incentives & Rebates	36.4	30.0	33.6
8	Audit Probability	47.8	21.3	30.8
9	No Unofficial Cost	25.8	17.2	56.9
10	Information uncertainty	44.8	18.3	36.8
11	Service from tax authority	36.8	33.4	29.8
12	Complexity of IT Return	42.2	22.8	34.9
13	Tax law complexity	48.9	24.8	26.3
14	Taxmen Assistance	27.2	25.9	47.0
15	Documentation	42.5	23.9	33.6
16	Lack of tax awareness	53.3	20.5	33.7
17	Lack of law enforcements	38.6	23.1	38.3
18	Tax Policy Reform	26.7	34.3	39.0
19	Attitude towards Tax	11.0	11.0	78.0
20	Stress	38.0	20.7	41.3
21	Opportunity to Evade	55.2	19.0	25.9
22	Perceived Tax Burden	16.8	22.6	60.6
23	Peer Influence	34.5	26.1	39.4
24	Religious Observance	18.1	18.3	63.6
25	Perceived Fairness of Tax System	45.0	23.1	31.9
26	Tax Morale	17.0	18.5	64.5
27	Attitudes towards Government Spending	27.5	20.9	51.5
28	Social Culture and Norms	52.4	20.0	27.6
29	Personal Financial Condition	27.4	19.2	53.4
30	Tax Knowledge	35.1	18.8	46.1
31	Tax Planning	22.5	26.9	50.7
32	Multiple Taxes Burden	37.3	29.5	33.2
33	Probabilities of being Detected	24.6	36.2	39.2
34	Guilty Feeling	11.9	19.4	68.8
35	Public Governance Quality	72.0	15.5	12.5
36	Civic Sense of Duty	40.7	14.2	45.1

5.8 Nature of Influence of the Determinants on Tax Compliance Behavior: Findings from Inferential Statistics

Each of the research hypotheses set in the literature review section was tested using relevant inferential statistical tools. Some of these are one sample t-tests, independent samples t-tests, one-way ANOVA, factor analysis and regression analysis. The following paragraphs depict a concrete idea about this:

5.8.1 Test of Hypotheses: Outcome from One Sample t-tests

One sample t-test was conducted to test the hypotheses on independent simple variables under the five different constructs. These hypotheses are H_{1a} to H_{1g}, H_{2a} to H_{2k}, H_{3a} to H_{3j}, H_{4a} to H_{4f}, and H_{5a} to H_{5b}. The test value has been considered 3, which indicates neither positive nor negative (neutral) effect. The level of significance was set at 0.05.

Table 5.23 presents the test results of One-Sample t-Test, with mean differences, t values, degrees of freedom, and two tailed significances of these tests for the individual simple variables under the category of economic determinants.

Table 5.23 One-Sample t-Test Results, Test value = 3 [Economic Determinants]

Hypotheses	t	df	Sig. (2-tailed)	Mean Difference	Outcome
H_{1a} : Tax rate has no significant influence on tax compliance behavior	-.905	463	.366	-.04957	Not rejected
H_{1b} : Fines & penalty has no significant influence on tax compliance behavior	**13.536**	**463**	**.000**	**.74569**	**Rejected**
H_{1c} : Income level has no significant influence on tax compliance behavior	1.596	463	.111	.08621	Not rejected

H$_{1d}$: Tax benefit has no significant influence on tax compliance behavior	**-11.068**	**463**	**.000**	**-.65517**	**Rejected**
H$_{1e}$: Tax compliance cost has no significant influence on tax compliance behavior	-.948	463	.344	-.04957	Not rejected
H$_{1f}$: Future tax cost has no significant influence on tax compliance behavior	**2.682**	**463**	**.008**	**.14009**	**Rejected**
H$_{1g}$: Tax incentives & rebate have no significant influence on tax compliance behavior	-1.084	463	.279	-.05172	Not rejected

As depicted in the Table 5.23, it has been observed that the test results of One-Sample *t*-Test *reject* three null hypotheses (H$_{1b}$, H$_{1d}$, and H$_{1f}$). This indicates that fines & penalty, benefits against tax, and future tax cost has statistically significant influence on tax compliance behavior. Considering the mean value, as presented earlier in Table 5-6, corresponding to its statistical significance against the test value, the nature of the simple variables under the economic determinant is positive in case of fines & penalty and future tax costs, and negative in case of benefits against tax. On the contrary, in case of tax rate, income level, tax compliance costs, and tax incentive & rebate, the effect on tax compliance behavior has not been found statistically significant.

In case of institutional determinants, as depicted in the Table 5.24, it has been observed that the test results of One-Sample *t*-Test *reject* ten null hypotheses (H$_{2a}$ to H$_{2i}$, H$_{2k}$). This indicates that audit probability, no unofficial cost, information certainty, service of tax office, simplicity of tax return, tax law complexity, tax office assistance, documentation of accounts, tax policy reform, and lack of tax awareness programs have statistically significant influence on tax compliance behavior.

Table 5.24 One-Sample t-Test Results, Test value = 3 [Institutional Determinants]

Hypotheses	t	df	Sig. (2-tailed)	Mean Difference	Outcome
H_{2a} : Audit probability has no significant influence on tax compliance behavior	-4.626	463	.000	-.24353	Rejected
H_{2b} : No unofficial cost has no significant influence on tax compliance behavior	7.144	463	.000	.40302	Rejected
H_{2c} : Information certainty has no significant influence on tax compliance behavior	-2.453	463	.015	-.13578	Rejected
H_{2d} : Service of tax office has no significant influence on tax compliance behavior	-3.494	463	.001	-.17672	Rejected
H_{2e} : Complexity of tax return has no significant influence on tax compliance behavior	-2.300	463	.022	-.11853	Rejected
H_{2f} : Tax law complexity has no significant influence on tax compliance behavior	-6.429	463	.000	-.33621	Rejected
H_{2g} : Harassments by tax office has no significant influence on tax compliance behavior	3.544	463	.000	.18966	Rejected
H_{2h} : Documentation of accounts has no significant influence on tax compliance behavior	-2.702	463	.007	-.13578	Rejected
H_{2i} : Lack of Tax awareness program has no significant influence on tax compliance behavior	-3.869	463	.000	-.20474	Rejected
H_{2j} : Lack of law enforcements has no significant influence on tax compliance behavior	-1.730	463	.084	-.10129	Not Rejected
H_{2k} : Tax policy reform has no significant influence on tax compliance behavior	2.764	463	.006	.13578	Rejected

Considering the mean value, as presented earlier in Table 5-9, corresponding to its statistical significance against the test value, the nature of the simple variables under the institutional determinant is positive in case of no unofficial cost, tax officer's

attitude, and tax policy reform. The effect is negative in case of audit probability, information uncertainty, service from tax office, complexity of IT return, tax law complexity, documentation, and lack of tax awareness program. On the contrary, in case of only one variable (lack of law enforcements), its effect on tax compliance behavior has not been found statistically significant.

Table 5.25 One-Sample t-Test Results, Test value = 3 [Socio-Psy. Determinants]

Hypotheses	t	df	Sig. (2-tailed)	Mean Difference	Outcome
H$_{3a}$: Attitude towards taxes has no significant influence on tax compliance behavior	**19.417**	**463**	**.000**	**.94181**	**Rejected**
H$_{3b}$: Stress & Equity has no significant influence on tax compliance behavior	.529	463	.597	.03017	Not rejected
H$_{3c}$: Perceived opportunity for evasion has no significant influence on tax compliance behavior	**-8.224**	**463**	**.000**	**-.47198**	**Rejected**
H$_{3d}$: Perceived tax burden has no significant influence on tax compliance behavior	**11.958**	**463**	**.000**	**.57759**	**Rejected**
H$_{3e}$: Peer influence has no significant influence on tax compliance behavior	.944	463	.346	.05172	Not rejected
H$_{3f}$: Religious observance has no significant influence on tax compliance behavior	**11.975**	**463**	**.000**	**.66164**	**Rejected**
H$_{3g}$: Perceived fairness of tax system has no significant influence on tax compliance behavior	**-4.428**	**463**	**.000**	**-.23707**	**Rejected**
H$_{3h}$: Tax morale has no significant influence on tax compliance behavior	**11.899**	**463**	**.000**	**.62500**	**Rejected**
H$_{3i}$: Perception on government spending has no significant influence on tax compliance behavior	**6.121**	**463**	**.000**	**.36638**	**Rejected**
H$_{3j}$: Social norms & culture has no significant influence on tax compliance behavior	**-7.317**	**463**	**.000**	**-.39655**	**Rejected**

In case of socio-psychological determinants, as depicted in the Table 5.25, it has been observed that the test results of One-Sample t-Test *reject* eight null hypotheses (H_{3a}, H_{3c}, H_{3d}, H_{3f} to H_{3j}). This indicates that attitude towards taxes, perceived opportunity for evasion, perceived tax burden, religious observance, tax morale, perception on government spending, and social norms & culture have statistically significant influence on tax compliance behavior.

Considering the mean value, as presented earlier in Table 5-12, corresponding to its statistical significance against the test value, the nature of the simple variables under the socio-psychological determinant is positive in case of attitude toward taxes, perceived tax burden, religious observance, tax morale, and attitude towards government spending. The effect is negative in case of perceived opportunity for evasion, perceived fairness of tax system, and social culture & norms. On the contrary, in case of two variables (stress & equity, and peer influence), the effect on tax compliance behavior has not been found statistically significant.

In case of individual determinants, as depicted in the Table 5.26, it has been observed that the test results of One-Sample t-Test *reject* five null hypotheses (H_{3a}, H_{3b}, H_{3c}, $H_{3e,}$ and H_{3f}). This indicates that personal financial condition, tax knowledge, tax planning, probability of detection, and guilty feeling have statistically significant influence on tax compliance behavior.

Table 5.26 One-Sample t-Test Results, Test value = 3 [Individual Determinants]

Hypotheses	t	df	Sig. (2-tailed)	Mean Difference	Outcome
H$_{4a}$: Personal financial condition has no significant influence on tax compliance behavior	**5.831**	**463**	**.000**	**.31897**	**Rejected**
H$_{4b}$: Tax knowledge has no significant influence on tax compliance behavior	**2.783**	**463**	**.006**	**.16164**	**Rejected**
H$_{4c}$: Tax planning has no significant influence on tax compliance behavior	**7.556**	**463**	**.000**	**.38147**	**Rejected**
H$_{4d}$: Multiple payment of taxes has no significant influence on tax compliance behavior	-1.670	463	.096	-.08621	Not Rejected
H$_{4e}$: Probability of detection has no significant influence on tax compliance behavior	**3.717**	**463**	**.000**	**.17672**	**Rejected**
H$_{4f}$: Guilty feeling has no significant influence on tax compliance behavior	**16.213**	**463**	**.000**	**.77371**	**Rejected**

Considering the mean value, as presented earlier in Table 5-15, corresponding to its statistical significance against the test value, the nature of all these five simple variables under the individual determinant is found positive. On the contrary, only in case of one variable (multiple tax payment), the effect on tax compliance behavior has not been found statistically significant.

In case of other non-economic determinants, as depicted in the Table 5.27, it has been observed that the test results of One-Sample *t*-Test *reject* one null hypotheses (H$_{5a}$). This indicates that public governance quality has statistically significant influence on tax compliance behavior, which has been found negative. On the contrary, in case of one variable (civic sense of duty), the effect on tax compliance behavior has not been found statistically significant.

Table 5.27 One-Sample t-Test Results, Test value = 3 [Other Non-economic Determinants]

Hypotheses	t	df	Sig. (2-tailed)	Mean Difference	Outcome
H$_{5a}$: Public governance quality has no significant influence on tax compliance behavior	-19.320	463	.000	-1.02586	Rejected
H$_{5b}$: Civic sense of duty has no significant influence on tax compliance behavior	-.474	463	.636	-.03017	Not rejected

Table 5.28 Combination of the findings from descriptive statistics and One-Sample t-Test Results

Constructs	Statistically significant Positive Determinants	Statistically significant Negative Determinants	Not Statistically significant effect
Economic Determinants	• Fines & Penalty • Future Tax costs	• Benefits against tax	• Tax rate • Income level • Tax compliance costs • Tax incentive & rebate
Institutional Determinants	• No unofficial cost • Tax officer's attitude • Tax policy reform	• Audit probability • Information uncertainty • Service from tax authority • Complexity of IT return • Tax law complexity • Documentation • Lack of tax awareness program	• Lack of law enforcements
Socio-Psychological Determinants	• Attitude toward taxes • Perceived tax burden • Religious observance • Tax morale • Attitude towards government spending	• Perceived opportunity for evasion • Perceived fairness of tax system • Social culture & norms.	• Stress & equity • Peer influence
Individual Determinants	• Personal financial condition • Tax knowledge • Tax planning • Probability of detection • Guilty feeling		• Multiple tax payment
Other Non-economic Determinants		• Public governance quality	• Civic sense of duty

Table 5.28 presents a summary after combing the findings from descriptive statistics and one sample t-tests. Among 36 individual simple variables under five constructs, 15 variables were found to be as positive determinants and 12 variables were found to be as negative determinants with statistical significance at the level of 0.05. Nine variables are not be considered as their effect was not statistically significant.

5.8.2 Test of Hypotheses: Outcome from Independent Sample t-tests

Independent sample t-test was conducted to test the hypotheses (H_6, H_7, and H_8) set on three moderating variables (gender, tax training/knowledge and tax lawyer's assistance), to see whether there is a statistically significant difference between the means in two unrelated groups. The degree of influence has been set at the 0.05 level of significance. The outcomes against the relevant hypotheses set in the literature review section are as follows:

H_6: Gender has no effect on tax compliance behavior

Table 5.29 presents the test results of Independent Sample *t*-Test, with mean differences, *t* values, degrees of freedom, and two tailed significances of these tests between gender and tax compliance: Since the value of Levene's test is larger than 0.05 (p = 0.875), it is assumed that there is no difference between both variables (equal variance assumed). Considering the SPSS output, it can be concluded that since p(0.395) >.05 is greater than the significance level $\alpha = 0.05$, the null hypothesis cannot be rejected, and conclude that the tax compliance behavior of an individual taxpayer is not influenced by their gender.

Table – 5.29 SPSS Output: Independent Sample t-test with Gender

	Group Statistics				
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Tax Compliance	Male	387	3.0027	.57020	.02898
	Female	77	3.0635	.58731	.06693

	Independent Samples Test							
		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Tax Compliance	Equal variances assumed	.025	.875	-.851	462	.395	-.06083	.07151
	Equal variances not assumed			-.834	106.442	.406	-.06083	.07294

H_7: *Having training on tax / prior tax knowledge has no effect on tax compliance behavior*

Table 5.30 depicts the output of the independent sample t-test between tax training/knowledge and tax compliance. Since the value of Levene's test is larger than 0.05 (p = 0.234), it is assumed that there is no difference between both variables (equal variance assumed). Considering the SPSS output, it can be concluded that since p (0.002) < .005 is less than the significance level $\alpha = 0.05$, the null hypothesis can be rejected, and conclude that the tax compliance behavior of an individual taxpayer is significantly influenced by prior tax knowledge/training.

It can be concluded that the tax compliance level is higher in case of the individual taxpayers having prior tax training/knowledge.

Table – 5.30 SPSS Output: Independent Sample t test with Tax Training

	Tax Training	N	Mean	Std. Deviation	Std. Error Mean

<table>
<tr><td colspan="6" align="center">Group Statistics</td></tr>
<tr><td></td><td>Tax Training</td><td>N</td><td>Mean</td><td>Std. Deviation</td><td>Std. Error Mean</td></tr>
<tr><td rowspan="2">Tax Compliance</td><td>Yes</td><td>147</td><td>3.1340</td><td>.60064</td><td>.04954</td></tr>
<tr><td>No</td><td>317</td><td>2.9566</td><td>.55152</td><td>.03098</td></tr>
</table>

<table>
<tr><td colspan="9" align="center">Independent Samples Test</td></tr>
<tr><td></td><td></td><td colspan="2">Levene's Test for Equality of Variances</td><td colspan="5">t-test for Equality of Means</td></tr>
<tr><td></td><td></td><td>F</td><td>Sig.</td><td>t</td><td>df</td><td>Sig. (2-tailed)</td><td>Mean Difference</td><td>Std. Error Difference</td></tr>
<tr><td rowspan="2">Tax Compliance</td><td>Equal variances assumed</td><td>1.421</td><td>.234</td><td>3.133</td><td>462</td><td>.002</td><td>.17740</td><td>.05663</td></tr>
<tr><td>Equal variances not assumed</td><td></td><td></td><td>3.036</td><td>263.849</td><td>.003</td><td>.17740</td><td>.05843</td></tr>
</table>

H₈: Assistance of tax lawyer has no effect on tax compliance behavior

Table 5.31 depicts the output of the independent sample t-test between tax lawyer's assistance and tax compliance. Since the value of Levene's test is larger than 0.05 (p = 0.112), it is assumed that there is no difference between both variables (equal variance assumed). Considering the SPSS output, it can be concluded that since p(0.028) < .005 is less than the significance level $\alpha = 0.05$, the null hypothesis is rejected, and conclude that the tax compliance behavior of an individual taxpayer is significantly influenced by the use of tax lawyer in income tax return submission process.

It can be concluded that the tax compliance level is higher in the case of the individual taxpayers submitting their income tax return personally rather than using tax lawyer in this regard.

Table – 5.31 SPSS Output: Independent Sample t-test with Tax Lawyer Assistance

Group Statistics					
	Return Submission	N	Mean	Std. Deviation	Std. Error Mean
Tax Compliance	Personally	239	3.0694	.54713	.03539
	Through tax lawyer	225	2.9527	.59435	.03962

Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Tax Compliance	Equal variances assumed	2.541	.112	2.203	462	.028	.11675	.05299
	Equal variances not assumed			2.197	452.761	.028	.11675	.05313

5.8.3 Test of Hypotheses: Outcome from One-way ANOVA

One-way ANOVA tests have been conducted to test the hypotheses (H_9 to H_{14}) set on six moderating variables (income tax rate, level of education, average monthly income, sources of income, age and occupation) to see whether there is a statistically significant difference between the means of unrelated groups. The degree of influence has been set at the 0.05 level of significance. The outcomes against these hypotheses testing are as follows:

H_9: There is no difference in level of tax compliance among individual taxpayers in terms of their income tax rate.

H_{10}: There is no difference in level of tax compliance among individual taxpayers in terms of their level of education.

H_{11}: There is no difference in level of tax compliance among individual taxpayers in terms of their average monthly income.

Considering the SPSS ANOVA output from Table 5.32, it can be concluded that since p is greater than the significance level $\alpha = 0.05$, the null hypotheses H_9, H_{10}, and H_{11} cannot be rejected, and the tax compliance behavior of an individual taxpayer is not significantly different in terms of different age groups, level of education and average monthly income.

Table – 5.32 SPSS Output: One-way ANOVA

ANOVA						
DV	Tax compliance					
		Sum of Squares	df	Mean Square	F	Sig.
Income Tax Rate	Between Groups	1.711	4	.428	1.307	.266
	Within Groups	150.241	459	.327		
	Total	151.952	463			
Average Monthly Income	Between Groups	.239	3	.080	.242	.867
	Within Groups	151.713	460	.330		
	Total	151.952	463			
Sources of Income	Between Groups	6.550	4	1.638	5.169	.000
	Within Groups	145.402	459	.317		
	Total	151.952	463			
Age	Between Groups	8.523	4	2.131	6.819	.000
	Within Groups	143.429	459	.312		
	Total	151.952	463			
Occupation	Between Groups	11.426	3	3.809	12.467	.000
	Within Groups	140.526	460	.305		
	Total	151.952	463			
Level of Education	Between Groups	2.886	5	.577	1.774	.117
	Within Groups	149.066	458	.325		
	Total	151.952	463			

H_{12}: There is no difference in level of tax compliance among individual taxpayers in terms of their sources of income.

H_{13}: There is no difference in level of tax compliance among individual taxpayers in terms of their age.

H_{14}: There is no difference in level of tax compliance among individual taxpayers in terms of their occupation.

Considering the SPSS output from Table 5.32, it can be concluded that since *p* is less than the significance level $\alpha = 0.05$, the null hypotheses can be rejected for H_{12}, H_{13}, and H_{14}, and the tax compliance behavior of an individual taxpayer is significantly different in terms of their sources of income, age, and occupation. It indicates their influence on tax compliance behavior.

Table 5.33 depicts the summary of descriptive statistic in terms of age, occupation, and sources of income. According to age, it has been observed that the level of compliance is maximum in case of senior citizens and the level of compliance increases with the age of the individual taxpayer. In terms of occupation, the level of compliance has been found slightly higher among businessmen, followed by the government and private service holders. In the similar manner, individual tax payers, showing business income as the main source of income, have been found more compliant than the salaried employees.

Table – 5.33 Tax compliance in respect of Age, Occupation and Sources of Income

Tax compliance in respect of Age

Tax compliance

Age	N	Mean	SD
26-35	289	2.9249	.54682
36-45	120	3.0813	.56721
46-55	34	3.2627	.64246
56-65	19	3.4253	.52720
>65	2	3.4433	.63640
Total	464	3.0128	.57288

Tax compliance in respect of Occupation

Tax compliance

Occupation	N	Mean	Std. Deviation
Govt. Service	68	3.1555	.55346
Private Service	326	2.9398	.53666
Business	55	3.3601	.62247
Others	15	2.6791	.62560
Total	464	3.0128	.57288

Tax compliance in respect of Sources of Income

Tax compliance

Sources of Income	N	Mean	Std. Deviation
Salary	378	2.9859	.54246
House Property	14	2.8338	.55234
Agriculture	1	3.5200	.
Business and Profession	62	3.2688	.65180
Other sources	9	2.6037	.75697
Total	464	3.0128	.57288

5.9 Determinants on Tax Compliance Behavior: Findings from Exploratory Factor Analysis (EFA)

Factor analysis is a tool of summarizing the collected data to interpret the relationships and patterns among multiple observed variables in an understandable and meaningful manner. According to Yong and Pearce (2013, p. 79), "It is normally used to regroup variables into a limited set of clusters based on shared variance". Since its inception by Spearman (1904), Exploratory Factor Analysis (EFA) has rapidly become a useful tool in the assessment of theories and substantiation of dimension mechanisms (Izquierdo, Olea, & Abad, 2014). Reviews of the literature reveal the use of multiple techniques and options available to proceed several steps in conducting an EFA, which has led the researchers to be careful to consider evidence-based methodological decisions (Chan & Idris, 2017; Henson & Roberts, 2006; Lloret et al., 2014).
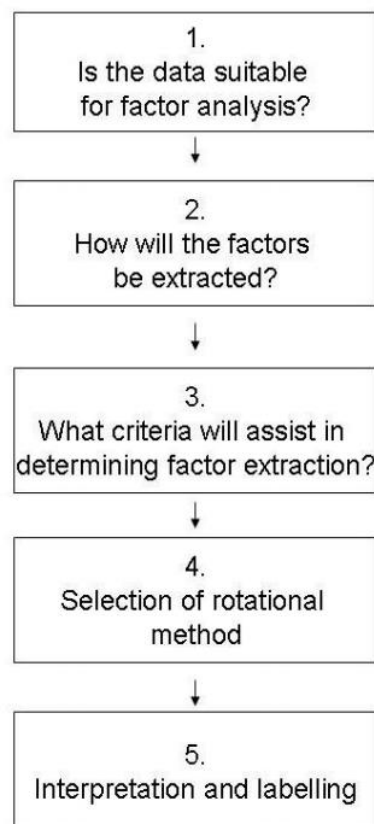

Figure 5.2. The 5-step Exploratory Factor Analysis Protocol (Williams, Onsman & Brown, 2010; p. 4)

On the contrary, inappropriate decisions in EFA can produce misleading findings that may affect the ultimate objective of the study (Bandalos & Gerstner, 2016). In this study, the intention to do the EFA was to discover the number of relevant determinants influencing the tax compliance behavior of the individual taxpayers under different meaningful factor categories. As shown in Figure 5.2, the Five-Step EFA protocol (Williams, Onsman & Brown, 2010) has been followed to conduct the EFA in this study.

Step – 1: Data suitability for factor analysis

Sample Size:

Appropriate sample size selection is vital to ensure the reliability of factor analysis (Field, 2018). As regards the suitable sample size for factor analysis, different views and rules of thumb are found in the literature:

Table – 5.34 Recommended sample size for EFA

Study	Recommended sample size for EFA
Comrey & Lee, 1992	"100 - poor, 200 - fair, 300 - good, 500 - very good, and 1000 or more – excellent"
Hair, et al., 2010	"Sample size should be 100 or greater"
Tabachnick & Fidell, 2012	"At least 300"
Field, 2018	"300 or more"

Since the sample size for this study is 464, it may be assumed that the study considered an adequate sample size to conduct a meaningful EFA.

Sample to Variable Ratio (N:*p* ratio)

Kass & Tinsley (1979) specified that EFA test parameters tend to be stable irrespective of the sample to variable ratio. On the other hand, as a general rule, Hair et al (2010) recommended 5: 1 as the 'minimum' sample to variable ratio and 10:1 as 'more acceptable'. In this study, N:*p* ratio is around 13:1 which is adequate to conduct a meaningful EFA. Exploratory Factor Analysis generally works better with a comparatively larger sample size as it diminishes the error in data (Yong & Pearce, 2013).

Factorability of the correlation matrix

From the statistical standpoint, some empirical measures have been considered to evaluate the correlation matrix of data to ensure its suitability for conducting the factor analysis:

➢ According to Hair et al., (2010), a substantial number of correlations should be high enough (greater than 0.30), as well as not too high (more than 0.70) to conduct an EFA appropriately. After the visual inspection of the correlation matrix, it has been observed that many coefficients have values of 0.3 and above. Moreover, there is no value found above 0.7 that indicates too much correlation among the variables. According to the advice of Field (2018), an additional test has been performed considering the determinant of the correlation matrix (R-matrix) to check the status of multicollinearity or singularity. In this study, the determinant of the R-matrix is 0.001 which is greater than the benchmark value 0.00001. Moreover, the issue of multicollinearity has also been checked using the variance inflating factor (VIF) and tolerance. According to the result presented in Table 5.16, the data is free from multicollinearity. So, it can be assumed that the data is

free from the problems of multicollinearity or singularity, hence it fits the suitability for EFA.

➢ Another technique of measuring the appropriateness of EFA inspects the entire correlation matrix. If the variables in the correlation matrix possess no correlation, it will be considered as an identity matrix. "The Bartlett's Test of Sphericity" is a popular tool to check whether the correlation matrix is significantly dissimilar from an identity matrix (Hair et al., 2010). In this test, the most desirable result is found with a large value of the test statistics for sphericity and a small significance level (Hair et al, 2010). In this study, the Bartlett's Test of Sphericity was found as 3036.098, significant at $P < 0.001$ which, as mentioned by Hair et al. (2010), "provides the statistical significance that the correlation matrix has significant correlations among at least some of the variables". It justifies the application of EFA for this study.

Table – 5.35 Value of KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.852
Bartlett's Test of Sphericity	Approx. Chi-Square	3036.098
	df	378
	Sig.	.000

➢ The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is another measure to compute the degree of inter-correlations among the variables (Kaiser, 1974). The KMO statistic is used to identify the appropriateness of the EFA that ranges between 0 and 1. Overall KMO statistics ≥.70 are anticipated (Hoelzle & Meyer, 2013; Lloret et al., 2017), but values less than .50 are generally considered undesirable (Kaiser, 1974; Hair et al., 2010). According to Kaiser (1974), "the measure can be interpreted with the following guidelines:

0.80 or above, meritorious; 0.70 or above, middling; 0.60 or above, mediocre; 0.50 or above, miserable; and below 0.50, unacceptable". In this study, the KMO value is 0.852 that falls in the benchmark "meritorious" and is a reflection of the appropriateness of the data for EFA.

Step – 2: Selecting the Factor Extraction Method

Generally, several ways are found to extract the factors (Williams et al., 2010): "Principal components analysis, (PCA), principal axis factoring (PAF), image factoring, maximum likelihood, alpha factoring, and canonical". Among these methods, PCA and PAF are most commonly used in literature. Where the number of variables is 30 or more, having high reliability, the differences are found insignificant among these two methods. Generally, the PCA method is used as default in most statistical programs (Thompson, 2004). This study has used the PCA method to conduct the EFA.

Step 3: Criteria used in determining number of factor extraction

In order to estimate the desired number of factors to be retained, the majority of the studies use multiple decision rules (Horn, 1965; Thompson & Daniel, 1996; Hair, et al., 2010; Baglin, 2014). In this regard, the study used two criteria: (1) Kaiser's criteria (eigenvalue > 1 rule), and (2) Scree Plot. Kaiser (1960) recommended retaining all factors with eigenvalues greater than 1. In the case of a sample size greater than 200, a scree plot may also be used to determine the number of factors to be extracted (Cattell, 1966; Field, 2018). Considering the correlation matrix, among 36 variables, 8 variables have been excluded from the EFA to attain the determinant of the R-matrix within the benchmark value. Appendix B (Table 1) reveals that the communalities of the retained items are greater than the minimum benchmark value (0.30) (Hair et al, 2010;

Tabachnic & Fidell, 2012) as cited in Chan & Idris (2017). Thus, the use of EFA is also justified considering such characteristics.

Step 4: Selection of Rotational Method

To conduct an EFA, there are two common rotation techniques: orthogonal rotation and oblique rotation. Orthogonal rotation is used when it is assumed that the factors are uncorrelated and rotated 90° from each other. Two common orthogonal techniques are Quartimax and Varimax rotation. On the other hand, Oblique rotation is used when the factors are considered to be correlated and not rotated 90° from each other. Two common oblique rotation techniques are Direct Oblimin and Promax. Whatever the rotation method is used, the main objectives of EFA are to offer an easier understanding of results through generating a more acceptable solution (Hair et al, 2010; Tabachnic & Fidell, 2012; Field, 2018). The study used the Oblique rotation method (Promax) for the following justifications:

> ➤ Orthogonal rotation is less realistic since factors generally are correlated with each other to some extent. (Costello & Osborne, 2005).
> ➤ In EFA, Oblique rotation should always be preferred unless a strong justification can be made to assume that the factors are uncorrelated (Matsunaga, 2010; Beavers et al., 2013; Gaskin & Happell, 2014).
> ➤ "By default, oblique rotation methods should be chosen as most factors in a multidimensional scale will share some degree of relationship. Orthogonal rotation should only be used when there is a strong justification to assume no relationship between factors." – (Baglin, 2014).

> ➢ Promax method is convenient because of its speed in larger datasets. Gorsuch (1983) suggested that "it involves raising the loadings to a power of four which ultimately results in greater correlations among the factors and achieves a simple structure" as cited in Young & Pearce (2013).

Step 5: Interpretation

The study has considered the Likert scale and initial screening has been done to adopt the studied dataset that is free from univariate outliers. The minimum requirement of data has been met with a final sample size of 464 and 13:1 sample to variable ratio. Initially, the factorability of all the 36 variables has been examined and to have the determinant of the correlation matrix more than the minimum desired value (0.00001), 8 variables have been excluded through a trial and error method. After the deletion of these 8 variables, the determinant of the correlation matrix (0.001) has exceeded the minimum benchmark value, thus fulfilled the condition of data being free from multicollinearity.

Finally, the EFA process has been repeated with the rest 28 variables. The KMO statistics value has been computed as .852 which is significantly greater than the commonly recommended value of 0.5 and Bartlett's test of sphericity was significant ($\chi2 = 3036.098$, $p < .05$). It has also been observed that the diagonals of the anti-image correlation matrix were also all over 0.5. Finally, the communalities were all above the minimum accepted value 0.3, with further confirmation that each item shared some common variance with other items. Considering such overall indicators, EFA was considered to be suitable for all 28 items, based on a principal components exploratory factor analysis with an oblique rotation (Promax) method.

To decide how many factors to extract, (1) Kaiser's criterion (eigenvalue > 1 rule), and (2) Scree Plot have been used. Seven factors have been specified to extract based on Scree Plot findings and they explained 52.84 percent of cumulative percent of variance. According to Hair et al. (2010), in the natural sciences, the extracted factors should explain at least 95% of the variance. Whereas, in the case of social sciences, where information is often less precise, the acceptable explained variance is commonly 50 – 60% (Pett, Lackey, & Sullivan, 2003; Hair et al., 2010; as cited in Williams et al., 2010). Moreover, from the SPSS output of 'Reproduced Correlations' for the percentage of 'non-redundant residuals with absolute values greater than 0.05', it has been observed that the percentage is 35%, which is less than the maximum cut-off value 50% (Field, 2018).

After analyzing the patter matrix, of seven factors, one factor has been discarded due to poor extraction and significant cross-loading of several items. From the EFA, initially six factors have been retained before considering the reliability analysis.

Regarding reliability, Cronbach's alpha value of 0.6 or less is considered unsatisfactory (Bajpai, 2014; Malhotra & Dash, 2016). The first five factors have a reliability value of almost 0.70, which is considered as sufficient, acceptable, and satisfactory by Taber (2018), based on his findings through analysis of several studies. Factor 6 has been discarded because of its poor reliability (Cronbach's alpha 0.361).

Table 5-36 reveals that through the EFA, 22 determinants have been finally identified influencing the tax compliance behavior of an individual taxpayer in Bangladesh under five categories.

Table – 5.36 Factors Extracted through EFA

Factors	Specific Determinants	Loadings from Pattern Matrix	Cronbach's Alpha	Remarks on Factor Extraction
Factor 1 Institutional Determinants	Taxmen Assistance	.853	0.737	Retained
	No Unofficial Cost	.721		
	Complexity of IT Return	.709		
	NBR Service	.655		
	Information Uncertainty	.493		
	Documentation	.435		
Factor 2 Socio-Psychological Determinants	Opportunity to Evade	.763	0.693	Retained
	Social Culture and Norms	.663		
	Lack of Tax Awareness	.501		
	Perceived Fairness of Tax	.469		
	Public Governance Quality	.458		
Factor 3 Economic Determinants	Tax Rate	.908	0.687	Retained
	Income Level	.885		
	Benefits against Tax	.522		
Factor 4 Individual Determinants	Guilty Feeling	.734	0.692	Retained
	Tax Morale	.693		
	Religious Belief	.666		
	Attitude towards Tax	.567		
	Personal Financial Condition	.407		
Factor 5 Other Non-Economic Determinants	Tax Planning	.908	0.687	Retained
	Tax Knowledge	.885		
	Tax Law Complexity	.522		
Factor 6	Perception on Government Spending	.738	0.361	Discarded
	Probabilities of being Detected	.617		
	Audit Probability	.555		

5.10 Findings from Correlation Analysis

Table 5.37 represents the Pearson's correlation between independent variables (institutional determinants, socio-psychological determinants, economic determinants, individual determinants, and other non-economic determinants) and tax compliance as the dependent variable.

Table – 5.37 SPSS Output: Correlation Analysis

		INSTD	SCLD	ECOD	INdD	OtherD	Tax Compliance
INSTD	Pearson Correlation	1	.501**	.343**	.263**	.400**	.705**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
SPLD	Pearson Correlation	.501**	1	.498**	.259**	.393**	.759**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
ECOD	Pearson Correlation	.343**	.498**	1	.258**	.346**	.731**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
INdD	Pearson Correlation	.263**	.259**	.258**	1	.250**	.564**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
OtherD	Pearson Correlation	.400**	.393**	.346**	.250**	1	.703**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
Tax Compliance	Pearson Correlation	.705**	.759**	.731**	.564**	.703**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5.37 reveals that, the dependent variable (tax compliance) has a strong positive correlation with the institutional determinants ($r = 0.705$, $p < 0.05$), socio-cultural determinants ($r = 0.759$, $p < 0.05$), economic determinants ($r = 0.731$, $p < 0.05$), and other non-economic determinants ($r = 0.703$, $p < 0.05$). On the other hand, moderately strong correlation has been observed between the dependent variable (tax compliance) and individual determinants ($r = 0.564$, $p < 0.05$).

The result of inter-correlation among the independent variables (institutional determinants, socio-cultural determinants, economic determinants, individual determinants, and other non-economic determinants) depicts that the institutional determinants have a stronger strength of positive association with socio-cultural determinants ($r = 0.501$, $p < 0.05$) than with other determinants. Economic determinants had the highest positive association with socio-cultural determinants ($r = 0.501$, $p < 0.05$) than with other determinants. Overall, the outcome of the correlation analysis advocates that there was a fair degree of linear relationships among the determinants, and they are significantly correlated ($p < 0.05$).

5.11 Findings from Regression Analysis

Ordinal logistic regression has been used to analyze the data since both the dependent and independent variables are expressed using the Likert scale i.e. measured at the ordinal level. The analysis helped to find out the significance of the influence on the tax compliance behavior regarding the different categories of the determinants through testing hypotheses H_1, H_2, H_3, H_4, and H_5,. The findings from the results are enumerated below:

Table – 5.38 SPSS Ordinal Regression Output: Case Processing Summary

		N	Marginal Percentage
Tax Compliance	Strongly Disagree	16	3.4%
	Disagree	32	6.9%
	Neutral	94	20.3%
	Agree	221	47.6%
	Strongly Agree	101	21.8%
Valid		464	100.0%
Missing		0	
Total		464	

Table 5.38 represents the case processing summary of the SPSS ordinal regression output that depicts the proportion of cases falling at each level of the dependent variable (Tax compliance). From the model fitting information, as presented in Table 5.39, it has been observed that the model is statistically significant since p<0.05.

Table – 5.39 SPSS Ordinal Regression Output: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1213.515			
Final	1104.128	109.387	5	.000

Link function: Logit.

The 'Goodness of Fit' table (Table – 5.40) contains the Deviance and Pearson chi-square tests, which are useful for determining whether a model exhibits a good fit to the data. For the model to be valid, the model must represent the data well. Non-significant test results (p>0.001) are indicators that the model does fit very well (Field, 2018), which has been reflected in the below table. The results also suggest a good model fit.

Table – 5.40 SPSS Ordinal Regression Output: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	1869.331	1839	.306
Deviance	1102.742	1839	1.000

Link function: Logit.

In case of the ordinal logistic regression model, it is not possible to compute the same R-Square statistic as in linear regression, so three approximations are computed instead (Reddy & Alemayehu, 2015), as presented in Table – 5.41.

Table – 5.41 SPSS Ordinal Regression Output: Pseudo R-Square

Cox and Snell	.210
Nagelkerke	.227
McFadden	.090

Link function: Logit.

Comparing "Cox & Snell's measure" and "Nagelkerke's measure", it can be seen that they are reasonably similar values and represent relatively decent-sized effects, as suggested by Field (2018). On the other hand, as suggested by Eygu and Gulluce (2017), these values do not give definite results.

Table – 5.42 SPSS Ordinal Regression Output: Test of Parallel Lines[a]

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1104.128			
General	1089.916	14.212	15	.510

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

In the case of ordinal logistic regression, one of the most important assumptions is the assumption of parallel curves i.e. the relationship between each pair of outcome groups is the same. As suggested by Reddy and Alemayehu (2015, p. 163), "This is commonly referred to as the test of parallel lines because the null hypothesis states that the slope coefficients in the model are the same across response categories (and lines of the same slope are parallel). If we fail to reject the null hypothesis, we conclude that the assumption holds". Table 5.42 depicts the parallel line test ($\chi^2 = 14.212$, p = 0.510) where p>0.05, hence there is no enough evidence to reject the null hypothesis for the general model. Thus, the assumption of parallelism appears to have held for the general model.

In this model, the influence of 5 independent variables (institutional determinants, socio-psychological determinants, economic determinants, individual determinants, and other non-economic determinants) have been examined. These levels of influences are reflected in the parameter estimates table (Table - 5.44). The parameter estimates table depicts the coefficients, their standard errors, Wald test, and associated p-values

(Sig.). When the analysis results are examined as per the parameter estimates table, the significance level is considered as statistically significant for those variables, where p < 0.05.

Table – 5.43 SPSS Ordinal Regression Output: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Tax Compliance = 1.00]	1.198	.557	4.633	1	.031	.107	2.290
	[Tax Compliance = 2.00]	2.491	.537	21.507	1	.000	1.438	3.543
	[Tax Compliance = 3.00]	4.038	.552	53.546	1	.000	2.957	5.120
	[Tax Compliance = 4.00]	6.503	.600	117.496	1	.000	5.327	7.679
Location	INSTD	.504	.144	12.291	1	.000	.222	.785
	SPLD	-.163	.144	1.276	1	.259	-.444	.119
	ECOD	-.398	.112	12.569	1	.000	-.618	-.178
	INdD	1.022	.132	59.587	1	.000	.763	1.282
	OtherD	.406	.115	12.536	1	.000	.181	.631

Link function: Logit.

According to the ordinal logistic regression analysis in Table 5.43, all four categories of the threshold values calculated in the model are statistically significant as p < 0.05. Besides, when the independent variables explaining the tax compliance are examined, it was found that institutional determinants, economic determinants, individual determinants, and other non-economic determinants have a statistically significant relationship (p < 0.05) with tax compliance. Only, socio-psychological determinants failed to depict a statistically significant relationship with p = 0.259.

The findings are summarized below for each independent variable in relation to the tax compliance behavior. The following five hypotheses have been set earlier for the constructs to identify their impact on tax compliance behavior:

H₁ : Economic determinants have no significant influence on tax compliance behavior

H₂ : Institutional determinants have no significant influence on tax compliance behavior

H₃ : Socio-Psychological determinants have no significant influence on tax compliance behavior

H₄ : Individual determinants have no significant influence on tax compliance behavior

H₅ : Other non-economic determinants have no significant influence on tax compliance behavior

1. Economic determinants (b = -0.398, Wald χ^2 = 12.569, p < 0.05): Considering the SPSS Regression output from Table 5.43, it can be concluded that since p (0.000) is less than the significance level α = 0.05, the null hypotheses **H₁ is rejected**, and considering other values it can be observed that "Economic Determinants" is a statistically significant negative predictor of tax compliance i.e. **negatively affects the tax compliance behavior.**

2. Institutional determinants (b = 0.504, Wald χ^2 = 12.291, p < 0.05): Considering the SPSS Regression output from Table 5.43, it can be concluded that since p (0.000) is less than the significance level α = 0.05, the null hypotheses **H₂ is rejected**, and considering other values it can be observed that "Institutional determinants" is a statistically significant positive predictor of tax compliance i.e. **positively influences the tax compliance behavior**.

3. Socio-psychological determinants (b = -0.163, Wald χ^2 = 1.76, p > 0.05): Considering the SPSS Regression output from Table 5.43, it can be concluded that since p (0.259) is more than the significance level α = 0.05, the null hypotheses **H₃**

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is failed to be rejected. Considering the other values, it can be observed that "Socio-psychological determinants" is a negative predictor of tax compliance but failed to be statistically significant as p > 0.05 i.e. **negatively affects the tax compliance behavior which is not statistically validated.**

4. Individual determinants (b = 1.022, Wald χ^2 = 59.587, p < 0.05): Considering the SPSS Regression output from Table 5.43, it can be concluded that since p (0.000) is less than the significance level α = 0.05, the null hypotheses **H4 is rejected**, and considering other values it can be observed that "Individual determinants" is a statistically significant positive predictor of tax compliance i.e. **positively influences the tax compliance behavior.**

5. Other non-economic determinants (b = 0.406, Wald χ^2 = 12.536, p < 0.05): Considering the SPSS Regression output from Table 5.43, it can be concluded that since p (0.000) is less than the significance level α = 0.05, the null hypotheses **H5 is rejected**, and considering other values it can be observed that "Other non-economic determinants" is a statistically significant positive predictor of tax compliance i.e. **positively influences the tax compliance behavior.**

From the output of the regression analysis, it has been observed that the influence of "individual determinants" is the maximum to enhance the tax compliance behavior of an individual taxpayer, followed by institutional determinants and other non-economic determinants. As economic determinants negatively influence the tax compliance behavior, necessary reform measures may change the status.

5.12 Variables retained through Inferential Statistics and EFA

Initially the study has chosen 36 simple variables relating to the tax compliance behavior of an individual taxpayer.

Table – 5.44 Determinants of tax compliance behavior and their nature of influence (based on EFA output)

Sl	Specific determinants	Category of Determinants	Mean	Std. Deviation	Nature of Influence
1	Attitude towards Tax	Individual	3.9418	1.04482	Positive
2	Guilty Feeling	Individual	3.7737	1.02795	Positive
3	Religious Observance	Individual	3.6616	1.19020	Positive
4	Tax Morale	Individual	3.6250	1.13148	Positive
5	No Unofficial Cost	Institutional	3.4030	1.21513	Positive
6	Tax Planning	Other Non-economic	3.3815	1.08741	Positive
7	Personal Financial Condition	Individual	3.3190	1.17827	Positive
8	Taxmen Assistance/Tax officer's attitude	Institutional	3.1897	1.15281	Positive
9	Tax Knowledge	Other Non-Economic	3.1616	1.25124	Positive
10	Income Level	Economic	3.0862	1.16329	Positive
11	Tax Rate	Economic	2.9504	1.17925	Negative
12	Complexity of IT Return	Institutional	2.8815	1.11002	Negative
13	Information Uncertainty	Institutional	2.8642	1.19253	Negative
14	Documentation	Institutional	2.8642	1.08240	Negative
15	NBR Service	Institutional	2.8233	1.08942	Negative
16	Lack of Tax Awareness	Socio-psychological	2.7953	1.13984	Negative
17	Perceived Fairness of Tax System	Socio-psychological	2.7629	1.15338	Negative
18	Tax Law Complexity	Other Non-Economic	2.6638	1.12650	Negative
19	Social Culture and Norms	Socio-psychological	2.6034	1.16744	Negative
20	Opportunity to Evade	Socio-psychological	2.5280	1.23627	Negative
21	Benefits against Tax	Economic	2.3448	1.27514	Negative
22	Public Governance Quality	Socio-psychological	1.9741	1.14376	Negative

Source: Authors compilation from SPSS outputs with null value 3 (Positive $\geq$ 3; Negative $\leq$ 3)

Based on the outcome of one-sample t-tests, 27 variables were found having statistically significant influence on the tax compliance behavior of an individual taxpayer. After going through factor analysis, the study has retained 22 simple variables under five categories of complex variables / constructs. Among these 5 categories, socio-psychological category was found negatively affecting the tax compliance behavior which is not statistically validated. Since, the simple variables under this category were found statistically significant, it has been considered in the final revised model. On the other hand, two variables (income level and tax rate) under economic determinants category were not statistically validated in one sample t -test. Since the overall "economic determinants" category was found to be statistically significant, these two variables have also been considered in the final revised model. Table 5.44 presents an overall summary in this regard.

5.13 Final Revised Model based on the Survey Findings of the Study

Although the study has initially considered 36 determinants, based on the findings of the inferential statistics and exploratory factor analysis, 22 determinants under five different categories have been found to have statistically significant influence on the tax compliance behavior of an individual tax payer. In addition to these determinants, five demographic characteristics have also been found to have statistically significant influence on tax compliance behavior of an individual tax payer.

Considering such findings, a revised model can be drafted that that represents the determinants of tax compliance behavior of individual taxpayers in Bangladesh. Figure 5.3 presents the revised model:
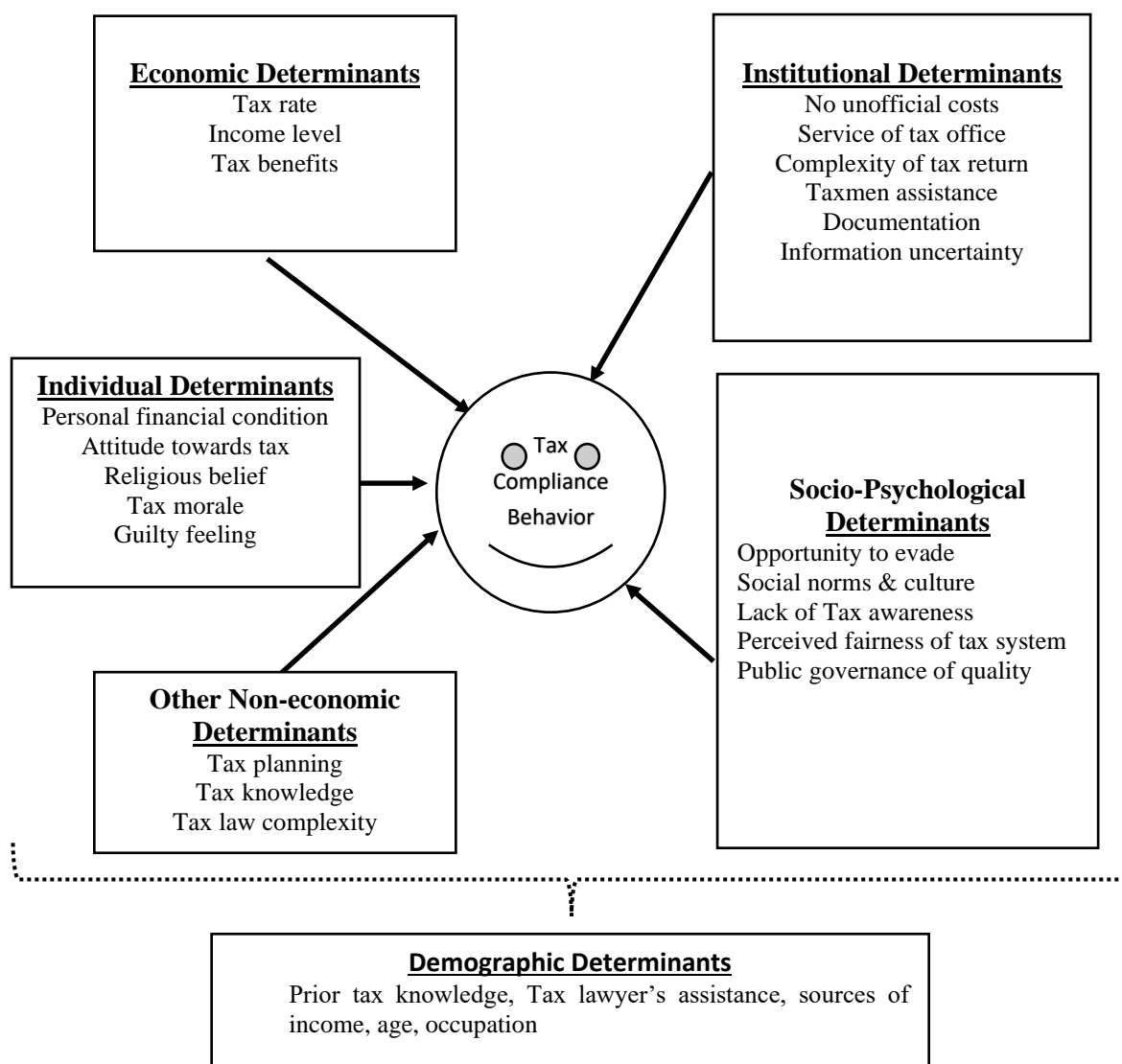
Figure 5.3. Determinants of Individual Taxpayer's Compliance Behavior in Bangladesh: Revised Model

5.14 Possible Ways of Enhancing the Level of Tax Compliance

The respondents have been asked to rate among ten possible ways of enhancing the level of tax compliance. Table 5.45 depicts the ranking of the possible measures based on descriptive statistics. All ten possible means to enhance tax compliance are ranked accordingly based on the responses from respondents. The top five of the most selected methods are 1) Strengthening Anti-Corruption Commission; 2) to establish complain & feedback cell; 3) to increase public governance quality 4) to reform tax laws and

system; and 5) to enhance the tax awareness programs. Surprisingly, ensuring stiff punishment for the evaders was in the last position highlighting the expectation of the individual taxpayers for having a fair tax system.

Table – 5.45 Ranking of the possible measures that may enhance the level of tax compliance

Steps to be taken	Mean	Median	Mode	Std. Deviation	Ranking
Strengthening Anti-Corruption Commission	4.0065	4	5	1.1525	1
Complain & Feedback Cell	3.9784	4	5	1.03271	2
Increasing Public Governance Quality	3.9612	4	5	1.08126	3
Reforming Tax Law & System	3.9138	4	4	0.97546	4
Tax Awareness Programs	3.8599	4	5	1.15896	5
Reducing IT Rate & Slabs	3.8297	4	5	1.11687	6
Scrutinizing IT Return Information	3.8276	4	4	1.03732	7
Compulsory Tax Education	3.8147	4	4	1.12507	8
Rewards for Detection	3.7435	4	5	1.20158	9
Stiff Punishment for Evaders	3.7047	4	5	1.23707	10

The feedback of the respondents reveals that strengthening Anti-Corruption Commission will reduce the corruption in the tax departments. It will encourage the taxpayers to pay the tax without fear and hassle. Moreover, there will be a message to the tax evaders that it will not be possible to manage the tax departments through undue mechanism. An effective complain & feedback cell will help the policymakers to identify the nature of the problem in tax payment system. The increase in public governance quality will motivate the taxpayers to comply with the tax laws as a symbol of good citizenship. Necessary reform measures should be taken to introduce a revised income tax code to ensure a simple and understandable income tax legal framework. It has also been observed that the respondents prefer a hassle-free tax system that will enhance the level of tax compliance. Punishment and reward for detection is the least preferred measures in this regard.

CHAPTER SIX

INTERVIEW FINDINGS

6.1 Background

This chapter presents the findings from the qualitative investigation through semi-structured interviews with some individual income taxpayers in Bangladesh. The chapter started with the composition of the interview respondents with their demographic profiles, followed by a detailed discussion of the findings relevant to the determinants of tax compliance behavior in Bangladesh. Some emerging issues related to the reasons for tax evasion and recommended reform measures are also presented. The chapter concludes with a summary of the results from this qualitative study (semi-structured interview).

6.2 Demographic Profiles of the Interview Participants

The initial motive of the semi-structured interview was to get the insight information regarding the determinants of tax compliance behavior and perception on the tax compliance issues in Bangladesh from the individual taxpayers. The interview findings helped to confirm the survey findings and revealed the missing links from the quantitative study. 13 interview participants, comprising 9 males and 4 females, voluntarily took part in the interview. The participants have been chosen from various professions, years of tax return submission, and age groups. It is expected that the differences in the participant's social and professional background would be able to provide meaningful information and views from diverse perspectives. Moreover, it is also expected that these findings could be helpful to further understand the determinants

that influence individual taxpayers in their tax compliance decision making in Bangladesh. The demographic profiles for all participants are illustrated in Table 6.1:

Table – 6.1 Demographic Profiles of Interview Participants

Sl	Professional background	Gender	Age	Years of paying income tax	Reference in the study
1	Professional Accountant (Cost & Management Accountant)	Male	64	30	Participant 1
2	Professor (Phd, Non-business Background)	Male	53	16	Participant 2
3	Environmental Scientist	Male	55	8	Participant 3
4	Chief Marketing Officer	Male	54	27	Participant 4
5	Academician, Phd and Professional Accountant (Cost & Management Accountant)	Male	41	15	Participant 5
6	Business	Male	46	19	Participant 6
7	Architect	Male	45	14	Participant 7
8	Bank Manager	Female	43	12	Participant 8
9	Income Tax Lawyer	Male	55	17	Participant 9
10	Private Service	Female	45	10	Participant 10
11	Chartered Accountant	Male	43	16	Participant 11
12	Government Employee	Male	43	7	Participant 12
13	Private Service	Female	32	2	Participant 13

6.3 Data Analysis and Interview Findings

All the respondents have been asked questions regarding the individual taxpayer's compliance in Bangladesh. The major questions were related to – reasons of income tax noncompliance and evasion in Bangladesh, factors influencing and motivating the individual taxpayers to pay income tax, factors demotivating or affecting the individual taxpayers to pay income tax, weaknesses, and strengths of current Bangladesh tax administration, and suggested recommendations that could help in increasing the level of tax compliance among individual taxpayers.

Lastly, the respondents have been requested to provide an overall comment regarding the Bangladesh Individual Income Tax System. This overall remark has also helped to get their basic perception regarding the current individual income tax structure in Bangladesh.

6.3.1 Reasons of income tax non-compliance and evasion in Bangladesh

Interview question – 1: Why most of the Bangladeshi people are not willing to pay income tax / to submit their income tax return?

The respondents have revealed several reasons answering the above question. These responses can broadly be categorized into the following four reasons:

1. *Lack of awareness:* Other than formal service holders, income earners from the informal sectors (e.g. agriculture, sole-tradership business, house owners, etc.) are mostly unaware regarding the income tax legal provision that they need to pay income tax if their total income exceeds the non-assessable limit set by the government. Moreover, most of the people are not aware that payment of tax is the symbol of good citizenship.

2. *Lack of tax knowledge/education:* In addition to being unaware of the income tax payment obligation, most of the people (especially those who have never gone through any tax-related course or training earlier) have no idea regarding the legal provisions of the Bangladesh income tax law. There are some people with misconceptions that they do not have to pay tax even though they must submit their income tax returns. Moreover, there is no opportunity to gain tax knowledge through tax education in Bangladesh. Very few business-related academic degrees have income tax-related courses in their curriculum in some universities. Therefore, most of the Bangladeshi citizens do not have any tax knowledge. So, they cannot utilize the advantage of minimizing their income tax burden through proper tax planning by taking the benefits of exemptions or rebates. Under such a situation, most of them need to hire income tax practitioner/lawyers, the number of which is also insufficient.

3. *Lack of legal actions against income tax evaders:* NBR is not capable of taking strict legal actions against those who evade tax or do not submit an income tax return. The legal actions are not severe enough to make people afraid of being non-compliant. There are also difficulties in tracing people who earn through working in the informal sector like sole-tradership business entrepreneurs, agricultural sectors, etc. Moreover, it is believed that the evaders can manage the tax office through some mechanisms.

4. *Negative attitude towards NBR and government:* Most of the people are afraid of NBR for some logical or illogical reasons. The existing taxpayers sometimes experience difficulties in income tax return submission and payment process due to insufficient cooperation or hassle from the tax officials in tax offices. Some regular taxpayers are sent notices for many reasons. There is a common perception among the people that NBR is busy to find fault with the regular taxpayers, rather to trace the tax evader. For this reason, people who are outside of the tax net, they do not want to enter into the tax payment process, or they want to prolong the entry till it is possible as they want to avoid the hassles. Some people believe that the government does not use public money properly because of corruption and inefficiency, so they have no reason to pay tax.

In addition to the above reasons, the discussion during the interviews also revealed some other reasons like corruption, misuse of public funds, not getting enough service/compensation from the government, seeing others/peers evade taxes, absence of patriotism, etc.

6.3.2 Factors influencing and motivating the individual taxpayers to pay income tax in Bangladesh

Interview question – 2: What factors influence or motivate the existing taxpayers to pay income tax / to comply with the Bangladesh income tax law?

The respondents have revealed several reasons answering the above question. These responses can broadly be categorized into the following five items:

1. *Arranging Income Tax Fair:* NBR has been arranging countrywide income tax fair for several years where the existing and potential individual taxpayers get all the income tax related services without facing any hassle. The potential taxpayers may easily get the e-TIN with the help of the concerned officers. Moreover, several booklets, manuals, and publications also help the taxpayers to have a clear idea about the income tax liability calculation and income tax return fill up and submission process. A taxpayer can easily pay tax through e-payment and different bank booths in the fair. It has encouraged the taxpayers the most to pay income tax.

2. *Making income tax return submission mandatory in certain cases:* The government has made the income tax return submission mandatory in certain cases, especially for the salaried employees who work in the private sector. So, the employees must obtain e-TIN and submit the income tax return each year. The companies are required to submit the list of employees with tax payment details each year.

3. *Fear of being penalized/harassed:* The existing taxpayers comply with the income tax legal provisions to avoid the penalty and fine that could be imposed for the failure to comply. There are certain penalty provisions available in the

Income Tax Ordinance, 1984. Moreover, the taxpayers have a perception that if any case is started against a taxpayer, they will face severe harassment.

4. *In anticipation of public services:* Since tax is the major source of government revenue in Bangladesh, by paying taxes a taxpayer can contribute to the country to ensure public services. The government can spend the money to ensure some social welfare services like free vaccination, the stipend for girl's higher education, allowance for aged and retarded people, etc.

5. *Self-motivation:* Payment of tax is the responsibility of a good citizen as it is an obligation towards the person on whom it is imposed. Moreover, tax is paid without expectation of any direct return. Payment of tax is a symbol of patriotism amongst the taxpayers.

In addition to the above factors, the discussion during the interviews also revealed some other motivating factors like the scope of getting rebates, tax planning, exempted and non-assessable incomes, etc.

6.3.3 Factors demotivating the individual taxpayers to pay income tax in Bangladesh

Interview question – 3: What factors motivate the existing taxpayers not to pay income tax / not to disclose some of their income for income tax purposes?

The respondents have revealed several reasons for demotivation while answering the above question. These responses can broadly be categorized into the following five items:

1. *High tax rate:* The taxpayers think that the existing applicable income tax rate for an individual taxpayer is comparatively higher. The high income tax creates

an extra burden in the month of paying income taxes. To avoid the next income tax rate slab, sometimes the taxpayers are inclined to hide some of their incomes.

2. *Less benefits against tax:* Almost all the respondents were unanimous in one issue that they do not get enough benefits in return against their income tax contribution. Unsatisfactory utility services, social unrest sometimes demotivate them not to disclose all their income.

3. *Opportunity to evade:* Some of the respondents believe that some of their incomes (especially which they receive in cash) are not traceable by NBR. So, they do not show those incomes in their income tax return. Moreover, some of them are inclined to hide some bank accounts, credit card details as they believe that it is not possible to trace. High-value transactions, like sale of land, apartment, etc. are also not shown with the actual price to avoid income taxes on the capital gain transaction. Lack of enforcement (e.g. audit rate, penalties, etc.) perception has also encouraged the noncompliance.

4. *No recognition from the government:* Most of the existing taxpayers do not get any special recognition / extra monetary incentive for the regular payment of income taxes (except a few who get the highest taxpayer recognition by the NBR). It creates frustration and as a result, the taxpayers get demotivated in paying their actual amount of income taxes.

5. *Negative perception regarding public governance quality:* Most of the respondents believe that none of the governments were able to ensure governance and transparency in spending the tax money in Bangladesh. This negative attitude towards the government's spending demotivates to comply properly.

In addition to the above factors, the discussion during the interviews also revealed some other demotivating factors like unfair tax administration, high tax compliance cost, misleading advises from some of the tax consultants, perception of the possibility of harassment if they show higher income or asset, lack of proper documentation, audit probability, knowledge or belief that others evade taxes, perception of NBR's limited audit capacity, the burden of paying multiple nature of taxes, etc.

6.3.4 Weaknesses and Strengths of the Current Bangladesh Tax Administration

Interview question – 4: What are the weaknesses and strengths of the current Bangladesh Tax Administration?

The respondents have spontaneously expressed their opinions regarding the weaknesses and strengths of the current Bangladesh Tax Administration i.e. NBR. The number of weaknesses was more than the strengths.

6.3.4.1 Weaknesses:

Regarding weaknesses, the following five points highlight the major findings:

1. *Lack of NBR's Capacity and its institutional weaknesses:* Most of the respondents agreed that NBR cannot perform effectively because of their limited capacity in terms of resources like the number of tax officers, the number of tax offices, tax database, etc. To handle a country of approximately 17 crore population, the current capacity is very negligible. Because of their limited capacity, NBR is not able to audit all the self-assessed tax files submitted as well as to trace the tax evaders. The following comment reflects it precisely:

"Lot of tax evaders are moving here and there. Who will trace them?

Do NBR has enough employees to take care of such a nationwide

issue?" – **Participant 11**

"People are doing online business through Facebook and other

mechanisms. How it is possible to trace them? Who will check their

accounts?" – **Participant 12**

2. *Complex tax law:* The existing income tax law (Income Tax Ordinance, 1984) is very outdated and complex to understand. Provisions related to several assessments, exemptions, and deductions are not easily understandable to the general people. Moreover, the tax and rebate calculation process is also very complex. Very few taxpayers can fill up the income tax return form without taking any help from the experts. Sometimes, special considerations for a certain group of people cause discrepancy problems among the citizens. The following comments are some examples in this regard:

"I have never gone through any tax courses or training in my life,

but I need to pay tax. How do I understand the tax law that is full

of numerous sections, subsections, schedules, etc.?" – **Participant**

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"Tax law changes every year after the budget. The language of the

law is English. How the general people will understand it easily?"

– **Participant 9**

3. *Narrow tax base:* In a country of 17 crore people, the number of taxpayers is only around two percent. Most of the eligible taxpayers are still outside the tax net. The presence of the shadow economy and cash economy has also reduced

the traceability of potential taxpayers. Moreover, the tax base has also been reduced because of the exemptions and deductions in certain cases.

> *"Many people do business in cash. Even a tiny street-side vendor sometimes earns more. How it is possible to know his income?"* -
Participant 12

4. *Manual System/process:* NBR has not yet been able to introduce full automation in the return submission process. NBR needs to rely on the information presented by an individual taxpayer through the self-assessment process, as they are not equipped with modern information system technologies to retrieve the necessary data from various related bodies. A taxpayer needs to visit the tax office or tax fair to submit the income tax return. All the files and documents are stored in the concerned tax offices which takes huge space and manpower to maintain. NBR still was not able to issue a "Digital Tax Card" to the individual taxpayers.

> *"I have to go to the tax office physically to submit my tax return, I cannot submit it through online because of complicated process"* -
Participant 8

5. *Lack of sufficient reform measures:* NBR has been taking several reform measures in recent years to modernize its tax administration. Some weak policy frameworks and inadequate enforcement mechanisms hamper the success of the reform initiatives. The majority of the respondents have the perception of corruption and incompetence in NBR, although introducing the "Annual Income Tax Fair" has significantly reduced the opportunity of being harassed. The following comment is relevant in this regard:

"Systems are corrupted. There is no level playing field for the taxpayers. Governments give the chance to legalize the "black money" to the evaders. Where is my reward for being an honest taxpayer always?" - **Participant 6**

"Income tax rates are not adjusted considering the annual inflation rate and increase in the cost of living" - **Participant 7**

In addition to the above weaknesses, the discussion during the interviews also revealed some other points like weak tax collection system, short-term focused and politically driven tax policies, complex tax refund process, inadequate taxpayer services, absence of a historical tax database, high degree of administrative fragmentation, inadequate promotional campaign for the taxpayers, no tax helpline for taxpayers etc.

6.3.4.2 Strengths:

Regarding strengths, the following two major points were highlighted by the respondents:

1. *Friendlier approach of NBR in "Income Tax Fair":* NBR arranges nationwide "Income Tax Fair" annually to facilitate the individual income taxpayers in their income tax return submission and tax payment process. Moreover, several booklets are distributed during this time that helps taxpayers with relevant information. Almost all the respondents appraised the friendliness approach of NBR in the "Income Tax Fair".

   "Income tax fair is a blessing for the taxpayers. If NBR offices can ensure the same environment throughout the year, people's age-old negative perception regarding NBR will be changed." - **Participant 6**

2. *Easy process to obtain e-TIN:* Over the years, the NBR has been continuing its efforts to digitize its services for the taxpayers. Now it is easier to have a digital e-TIN through the NBR website by following some simple steps. Since the e-TIN is synced with NID, now its not possible to get multiple TIN by an individual, that was possible in the earlier manual TIN issuing system.

> *"I was able to get my e-TIN just through a few clicks on my computer. As I remember, I had to go to a tax lawyer to get my old TIN"* – **Participant 4**

In addition to the above strengths, most of the respondents appreciated the Alternative Dispute Resolution System (ADR) for mitigating the number of pending cases within a reasonable period, and the continuous effort of NBR in taking several reform measures for the last couple of years.

6.3.5 Strategies for Enhancing Level of Tax Compliance among Individual Taxpayers in Bangladesh

Through the interview session, several weaknesses of the Bangladesh tax administration and factors demotivating the tax compliance behavior have been identified. The respondents have also been asked to recommend strategies to tackle such weaknesses and demotivating factors.

The respondents suggested various strategies in this regard. Table 6.2 depicts the suggested strategies with some relevant comments from the respondents:

Table – 6.2 Suggested strategies for enhancing the level of tax compliance among individual taxpayers in Bangladesh:

Sl.	Suggested strategies	Some relevant comments from respondents
1	Strict and fair enforcement of punitive measures against the tax evaders	The citizens must know that if they evade tax they will eventually be caught and penalized. - [**Participant 8**] If one citizen sees other people evading taxes years after years without any consequences, he may start thinking evading taxes. - [**Participant 9**]
2	Taking active initiatives to enhance taxpayer education and knowledge through introducing tax courses in relevant academic programs	I have never gone through any tax courses or training in my life, but I need to pay tax. How do I understand the tax law that is full of numerous sections, subsections, schedules, etc.? – [**Participant 7**] Tax education can help us to do good tax planning. – [**Participant 8**]
3	Reducing the income tax rates for the individual tax payer	If the current income tax rate is reduced, more people will come forward to pay income tax. - [**Participant 12**] Our highest income tax rate for an individual is 30%. This is too much. If it is reduced, more people may feel encouraged not to hide some of their income from the tax office. - [**Participant 13**]
4	Recruiting employees in NBR having tax knowledge/education	Unlike the judicial system, to get a job in an officer position under NBR, prior tax education / academic degree on tax should be made compulsory. A lawyer must have a law degree, a doctor must have a medical degree.......why a tax officer should not have a degree on taxation?- [**Participant 9**]

		NBR should appoint skilled manpower. It is quite surprising that through BCS and other recruitment processes, a person may become a tax officer who has no prior tax education background. How these officers can fight against the cunning tax advisors of the clients? - [**Participant 11**]
5	Ensuring fair treatment with all taxpayers	It is quite natural that the interest in paying taxes will be affected when there is no level playing field for the taxpayers. - [**Participant 10**] Sometimes governments offer the scope for legalizing "undisclosed/black money" at a lower rate. Regular honest taxpayers will obviously become frustrated and demotivated seeing such unfair government policies. - [**Participant 13**]
6	Granting visible incentives/rewards for regular taxpayers	Arrange a tax lottery for the income taxpayers, like prize bond's lottery……give the taxpayer some discount in paying several government fees, utility bills, or some other incentives…….more people will be motivated to pay tax. Those who are willing to pay tax in advance or earlier, they may be rewarded with some cashback. - [**Participant 5**] A taxpayer paying tax for 50 years, his tax can be reduced by 50% or a certain percentage of his total earlier paid income tax amount can be granted as a reward. - [**Participant 4**]
7	Reforming tax administration to make it taxpayer friendly through: (a) Taking tax awareness programs throughout the year	The tax payment process must be simplified. Tax offices should be available at the Upazilla level. Adequate smart, honest, intelligent, and trained tax

	(b) Introducing Tax Helpline for the taxpayers (c) Introducing e-filing of the income tax return and making the tax payment process easier (d) Drafting an updated and easily understandable income tax law in both Bangla and English version	officers must be recruited and made available in tax offices. - [**Participant 3**] NBR should enhance promotional campaigns through different media that may increase the taxpayer's willingness to pay income tax. - [**Participant 3**] Tax law changes every year after the budget. The language of the law is English. How the general people will understand it easily? – [**Participant 9**] The taxpayer database should be modernized and updated…….it should be synced with the NID database. All the bank accounts, investment schemes, credit cards, etc. must be automatically synced to the tax database to crosscheck the transactions and sources of income. – [**Participant 10**]
8	Ensuring fairness in spending tax money by the government	People would like to be assured that their money is being used for the right cause. - [**Participant 3**] Government employees are getting an attractive salary from the government, but they need to pay less taxes since all of their allowances (except basic salary and festival bonuses) are free from tax. But the employees working in private organizations need to pay tax for those allowances. This is one kind of discrepancy. - [**Participant 2**]

6.3.6 Discussion of Interview Results

In the previous chapter, the survey results revealed several determinants of tax compliance behavior under five different categories, namely institutional determinants, socio-psychological determinants, economic determinants, individual determinants, and other non-economic determinants. In line with the survey results, in this chapter, the opinions of the interview participants have confirmed the survey results with some inclusions of relevant determinants.

Regarding the reasons for income tax non-compliance and evasion in Bangladesh, four main reasons have been revealed by most of the respondents. These are lack of awareness, lack of tax knowledge/education, lack of legal actions against income tax evaders, and negative attitude towards the NBR and government. Some other reasons have also been highlighted by some of the respondents like corruption, misuse of public funds, not getting enough service/compensation from the government, seeing others/peers evade taxes, absence of patriotism, etc. These opinions from the interview respondents also confirm the negative determinants identified through the descriptive analysis from the survey results.

Regarding the factors influencing and motivating the individual taxpayers to pay income tax in Bangladesh, two additional administrative determinants have been identified. These are the arrangement of annual income tax fair and mandatory income tax return submission in certain cases. Unlike survey results, it has also been observed that fear of being penalized, tax planning, no unofficial cost in income tax fair, etc. are the common positive determinants of tax compliance behavior in Bangladesh.

Regarding the factors demotivating the individual taxpayers to pay income tax in Bangladesh, two additional negative determinants have been identified. These are the high tax rate and lack of recognition from the government. The other negative determinants identified through the survey results have also been confirmed by the interview participants. Moreover, the reasons for not paying income tax in Bangladesh also depict a similar outcome. In addition to the above negative determinants, reasons like unfair tax administration, high tax compliance cost, misleading advises from some of the tax consultants, perception of the possibility of harassment if they show higher income or asset, lack of proper documentation, audit probability, knowledge or belief that others evade taxes, perception of NBR's limited audit capacity, burden of paying multiple nature of taxes, etc. have been stated by the respondents. Comparing to the positive determinants, it has been observed that the presence of more negative determinants has mainly triggered the high rate of income tax non-compliance in Bangladesh.

Regarding the weaknesses and strengths of the current Bangladesh Tax Administration, most of the respondents are unanimous regarding the lack of capacity and automation in NBR. The existing tax law has been considered as very complex by the respondents. In addition to these, some other points like weak tax collection system, short-term focused and politically driven tax policies, complex tax refund process, inadequate taxpayer services, absence of a historical tax database, high degree of administrative fragmentation, inadequate promotional campaign for the taxpayers, no tax helpline for taxpayers, etc. have been stated by the respondents. Against these numerous weak points, most of the respondents have appreciated the effort of NBR to automate the e-TIN issuance process and the arrangement of annual income tax fair. These two

initiatives have motivated the taxpayers to comply with the income tax return submission process with an original e-TIN.

Finally, ensuring strict and fair punitive measures for tax evaders, educating taxpayers, reducing current income tax rates, recruiting sufficient skilled and knowledgeable taxmen, ensuring fair treatment with all taxpayers, granting visible incentives/rewards for regular taxpayers, ensuring fairness in spending tax money by the government, and reforming tax administration to make it taxpayer friendly were suggested by the respondents as strategies for enhancing the level of tax compliance in Bangladesh.

6.4 Conclusion

This chapter discussed interview results about tax compliance in Bangladesh from different perspectives: reasons of income tax noncompliance and evasion in Bangladesh, factors influencing and motivating the individual taxpayers to pay income tax, factors demotivating or affecting the individual taxpayers to pay income tax, weaknesses, and strengths of current Bangladesh tax administration, and suggested recommendations that could help in increasing the level of tax compliance among individual taxpayers. The results have helped to identify the new determinants that have not been identified through the survey results. On the weaknesses and strengths of the current Bangladesh tax administration system, the respondents have revealed more weaknesses rather than the strengths. Lastly, several reform strategies have been suggested by the respondents that could help in enhancing the level of tax compliance in Bangladesh.

CHAPTER SEVEN
CONCLUSION

7.1 Overview

This section of the study consists of a brief review of the major findings of the study. The conclusion has been drawn based on the significance of the findings from the survey outcome and interviews to relate its implications to potential users. In this regard, it has been analyzed to find out the answers to the research questions drawn in this study through the achievement of the research objectives that has been set for the study.

In this chapter, the findings have been discussed first. In this regard, the study has expanded the existing tax compliance models by incorporating some relevant determinants found to be important for Bangladesh. Moreover, it has been found in earlier studies that additional factors, other than the factors enumerated in the basic tax compliance models, may also influence the tax compliance behavior of an individual taxpayer due to the difference in country-specific parameters (Jackson & Millron, 1986; Alm, 2012; Palil, 2010; Saad, 2011; Alabede, 2012; Ching, 2013; Devos, 2014). Considering the determinants of the earlier models, together with further expansion to the A-S and Fisher's model, the parameter of this study specifically expanded the model of tax compliance behavior applicable to the individual taxpayers' in Bangladesh.

Evidence derived from the study suggests and confirms the previous findings of literature that, an individual taxpayer's tax compliance behavior is influenced not only by the economic determinants (as suggested by the deterrence theory) but also by

several institutional, individual, socio-psychological, individual and some non-economic determinants.

Afterward, the findings of the study are discussed along with its theoretical and policy implications. Finally, the study tried to identify relevant recommendations and suggestions to tackle the non-compliance behavior of individual taxpayers. While doing this, the study has also considered its limitations and highlighted the future directions for further research.

7.2 Discussion of Survey Results

The objectives of the study have primarily been designed to answer the following two research questions:

1. What are the major determinants influencing the tax compliance behavior of individual tax payers in Bangladesh?

2. Is there any difference in the degree of influence based on the nature/category of the determinants?

In this regard, data has been collected from both primary and secondary sources. The primary data has been collected using the mixed approach (both quantitative and qualitative). For the quantitative part, the research instrument was a survey questionnaire and for the qualitative part, the study relied on interview technique. The study used the non-probability sampling technique for collecting data. Chapter Four has enumerated the justification for using this technique in detail. In the quantitative part, the study used convenience and purposive sampling methods; whereas, for the qualitative part, the study has used the purposive and snowball sampling method. For

the survey questionnaire, the recommended sample size was 384 – 400. Data has been collected from 464 respondents through a survey questionnaire using five points Likert scale. On the other hand, for the qualitative part, interviews have been conducted from 13 participants as it was enough to reach data saturation.

7.2.1 Demographic Profile of the Survey Respondents: A Brief Review

Out of these 464 respondents, the number of male and female respondents were 387 and 77 respectively. In percentage, 83.4 percent of respondents were male, and 16.6 percent were female. The majority of the respondents were from the age group 26-35 years (around 62 percent), followed by the age group of 36-45 years with around 26 percent. Among the respondents, around 54 percent was with Post Graduate Degree followed by Bachelor (around 41 percent) and others (e.g. Doctorate, Professional Accountant, etc.) with 3 percent. Around 70 percent of the respondent's occupation was private service followed by government service (14.7 percent), business (11.9 percent), and others (3.2 percent, e.g. housewife, professional and technical employees).

Considering average monthly income, around 37.1 percent of the respondents were from the income group with more than Taka 75,000 per month. The second group was the average monthly income with Tk 25,000 to Tk. 50,000. 34.1 percent of respondents were from this group followed by 23.5 percent (Taka 50,000 to Taka 75,000) and 5.4 percent having an average monthly income of less than Taka 25,000. Around 32 percent of the respondents have some prior tax knowledge that they achieved through doing some tax training /courses earlier and around 68 percent have no prior training. Around 70 percent of the respondents were from the 10% to 15% income tax rate bracket. Respondent's profile based on income tax return submission was similar in nature. 51.5

percent of respondents submitted their annual income tax return personally to the concerned tax office or income tax fair; and 48.5 percent took the assistance of the income tax lawyer to do so.

Only around 11 percent of the respondents have received notice from NBR to pay additional tax or any other reasons and around 37 percent of the respondents have visited their tax circle office personally, whenever it was needed. Around 82 percent of the respondent's main source of income was from salary, followed by income from business and profession (13.4 percent), income from house property (3 percent), income from other sources (1.9 percent), and the lowest from agricultural income (0.2 percent). The majority (65.5 percent) of the respondents have been submitting the income tax return for 1 to 5 years followed by 18.1 percent for 6 to 10 years.

The distribution of survey data collected in this study was found normal with respect to their skewness and kurtosis. Considering the tolerance and VIF values, no issue of multicollinearity has been observed among the variables. The study used both descriptive and inferential statistical techniques to analyze the data collected through a survey questionnaire. Some of these are t-test, ANOVA, correlation, regression, and factor analysis. Cross tabulation technique has also been used to analyze the data. For the interview data, the study has used the thematic analysis technique.

7.2.2 Why do people pay income tax? Findings from Survey Respondent's Perceptions

In this study, the respondents have been asked to reveal their main reason for paying income tax. It has been observed that around 40 percent of the respondents pay income tax as they consider it an obligation towards the government (i.e. it is a compulsory

payment to the government). Around 29 percent of the respondents believe that they pay income tax in anticipation of public services (i.e. it is their contribution to the society). On the other hand, 21.6 percent of respondents pay their income tax as they want to avoid any kind of troubles (penalty, fine, imprisonment, etc.) in this regard. Some respondents (around 8 percent) pay income tax as they do not have an opportunity to evade the income tax (e.g. sometimes tax is deducted at the source or they have to submit their income tax return to save their job where the return submission is mandatory). Moreover, when these reasons have been analyzed based on gender, similar trends have been noticed in the respondent's perception irrespective of their gender, in terms of percentage within gender.

7.2.3 Findings relevant to Research Question No. – 1 [What are the major determinants influencing the tax compliance behavior of individual taxpayers in Bangladesh?]

Tax is one of the major sources of government revenue in most of the economies of the world. While ensuring a smooth flow of domestic resources, most of the tax authorities face the problem of tax non-compliance and sometimes it becomes very hard for the government for convincing the taxpayers to comply with relevant tax provisions of the country (James & Alley, 2002). To ensure tax compliance, three levels of compliance have to be fulfilled, namely payment compliance, filing compliance, and reporting compliance (Brown & Mazur, 2003). Tax non-compliance is a deep-rooted global problem as governments try to raise revenue to meet public needs effectively and efficiently (Alm, 2012; Alon & Hageman, 2013). Under such circumstances, all such countries have an untiring effort to enhance the level of tax compliance through tackling the widespread problems of tax evasion and non-compliance (Jimenez & Iyer, 2016).

To take the correct reform measures, it is necessary to identify the determinants affecting the tax compliance behavior of a taxpayer.

From the literature review section of the study, it has been observed that several previous research studies made an effort to find out the determinants that contribute to the tax compliance behavior of an individual taxpayer. Moreover, in those studies, researchers have portrayed numerous theories to understand tax compliance by individuals, agents, and corporate taxpayers. However, these previous studies have no agreement on the determinants and any single theory that can explain the tax compliance behavior of individual taxpayers (Zaqeba, Hamid & Muhammad, 2018).

Researchers' have been emphasizing their efforts to identify the factors affecting tax compliance behavior for several years through their studies. A number of determinants have been specified through these studies. The classic model of tax compliance of Allingham & Sandmo (1972) emphasized on economic determinants and the model is popularly known as "the economic deterrence model". The economic deterrence model has specified the control of detection levels, tax rates, and penalty rates as the prime determinants of tax compliance behavior. This model shows an increase in the level of compliance with an increase in audit probability and penalty. By the late 1980s, some important studies had expanded the coverage of the basic economic deterrence model through the incorporation of some other relevant factors that include tax rate, tax morale, sanctions, randomness, taxpayer welfare, complexity, etc. (Alm et al., 1992; Cowell, 1985; Graetz & Wilde, 1985; Jackson & Milliron, 1986; Scotchmer & Slemrod, 1989). Jackson and Millron (1986) have introduced fourteen key determinants for tax compliance in their comprehensive study. These determinants are "age, sex, education

level, income level, occupation, peer influence, income sources, ethics, fairness, the complexity of the tax system, tax authority contact, penalty, probability of detection and tax rate". Chau and Leung (2009) have proposed "culture" as an addition to this model.

Richupan (1987) suggested that tax compliance will differ according to the degree of government's performance, honesty, transparency, and other relevant factors of government reliability. Moreover, human behavior parameters in terms of attitude, belief, and norm have also been found as the factors influencing tax compliance behavior in the study of Devos (2014). Studies from multiple disciplines put evidence that behavioral factors also influence tax non-compliance (e.g., Spicer & Lundstedt, 1976; Grasmick & Scott, 1982; Smith, 1992; Alm et al., 1992; Erard & Feinstein, 1994). On the other hand, personal norms, social norms, peer opinions, stigma, reputation, and the degree of social influence respectively, play vital roles in determining tax compliance suggested by the studies based on social psychology theories (Alm & Torgler, 2011; McKerchar & Evans, 2009; OECD, 2010; Ronan & Ramalefane, 2007; Sour, 2004; Sutinen & Kuperan, 1999).

The comparative treatment model is based on equity theory (Ali, *et al*., 2014) and suggests that "perceived fairness of tax system" is a vital factor to influence the level of tax compliance. Palil (2010) noted that attitude and support towards government also influence the level of tax compliance. Mustafa (1997) has incorporated knowledge and understanding of the tax system as a new variable. Tayib (1998) adapted and expanded Fischer's model by adding two more variables, namely government service quality, and financial information disclosure. Alabede (2012) has expanded the Fisher's model by

incorporating perceived tax service quality, public governance quality, ethnic diversity taxpayer's financial condition, and risk preference as tax compliance determinants. As opined by ATO (2019), Taxpayers' behavior is influenced by six different types of factors: business, industry, technology and data, sociological, economic, and psychological factors.

7.2.3.1 Summary of the Findings from Descriptive Statistics

The study has initially considered 36 determinants under five categories to identify their relevance as the determinants of tax compliance behavior in Bangladesh for individual taxpayers'. The list of these factors has been specified in Figure 4.2 of the study under the title "Conceptual Framework for the Study". At first, the study used simple descriptive statistics without considering the tests to measure statistical significance. Based on the opinion of the respondents, 18 determinants have been found having positive influence on tax compliance behavior, leaving rest of the 18 as negative determinants. Table 7.1 presents the list of positive and negative determinants that have been identified based on their mean value, before considering any inferential tests:

Table – 7.1 Positive & Negative Determinants: Overall Assessment based on Descriptive Statistics

Nature of Determinants	Determinants
Positive	Fines & penalty, Income level, Future tax costs, No unofficial costs, Taxmen assistance/Tax officer's attitude, Tax policy reform, Attitude towards taxes, Stress, Perceived tax burden, Peer influence, Religious observance, Tax morale, Attitude towards government spending, Personal financial condition, Tax knowledge, Tax planning, Probability of detection, Guilty feeling.
Negative	Income tax rate, Tax benefits, Tax compliance costs, Tax incentive & rebates, Audit probability, Information uncertainty, Service of tax authority, Complexity of IT return, Tax law complexity, Documentation, Lack of tax awareness, Lack of law enforcements, Perceived opportunity for evasion, Social culture & Norms, Multiple tax payment, Public governance quality, Civic sense of duty

7.2.3.2 Summary of the Data Assessment for Normality and Multicollinearity

Before conducting inferential statistics, the study has assessed the data to check the normality and multicollinearity. Regarding normality, in the case of a sufficiently large sample size (>200) *[in this study the sample size was 464]*, the normality assumption is not necessary at all as the Central Limit Theorem certifies that the distribution of disturbance term will approximate normality (King & Eckersley, 2019). Moreover, considering the desired criterion suggested by Kim (2013), the distribution of data in this study was found normal with respect to skewness and kurtosis. In this study, VIF and tolerance values have been used to measure multicollinearity. Considering the cut off value of VIF and tolerance, it was found that there is no issue of multicollinearity among the variables. This has established the suitability of data to conduct inferential statistics.

7.2.3.3 Summary of the Findings from Inferential Statistics

Impact of Specific Simple Variables/Determinants:

The study has initially considered 36 simple variables. Based on the findings of the descriptive statistics, 18 determinants have been found having positive influence on tax compliance behavior, leaving rest of the 18 as negative determinants. To evaluate the statistical significance of each specific simple variables, one sample t-test was conducted to test the hypotheses on them. These hypotheses are H_{1a} to H_{1g}, H_{2a} to H_{2k}, H_{3a} to H_{3j}, H_{4a} to H_{4f}, and H_{5a} to H_{5b} (See Section 3.8 for details). The test value has been considered 3, which indicates neither positive nor negative (neutral) effect. The level of significance was set at 0.05. According to the result of the one sample-t test, out of the total 36 determinants, 27 determinants were found to have statistically significant impact on tax compliance behavior.

Table – 7.2 Impact of Specific Simple Variables/Determinants

No	Data Analysis Method	Hypotheses	Results	Positive/Negative Impact
H_{1a}	One Sample t-test	Tax rate has no significant influence on tax compliance behavior	Not rejected	-
H_{1b}	One Sample t-test	**Fines & penalty has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{1c}	One Sample t-test	Income level has no significant influence on tax compliance behavior	Not rejected	-
H_{1d}	One Sample t-test	**Tax benefit has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{1e}	One Sample t-test	Tax compliance cost has no significant influence on tax compliance behavior	Not rejected	-
H_{1f}	One Sample t-test	**Future tax cost has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{1g}	One Sample t-test	Tax incentives & rebate have no significant influence on tax compliance behavior	Not rejected	-
H_{2a}	One Sample t-test	**Audit probability has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2b}	One Sample t-test	**No unofficial cost has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{2c}	One Sample t-test	**Information certainty has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2d}	One Sample t-test	**Service of tax office has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2e}	One Sample t-test	**Complexity of tax return has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2f}	One Sample t-test	**Tax law complexity has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2g}	One Sample t-test	**Harassments by tax office has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{2h}	One Sample t-test	**Documentation of accounts has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2i}	One Sample t-test	**Lack of Tax awareness program has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{2j}	One Sample t-test	Lack of law enforcements has no significant influence on tax compliance behavior	Not Rejected	-
H_{2k}	One Sample t-test	**Tax policy reform has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{3a}	One Sample t-test	**Attitude towards taxes has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H_{3b}	One Sample t-test	Stress & Equity has no significant influence on tax compliance behavior	Not rejected	-
H_{3c}	One Sample t-test	**Perceived opportunity for evasion has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H_{3d}	One Sample t-test	**Perceived tax burden has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant

H$_{3e}$	One Sample t-test	Peer influence has no significant influence on tax compliance behavior	Not rejected	-
H$_{3f}$	One Sample t-test	**Religious observance has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{3g}$	One Sample t-test	**Perceived fairness of tax system has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H$_{3h}$	One Sample t-test	**Tax morale has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{3i}$	One Sample t-test	**Perception on government spending has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{3j}$	One Sample t-test	**Social norms & culture has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H$_{4a}$	One Sample t-test	**Personal financial condition has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{4b}$	One Sample t-test	**Tax knowledge has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{4c}$	One Sample t-test	**Tax planning has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{4d}$	One Sample t-test	Multiple payment of taxes has no significant influence on tax compliance behavior	Not Rejected	-
H$_{4e}$	One Sample t-test	**Probability of detection has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{4f}$	One Sample t-test	**Guilty feeling has no significant influence on tax compliance behavior**	**Rejected**	Positive determinant
H$_{5a}$	One Sample t-test	**Public governance quality has no significant influence on tax compliance behavior**	**Rejected**	Negative determinant
H$_{5b}$	One Sample t-test	Civic sense of duty has no significant influence on tax compliance behavior	Not rejected	-

Among 36 individual simple variables under five constructs, 15 variables were found to be as positive determinants and 12 variables were found to be as negative determinants with statistical significance at the level of 0.05. The impact of 9 variables were found not to be statistically significant. These 9 variables are tax rate, income level, tax compliance costs, tax incentive & rebate, lack of law enforcements, stress & equity, peer influence, multiple tax payment, and civic sense of duty.

Impact of moderating variables (demographic determinants):

The study has set nine hypotheses (H$_6$ to H$_{14}$) to evaluate the impact of nine moderating variables (demographic variables) on the tax compliance behavior of individual tax

payers to see whether there is a statistically significant difference between the means in two unrelated groups. The degree of influence has been set at the 0.05 level of significance. Independent sample t-test was conducted to test the hypotheses (H_6, H_7, and H_8) set on three moderating variables (gender, tax training/knowledge and tax lawyer's assistance). On the contrary, One-way ANOVA tests have been conducted to test the hypotheses (H_9 to H_{14}) set on six moderating variables (income tax rate, level of education, average monthly income, sources of income, age and occupation).

Table – 7.3 Impact of Moderating Variables (Demographic Determinants)

No	Data Analysis Method	Hypotheses	Results
H_6	Independent Sample t-test	Gender has no effect on tax compliance behavior	Not rejected
H_7	**Independent Sample t-test**	**Having training on tax / prior tax knowledge has no effect on tax compliance behavior**	**Rejected**
H_8	**Independent Sample t-test**	**Assistance of tax lawyer has no effect on tax compliance behavior**	**Rejected**
H_9	One-way ANOVA	There is no difference in level of tax compliance among individual taxpayers in terms of their income tax rate.	Not rejected
H_{10}	One-way ANOVA	There is no difference in level of tax compliance among individual taxpayers in terms of their level of education.	Not rejected
H_{11}	One-way ANOVA	There is no difference in level of tax compliance among individual taxpayers in terms of their average monthly income.	Not rejected
H_{12}	**One-way ANOVA**	**There is no difference in level of tax compliance among individual taxpayers in terms of their sources of income.**	**Rejected**
H_{13}	**One-way ANOVA**	**There is no difference in level of tax compliance among individual taxpayers in terms of their age.**	**Rejected**
H_{14}	**One-way ANOVA**	**There is no difference in level of tax compliance among individual taxpayers in terms of their occupation.**	**Rejected**

Among the 9 moderating variables, 5 were found to have statistically significant impact on tax compliance behavior. These are prior tax knowledge, tax lawyer's assistance, sources of income, age, and occupation. It has been observed that tax compliance level is higher in case of the individual taxpayers having prior tax training/knowledge. The individual tax payers submitting their income tax return personally were found to be more compliant rather than using tax lawyer in this regard. According to age, it has been observed that the level of compliance is maximum in case of senior citizens and

the level of compliance increases with the age of the individual taxpayer. In terms of occupation, the level of compliance has been found slightly higher among businessmen, followed by the government and private service holders. In the similar manner, individual tax payers, showing business income as the main source of income, have been found more compliant than the salaried employees.

7.2.3.4 Summary of the Findings from EFA

The sample size used for the study (464) is adequate to conduct a meaningful EFA according to the benchmark set by different literature (Comrey & Lee, 1992; Hair, et al., 2010; Field, 2018; Tabachnick & Fidell, 2012). In this study, N:p ratio is around 13:1 which is also adequate to conduct a meaningful EFA. Hair et al (2010) recommended 5: 1 as the 'minimum' sample to variable ratio and 10:1 as 'more acceptable'. Initially, the factorability of all the 36 variables has been examined and to have the determinant of the correlation matrix more than the minimum desired value (0.00001), 8 variables have been excluded through a trial and error method. After the deletion of these 8 variables, the determinant of the correlation matrix (0.001) has exceeded the minimum benchmark value, thus fulfilled the condition of data being free from multicollinearity (Field, 2018).

The study has also fulfilled the criteria of being free from multicollinearity according to the variance inflating factor (VIF) and tolerance value (See table 5.16). Finally, the EFA process has been repeated with these 28 variables. The Bartlett's Test of Sphericity value (3036.098, significant at P < 0.001) and the KMO value (0.852), which as mentioned by Hair et al. (2010), falls in the benchmark "meritorious" and is a reflection of the appropriateness of the data for EFA. This study has used the PCA approach using

the Oblique rotation method (Promax) to conduct the EFA. From the EFA, initially six factors have been retained before considering the reliability analysis. Five factors have a reliability value of almost 0.70, which is considered as sufficient, acceptable, and satisfactory by Taber (2018), based on his findings through analysis of several studies. Factor 6 has been discarded because of its poor reliability (Cronbach's alpha 0.361). The detailed process of the factor analysis has been enumerated in Section 5.8 of Chapter 5. The following determinants are found to be relevant after conducting factor analysis:

1. Institutional Determinants: Taxmen assistance, No unofficial Cost, Complexity of IT Return, NBR Service, Information uncertainty, Documentation.

2. Socio-Psychological Determinants: Opportunity to Evade, Social Culture and Norms, Lack of Tax Awareness, Perceived Fairness of Tax System, Public Governance Quality.

3. Economic Determinants: Tax rate, Income level, Benefits against tax;

4. Individual determinants: Guilty Feeling, Tax Morale, Religious Belief, Attitude towards Tax, Personal Financial Condition.

5. Other non-economic determinants: Tax planning, Tax knowledge, Tax law complexity.

7.2.4 Findings relevant to the Research Question No. – 2 [Is there any difference in the degree of influence based on the nature/category of the determinants?]

The study has used correlation and regression analysis to identify the nature of influence of the nature/category of determinants on tax compliance behavior. It has also conducted hypotheses testing to identify the impact of moderating variables on tax

compliance behavior (see Table 7.3). The findings have helped to draw the revised model of tax compliance behavior for individual taxpayers in Bangladesh.

7.2.4.1 Findings from Correlation Analysis

From the correlation analysis it has been observed that, tax compliance has a strong positive correlation with the institutional determinants ($r = 0.705$, $p < 0.05$), socio-psychological determinants ($r = 0.759$, $p < 0.05$), economic determinants ($r = 0.731$, $p < 0.05$), and other non-economic determinants ($r = 0.703$, $p < 0.05$). On the other hand, moderately strong correlation has been observed between the dependent variable (tax compliance) and individual determinants ($r = 0.564$, $p < 0.05$). The result of inter-correlation among the independent variables (institutional determinants, socio-psychological determinants, economic determinants, individual determinants, and other non-economic determinants) depicts that the institutional determinants have a stronger strength of positive association with socio-psychological determinants ($r = 0.501$, $p < 0.05$) than with other determinants. Economic determinants had the highest positive association with socio-psychological determinants ($r = 0.501$, $p < 0.05$) than with other determinants. Overall, the outcome of the correlation analysis advocates that there is a fair degree of linear relationships among the determinants and they are significantly correlated ($p < 0.05$). Findings of correlation analysis depict the idea that the categories of the determinants are interrelated to each other and influence the tax compliance behavior significantly.

7.2.4.2 Findings from Regression Analysis

Ordinal logistic regression has been used to analyze the data since both the dependent and independent variables are expressed in Likert scale i.e. measured at the ordinal

level. From the model fitting information, it has been observed that the model is statistically significant since p<0.05. Non-significant test results (p>0.001) are indicators that the model does fit very well (Field, 2018), which has also been met for this study. The parallel line test results ($\chi^2 = 14.212$, p = 0.510; where p>0.05) suggested that there is not enough evidence to reject the null hypothesis for the general model. Thus, the assumption of parallelism also appears to have held for the general model. These results justify the validity of the regression analysis.

According to the ordinal logistic regression analysis, all four categories of the threshold values calculated in the model are found statistically significant as $p < 0.05$. Besides, when the independent variables explaining the tax compliance behavior are examined for hypotheses testing (H_1 to H_5) , it was found that institutional determinants, economic determinants, individual determinants, and other non-economic determinants have a statistically significant relationship ($p < 0.05$) with tax compliance. Only, socio-psychological determinants failed to depict a statistically significant relationship with $p = 0.259$.

Table – 7.4 Impact of Categories of Determinants (Based on Regression Analysis)

No	Data Analysis Method	Hypotheses	Results	Overall Impact
H$_1$	**Ordinal Logistic Regression**	**Economic determinants have no significant influence on tax compliance behavior**	**Rejected**	**Negative**
H$_2$	**Ordinal Logistic Regression**	**Institutional determinants have no significant influence on tax compliance behavior**	**Rejected**	**Positive**
H$_3$	Ordinal Logistic Regression	Socio-Psychological determinants have no significant influence on tax compliance behavior	Not Rejected	Negative
H$_4$	**Ordinal Logistic Regression**	**Individual determinants have no significant influence on tax compliance behavior**	**Rejected**	**Positive**
H$_5$	**Ordinal Logistic Regression**	**Other non-economic determinants have no significant influence on tax compliance behavior**	**Rejected**	**Positive**

The analysis helped to find out the significance of the influence on the tax compliance behavior regarding the different categories of the determinants through testing hypotheses H_1, H_2, H_3, H_4, and H_5. From the output of the regression analysis, it has been observed that the influence of "individual determinants" is the maximum to enhance the tax compliance behavior of an individual taxpayer, followed by institutional determinants and other non-economic determinants. As economic determinants negatively influence the tax compliance behavior, necessary reform measures may change the status.

7.2.5 Overall Analysis: Summary of the Survey Findings

Initially, the study considered 36 specific determinants in descriptive statistics. Based on the outcome of one-sample t-tests, 27 variables were found having statistically significant influence on the tax compliance behavior of an individual taxpayer in Bangladesh. After going through factor analysis, the study has retained 22 simple variables under five categories of complex variables / constructs. Among these 5 categories, socio-psychological category was found negatively affecting the tax compliance behavior which is not statistically validated. Since, the simple variables under this category were found statistically significant, it has been considered in the final revised model. On the other hand, two variables (income level and tax rate) under economic determinants category were not statistically validated in one sample t -test. Since the overall "economic determinants" category was found to be statistically significant, these two variables have also been considered in the final revised model. Table 5.44 presents an overall summary in this regard.

It has been observed that the findings have revealed a new model for explaining the determinants of tax compliance behavior in Bangladesh. Some variables, which have been considered relevant by some earlier models, have not been found to have statistically significant influence on tax compliance behavior. The study of Allingham and Sandmo (1972) is considered as the pioneer study in the context of tax compliance behavior. Under this model, the tax compliance behavior of taxpayers is affected by some economic factors namely, income level, tax rate, audit probability, and fine/penalty. The findings of this study revealed an exclusion of two basic determinants in Bangladesh (audit probability and fine/penalty) under the economic deterrence model. A new economic factor, benefits against tax, has been found relevant for the individual tax payers in Bangladesh. Unlike other prominent studies (Fischer et al., 1992; Alm, 1991; Jackson & Millron, 1986), this study has also identified the relevance of psychological, social, and demographic factors on tax compliance behavior.

Jackson and Millron (1986) have identified fourteen key determinants for tax compliance in their comprehensive study that was an attempt to expand the classic financial self-interest model. These fourteen key determinants were later grouped into four categories in the "Fischer et al.'s model of tax compliance" (Fischer et al., 1992). Of these fourteen, five determinants have not been found statistically relevant for Bangladesh. These determinants are, gender, education level, peer influence, penalty, and probability of detection. Chau and Leung (2009) have proposed an expanded version of Fischer's model incorporating one additional determinant, culture, that has been found relevant in this study. The inclusion of thirteen additional variables have also illustrated an expansion of the 'Fischer's Model' in a different dimension in line

with some other earlier studies (Hanno & Violette, 1996; Riahi-Belkaoui, 2004; Saad, 2014; Trivedi, Shehata & Mestelman, 2005).

Table – 7.5 Summary of Overall Survey Findings

Sl	Category of Determinants	Specific determinants	Nature of Influence
1	Economic	Income Level	Positive
		Tax Rate	Negative
		Benefits against Tax	Negative
2	Individual	Attitude towards Tax	Positive
		Guilty Feeling	Positive
		Religious Observance	Positive
		Tax Morale	Positive
		Personal Financial	Positive
3	Institutional	No Unofficial Cost	Positive
		Taxmen Assistance/Tax	Positive
		Complexity of IT Return	Negative
		Information Uncertainty	Negative
		Documentation	Negative
		NBR Service	Negative
4	Socio-psychological	Lack of Tax Awareness	Negative
		Perceived Fairness of Tax	Negative
		Social Culture and Norms	Negative
		Opportunity to Evade	Negative
		Public Governance Quality	Negative
5	Other Non-Economic	Tax Planning	Positive
		Tax Knowledge	Positive
		Tax Law Complexity	Negative

Unlike Kirchler (2007), this study has also emphasized the importance of behavioral aspect of taxation focusing on attitude, norms, and fairness. and taxpayer decisions. Faa (2008) has classified the determinants into four major categories, considering 15 determinants. But in terms of economic determinants, the findings of this study have revealed almost different outcome with an exclusion of four economic determinants

(probability of detection and perceived probability of detection; tax audit, probability of audit and prior audit; sanctions). Eight relevant factors identified by some studies (Palil, 2010; Suyapto & Lasmana, 2014) has also not been found relevant for the individual tax payers in Bangladesh. These are tax audits, perceptions on government spending, probability of detection, political affiliation and changes on current government policy, referent groups, awareness of offenses and penalties, education, and gender. Institutional factors (corruption, cost compliance, and confidence) identified by Kiri (2016) was also found totally different in case of Bangladesh. On the contrary, the findings of this study have considered most of the determinants illustrated by Al-Zaqeba, et al (2018).

Thus, comparing the findings of this study with other studies from the literature, it appears that there exist differences in the findings and a general consensus cannot be drawn in this respect that has also been emphasized by Biabani & Ramezani, (2011). These differences have also been justified from the argument of a reputed tax researcher (Alm, 1999) that "no single model can account for the enormous factors influencing tax compliance decision and submitted that other factors may well be relevant in explaining tax compliance behavior". Unlike ATO (2019), it can be said that none of the determinants can be unrelated; they are interrelated in shaping the taxpayers' decisions to comply. With the inclusion of less economic factots, it is evident that for individual taxpayers' in Bangladesh, "behavioral approach" explains tax compliance behavior in a better manner comparing to the "economic deterrence" approach. According to James & Alley (2002), the focus of the behavioral approach is "fairness", hence a fair tax system will enhance the level of tax compliance among the individual taxpayers in Bangladesh.

7.3 Discussion of Interview Results

To confirm the survey results and find out any relevant determinants which have not been identified through the survey, semi-structured interviews have been conducted. In line with the survey results, the opinions of the interview participants have confirmed the survey results with some inclusions of relevant determinants. These findings have minimized the limitations of choosing any one method (quantitative or qualitative) for study.

Regarding the reasons for income tax noncompliance and evasion in Bangladesh, four main reasons have been revealed by most of the respondents. These are lack of awareness, lack of tax knowledge/education, lack of legal actions against income tax evaders, and negative attitude towards the NBR and government. The opinions from the interview respondents also confirm the negative determinants identified through the descriptive analysis from the survey results.

Regarding the factors influencing and motivating the individual taxpayers to pay income tax in Bangladesh, two additional administrative determinants have been identified. These are an arrangement of annual income tax fair and mandatory income tax return submission in certain cases. Unlike survey results, it has also been observed that fear of being penalized, tax planning, no unofficial cost in income tax fair, etc. are the common positive determinants of tax compliance behavior in Bangladesh. On the contrary, regarding the factors demotivating the individual taxpayers to pay income tax in Bangladesh, two additional negative determinants have been identified. These are the high tax rate and lack of recognition from the government. The other negative

determinants identified through the survey results have also been confirmed by the interview participants.

Regarding the weaknesses and strengths of the current Bangladesh Tax Administration, most of the respondents are unanimous regarding the lack of capacity and automation in NBR. The respondents are also concerned about the complex income tax law, weak tax collection system, short-term focused and politically driven tax policies, complex tax refund process, inadequate taxpayer services, absence of a historical tax database, high degree of administrative fragmentation, inadequate promotional campaign for the taxpayers, no tax helpline for taxpayers, etc. Regarding strengths, automation of the e-TIN issuance process and the arrangement of annual tax fair have been praised by the interview respondents.

7.4 Implications of the Study

The findings of this study have set an environment to draw some relevant theoretical and policy implications, which may open an avenue for the policymakers to design effective and efficient reform measures. Such measures will help a country, specifically Bangladesh, to tackle tax evasion and its impact on society. Thus, the findings have substantiated some relevant theoretical and policy implications:

7.4.1 Theoretical Implications

While conducting the study, reasonable care has been taken to identify relevant determinants of tax compliance behavior that influence an individual taxpayer's tax compliance decisions. Tax non-compliance has become a significant problem over the past few decades and has attracted several researchers to conduct many empirical

studies. However, explaining taxpayer behavior remains a difficult and somehow unresolved problem (Fjeldstad et al, 2012). The previous studies also did not settle on a single theory that can be used as a reference for understanding the taxpayer's compliance behavior (Zaqeba et al, 2018).

Some of these studies have explained tax compliance under the perspective of the classic economic deterrence model (Allingham & Sandmo, 1972) which has specified the control of detection levels, tax rates, and penalty rates as the prime determinants of tax compliance behavior. By the late 1980s, some important studies had expanded the coverage of the basic economic deterrence model through the incorporation of some other relevant factors suggesting that only economic factors alone are not capable of explaining the inner sense of taxpayers' compliance behavior. Some of these additional factors are tax rate, tax morale, sanctions, randomness, taxpayer welfare, complexity, etc. (Alm et al., 1992; Cowell, 1985; Graetz & Wilde, 1985; Jackson & Milliron, 1986; Scotchmer & Slemrod, 1989). Moreover, in addition to the economic determinants, some studies have also highlighted the effects of sociological and psychological factors (Fischer et al.,1992; Jackson & Millron, 1986; Mason & Calvin, 1984; Reckers et al., 1994).

Jackson and Millron (1986) have introduced fourteen key determinants for tax compliance in their comprehensive study that was an attempt to expand the classic financial self-interest model. These determinants are "age, sex, education level, income level, occupation, peer influence, income sources, ethics, fairness, complexity of the tax system, tax authority contact, penalty, probability of detection and tax rate". These fourteen key determinants were later grouped into four categories in the study of Fischer

et al. (1992) which is popularly known as Fischer et al.'s model of tax compliance. Fischer's model is a wide-ranging model of tax compliance behavior incorporating economic, sociological, and psychological factors. Consequently, Andreoni et al. (1998) claimed that researchers need to explore the psychological, moral, and social determinants on compliance behavior and integrate these factors into economic models of compliance. Chau and Leung (2009) have proposed an expanded version of Fischer's model incorporating one additional determinant, culture.

In linking with tax compliance, social influence theory identified peer opinions and the degree of social influence in socialization as the key determinants of compliance (Sutinen & Kuperan, 1999). Ronan & Ramalefane (2007) pointed out some of the other variables e.g. stigma, reputation, and social norms that have a significant impact on the tax compliance decision of a taxpayer. Some researchers argued that involvement in acts of tax evasion may persuade feelings of anxiety, guilt, or negative self-image in taxpayers which may have a greater deterrent effect than external factors like risk of detection and punishment (Sour, 2004; Taylor, 2001). The comparative treatment model is based on equity theory (Ali, *et al*., 2014) and suggests that addressing inequalities in the exchange relationship between government and taxpayers would result in better compliance.

Langham & Paulsen (2015) illustrates that citizen's willingness to pay taxes is directly influenced by how they perceive the revenue authority and tax officials of the country. Palil (2010) noted that attitude and support towards government also influence the level of tax compliance. Supporters of the ruling government tend to be more compliant as

they believe that the government is trusted, efficient and equitable; whereas opposition supporters might be less compliant with the opposite perception.

In addition to the theories discussed above, the two leading theoretical frameworks used in explaining human behavior (Azjen & Fishbein, 1991) are the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) that have also widely been used to explain the tax compliance behavior (Devos, 2014). Hanno & Violette (1996) used the theory of reasoned action in a tax compliance situation and found that the theory explained taxpayer compliance decisions. Despite having the ability to predict and explain human behavior and behavioral intention, TRA has been criticized for being limited to volitional behaviors only. Such criticisms directed to the extension to the TRA, and the emergence of the new model, the Theory of Planned Behavior (Saad, 2011).

The conceptual framework of this study has been designed considering the past and recent theoretical development on tax compliance behavior. Considering the theoretical background of the earlier studies, the findings of this study have revealed some interesting implications. This study has considered 36 determinants in its conceptual framework considering economic, social, and psychological determinants as suggested by the earlier studies. From the factor analysis, only 22 determinants have been found statistically relevant under five categories. Two well-known economic factors, penalty and audit probability have been found insignificant for individual taxpayers in Bangladesh. On the other hand, comparing to the determinants as specified by Jackson and Milliron (1986) it has been observed that sex, level of education, average monthly

income, income tax rate, probability of detection, penalty have an insignificant influence on tax compliance behavior of individual taxpayer.

In respect of the theoretical contributions to the tax compliance literature, several factors have been identified as significant that are not a part of the extended Fischer's model as mentioned earlier. The inclusion of other relevant determinants of tax compliance behavior in this study has demonstrated the well-known proclamation of Alm (1999) that "other factors outside the basic model may be relevant in understanding compliance decisions". The study has presented a revised wide-ranging model incorporating economic, sociological, and psychological factors under five categories. Moreover, the classification of determinants has also been changed in this study comparing to the other renowned models. Other key contributions are the existence of moderating variables (mainly the demographic determinants) in explaining the tax compliance behavior of an individual taxpayer, which has been reflected in an earlier study of Kirchler et al., (2007).

Moreover, the findings of this study have also opened an avenue with a recommendation that the further expansion of the tax compliance model is possible, to include some country-specific determinants. It is expected that the findings of this study would further enhance the theoretical projecting capability of the model for a meaningful understanding of individual taxpayers' tax compliance behavior. Such understanding will contribute to lessening the research gap identified in the tax compliance behavior related studies between developed and developing countries, as advised by Chau and Leung (2009) and Torgler (2007). Moreover, the methodology

used in this study may also be a suitable one for other scholars to replicate in other tax areas, e.g. corporate tax, VAT, etc.

7.4.2 Policy Implications

Most of the developing countries are in trouble to ensure their resource mobilization due to excessive tax evasion and non-compliance (Alm, 2012; Alon & Hageman, 2013). It is evident from earlier literature that only around one percent of the individual taxpayer in Bangladesh submits their income tax return, although eligible individual taxpayers are about at least 7.0 million (Begum, 2017). Under such circumstances, the National Board of Revenue and the concerned ministry are always engaged in setting several reform measures to enhance the collection of tax revenue. Designing an effective, optimal, and appropriate tax policy requires the government to identify the relevant determinants that may influence the tax compliance behavior of an individual taxpayer. Tackling tax evasion would be easier for any tax authority if they can identify the deep-rooted causes of such evasion and non-compliance. As the findings of this study have identified several determinants, it can be expected that the results will have implications for the NBR and government policymakers.

To raise income tax revenue, the developing countries take various reform measures (Peter et al, 2010). The two most common traditional approaches are to expand the tax net/increase the tax rate and enhancing enforcement strategies. Most of the tax authorities, as well as NBR, use these mechanisms as prime reform policy instruments (Kirchler, 2007). Although these traditional measures can be easily handled by the tax offices, it is costly to accomplish and may stimulate a negative attitude towards government (Smart, 2012). Moreover, the findings of this study have revealed an

exclusion of two basic determinants in Bangladesh (audit probability and penalty) under the economic deterrence model. So, it is evident that for individual taxpayers' in Bangladesh, "behavioral approach" explains tax compliance behavior in a better manner comparing to the "economic deterrence" approach. It indicates that imposing excessive penalty and sanctions may not be effective to enhance the level of compliance in Bangladesh. Hence a fair tax system will enhance the level of tax compliance among the individual taxpayers in Bangladesh, as suggested by James & Alley (2002).

In this study, it has been identified that only around one-third of the respondents pay tax in anticipation of public services. The majority of the respondents pay tax either to avoid troubles (penalties, fines, etc.) or as an obligation towards the government. Since only around 1% of the total population submits individual income tax return in Bangladesh, it indicates the failure and inability of the tax authority to exercise enforcement strategies. Moreover, it is costly to accomplish such enforcement strategies effectively. These findings lead to the necessity of taking relevant tax awareness program by the tax authorities that may help to change the current mindset of the individual taxpayers. In this regard, promotional campaigns, audio and video documentaries, newspaper advertisements, campaigns through social networking sites, including tax in academic curriculums, etc. may enhance the awareness among the individual taxpayers. If the citizens can be motivated to pay tax as the responsibility of a good citizen, it will be more effective than the forced enforcement. Moreover, individual taxpayers may take this opportunity to serve their country as a symbol of pride.

Moreover, the indication from both survey and interview of this study revealed that the individual taxpayers are not satisfied with the public governance quality and the benefits that they receive against the payment of tax from the government. Ahmed (2018) argued that "state taxpayer relationship is based on trust and good faith" and it is the responsibility of the government to utilize the public money transparently to ensure the social welfare and the betterment of taxpayers. Lack of tax awareness programs may be a reason for this which has also been seen in the study. The government should design the policy to ensure that the tax burden must be distributed equitably among the citizens of a country based on their "ability to pay". This also advocates that the policymakers must take reform measures to enhance the excellence of tax amenity in Bangladesh.

The study has also found that the "opportunity to evade" influences tax compliance behavior negatively. Ahmed (2018) has illustrated the failure of NBR in his words saying "NBR is apparently failing to enforce the tax statute to improve voluntary compliance, and prosecutions for tax evasion are compromised by inappropriate motivations and legal and technical flaws. In some cases, the legal framework is not sufficiently effective or comprehensive to encompass the complete problem of noncompliance". In this regard, efforts should be enhanced to ensure track in the financial transaction process. It can be done by encouraging the use of digital wallets, transactions through banking channels, and discouraging the use of cash transactions. It will also help to control the informal economy in Bangladesh, which is continuously expanding, as illustrated by Ahmed (2018). The bank accounts of an individual taxpayer may be linked up with "NBR Database" through his e-TIN Number and

"Registered Phone Number" in this regard. At any time NBR may use this information to crosscheck the information submitted to the tax office.

Efforts should be taken to enhance the "tax education" and to "simplify the tax laws". Taxpayers should be given the opportunity to enhance their tax knowledge so that they can practice effective tax planning to minimize their tax burden within the jurisdiction of the provisions of the income tax laws. In this regard, the concept of ATO (2019) model can be considered which has also been supported by Ahmed (2018). According to this model, the taxpayers should be helped when they come to the tax office accepting their mistakes due to ignorance or poor tax planning. If they have an intention to rectify themselves from the irregularities, they should be given a chance. This will enhance the motivation of the taxpayers to comply with the tax laws.

Ahmed (2018) argued that a particular reform measure singlehandedly cannot enhance the level of tax compliance dramatically, as the number of determinants is several types in nature. NBR and other concerned departments should take initiatives to translate public apathy toward taxation into active public engagement. To curb tax evasion and to bring untaxed people in the country's tax net, a rational, transparent, and inclusive tax structure is required in a country. Hence, the success of the reform measures depends on the blending of some successful strategies focusing on the determinants relevant to country-specific characteristics, i.e. Bangladesh.

The findings of this study explored the phenomenon of tax compliance behavior being negatively affected by economic determinants and socio-psychological determinants. On the other hand, institutional, individual, and other non-economic determinants are

found to be as positive determinants. The reform measures can be taken based on such findings. Negative determinants should be handled taking specific reform measures. Moreover, some recommendations have been revealed through the interview:

➢ Arranging income tax fairs regularly, if possible at Upazilla and Pourashava level; for taxpayer's overall satisfaction with the services delivered as suggested by ADB (2018).

➢ Educating taxpayers through introducing tax-related courses in the academic curriculum; which has also been emphasized by Kasipillai, et al. (2003); Wong & Lo (2015) and Ahmed (2018).

➢ Enhancing the capacity of the NBR to enforce the provisions of tax laws (penalty, appeal, and prosecution) in an effective and unbiased manner. In Bangladesh, income tax evaders are rarely put on trial in the courts. Ahmed (2018, p. 190) has illustrated that "there is not a single instance of exemplary punishment for tax evasion and the reasons for this lack of prosecution range from corruption, the inefficiency of the administration, and political interference in tax evasion cases". In this regard agent-based model of network (as suggested by Andrei et al, 2014 & Korobow et al, 2007; Pellizzari & Rizzi, 2014) may be adopted.

➢ Arranging some monetary awards for the taxpayers e.g. tax lottery, cashback for early payment of taxes, settling tax refund claims in time.

➢ Enhancing tax awareness programs to ignite patriotism in the mind of the taxpayers, making them convinced that payment of tax is a contribution to the country from the citizens. It will enhance the tax morale of an individual taxpayer which has also been emphasized by Alm, J. et al (2006) and Meder et al (2012).

➢ Tackling corruption among the tax officials. It will enhance tax compliance in two ways: first, the compliant general taxpayers will be willing to pay income tax without any fear; and second, the evaders will not evade when they will have the perception that they will not be able to convince the tax officers to compromise with their duties, through bribery, nepotism, political pressure, and any other mechanisms.

➢ Making the tax system ICT friendly. It will reduce the compliance cost and administrative cost through online tax calculator, e-return submission, e-payment of taxes, and e-acknowledgement of tax return certificates.

➢ Finally, through interview, some other strategies have been recommended, e.g. reducing current income tax rates, recruiting sufficient skilled and knowledgeable taxmen, ensuring fair treatment with all taxpayers, ensuring fairness in spending tax money by the government, and reforming tax administration to make it taxpayer friendly.

7.5 Future Research Directions

This thesis examines the determinants of tax compliance behavior relevant to the individual taxpayers' in Bangladesh i.e. the study is related only to the area of individual income tax. The findings of this study may draw other researchers' attention and also provide directions to conduct studies on other relevant areas of tax like corporate tax, value added tax, excise tax, gift tax, customs duty, motor vehicle tax, etc. Instead of using quantitative tools like surveys, other qualitative techniques (e.g., interviews or experiments) may reveal different findings. Moreover, future replication of this study using different methodologies may reveal different results that may also make a valid and useful contribution to the literature.

This study has been conducted only for a particular period, and new research could be done through a longitudinal study considering a comparison of more years. Future researches may consider and explore other determinants, which have not been considered in this study, to examine their impact on tax compliance behavior. Another important and interesting area for future research would be to assess the impact of these determinants on tax evasion of the country. This research approach may also be used to conduct studies on those people who are not submitting the income tax return.

The outcome of this study may increase NBR's understanding of tax compliance behavior and it can take initiative to attempt future research using actual compliance data held by the tax offices. It will help them to explore the actual behavior of taxpayers while taking tax compliance decisions. Finally, as the suggestion of several researchers (Torgler, 2007; Chau & Leung, 2009; Alabede, 2012), more research works on tax compliance behavior are anticipated to link the gap in research findings between developing and developed countries.

References

The Association of Chartered Certified Accountants (ACCA). (2016). Indirect taxes – current trends across South Asia and UAE. Retrieved from https://cn.accaglobal.com/ueditor/php/upload/file/20161124/81.pi-indirect-taxes-sasia-uae.pdf

Abdul-Jabbar, H. (2009). *Income Tax Non-Compliance of Small and Medium Enterprises in Malaysia: Determinants and Tax Compliance Costs.* PhD thesis. Curtin University of Technology.

Abdulwahab, L., Dahalin, Z. M., & Galadima, M. B. (2011). Data screening and preliminary analysis of the determinants of user acceptance of telecentre. *Journal of Information Systems: New Paradigms*, *1*(1), 11-23.

Abubakari, A. R., & Christopher, J. A. (2013). Evaluating taxpayers' attitude and its influence on tax compliance decisions in Tamale, Ghana. *Journal of Accounting and Taxation*, 5(3), 48 - 57.

Adebisi, J.F. & Gbegi, D.O. (2013). Effect of Tax avoidance and tax evasion on personal income tax administration in Nigeria. *American Journal of Humanities and Social Sciences. 1* (3), 125-134.

Ahmed, N. (2019). *Improving Tax Compliance in Bangladesh.* Draft Policy Note, BRAC Institute of Governance and Development (BIGD), BRAC University, Dhaka.

Ahmed, N. (2013). *Improving Tax Compliance in Bangladesh: A Study of Value Added Tax (VAT).* IGS Working Paper Series Number 11, BRAC Institute of Governance Studies, BRAC University, Dhaka.

Ahmed, N., Chetty, R., Mobarak, M., Rahman, A. & Singhal, M. (2012). *Improving Tax Compliance in Developing Economies: Evidence from Bangladesh.* IGC Working Paper S-1007-BGD-1. London: International Growth Centre (IGC).

Ahmed, S. (2020). *Institutional dimensions of tax reforms in Bangladesh.* Bangladesh Institutional Diagnostic Working Paper No. 7. Oxford: UK

Ahmed, S. (2015). *Growth With Equity: Contemporary Development Challenges of Bangladesh*, Bangladesh Institute of Bank Management, Dhaka.

Ahmed, S. U. (2019). Taxation challenges for Bangladesh. *The Cost and Management, 47*(4), 13-21.

Ahmed, S. U. (2018). Should the Taxman be Responsive? The Responsive Regulatory Model of Tax Compliance. *The Cost and Management, 46*(1), 47-53.

Ahmed, S. U. (2018$_a$). Tax Evasion in Bangladesh: Causes, Consequences and Remedies. *The Cost and Management, 46*(2), 51-56.

Ahmed, S. U. (2016). *Improving Compliance of Income Tax in Developing Countries: Bangladesh Perspective.* PhD thesis. Deakin University, Melbourne, Australia.

Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control and the Theory of Planned Behavior. *Journal of Applied Social Psychology, 32*(4), 665-683.

Ajzen, I. (2006). *Constructing a TpB Questionnaire: Conceptual and Methodological Considerations.* Retrieved 15 November 2018, from https://pdfs.semanticscholar.org/0574/b20bd58130dd5a961f1a2db10fd1fcbae95d.pdf

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs: Prentice-Hall.

Ajzen, I. & Fishbein, M. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Alaaraj, S., Mohamed, Z.A. & Bustamam, U.S.B.A. (2018). External Growth Strategies and Organizational Performance in Emerging Markets: The mediating role of inter-organizational trust. *Review of International Business and Strategy*, *28*(2), 206-222.

Alabede, J.O. (2014). An Exploratory Analysis of Individual Taxpayers' Compliance Behaviour in Nigeria: a Study of Demographic Differences and Impact. *International Journal of Accounting and Taxation*, *2*(2), 39–64.

Alabede, J.O. (2012). *An investigation of factors influencing taxpayers' compliance behaviour: Evidence from Nigeria*. PhD thesis. Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia.

Alam, M. F. (2017). Revenue Mobilization through Tax: A Comparative Study of Bangladesh and Pakistan. *AIUB Journal of Business and Economics*, 14(1), 1–19.

Alasfour, F., Samy, M. & Bampton, R. (2016). The determinants of tax morale and tax compliance: evidence from Jordan. In Hasseldine, J. (Ed.), *Advances in Taxation,* Emerald Group Publishing, Bingley, 125-171.

Alasuutari, P. (2010). The rise and relevance of qualitative research. *International journal of social research methodology, 13* (2)**,** 139-155.

Ali, M., Fjeldstad, O-H. & Sjursen, I. H. (2014). To Pay or Not to Pay? Citizens' Attitudes Towards Taxation in Kenya, Tanzania, Uganda and South Africa. *World Development, 64*, 828-842.

Allen, C. L. (2004). Business Students' Perception of the Image of Accounting. *Managerial Auditing Journal, 19*(2), 235-258.

Alley, C., & James, S. (2006). Research into economic and behavioural approaches in tax compliance. In A. Sawyer (Ed.), Taxation Issues in Twenty-First Century (pp. 3-14). Christchurch: The Centre for Commercial and Corporate Law, School of Law.

Allingham, M. G. & Sandmo, A. (1972). Income tax evasion: a theoretical analysis. *Journal of Public Economics, 1*, 323-338.

Alm, J. (1991). A perspective on the experimental analysis of taxpayer reporting. *The Accounting Review*, *66*(3), 577-593.

Alm, J. (1995). A perspective on the experimental analysis of taxpayer reporting. *The Accounting Review*, *66*(3), 577-593.

Alm, J. (1999). Tax Compliance and Administration, in W. Bartley Hildreth and James A. Richardson (eds.). *Handbook on Taxation*. New York, Marcel Dekker, Inc., 741–768.

Alm, J. (2012). Measuring, explaining, and controlling tax evasion: Lessons from theory, experiments, and field studies. *International Tax and Public Finance*, *19*(1), 54-77.

Alm, J., Cherry, T., Jones, M., & McKee, M. (2010). Taxpayer information assistance services and tax compliance behavior. *Journal of Economic Psychology, 31*(4), 577–586.

Alm, J., & Gomez, J. L. (2008). Social capital and tax morale in Spain. *Economic Analysis and Policy*, *38*, 73-87.

Alm, J., Jackson, B., & McKee, M. (1992). Deterrence and beyond: Toward a kinder, gentler IRS. In J. Slemrod (Ed.), *Why people pay taxes: Tax compliance and enforcement* (pp. 311).

Alm, J., Martinez-Vazque, J., & Torgler, B. (2006). Russian attitudes toward paying taxes — before, during, and after the transition. *International Journal of Social Economics*, *33*(12), 832-857.

Alm, J. & McClellan, C. B. (2012). Tax morale and tax compliance from the firm's perspective. *Kyklos, 65* (1), 1–17.

Alm, J., McClelland, G.H. & Schulze, W.D. (1992). Why do people pay taxes? *Journal of Public Economics*, *48*, 21-38.

Alm, J., Sanchez, I., & Juan, A. (1995). Economic and Noneconomic Factors in Tax Compliance. *Kyklos, 48*(1), 3–18.

Alm, J. & Torgler, B. (2006). Culture differences and tax morale in the United States and in Europe. *Journal of Economic Psychology, 27*(2), 224-246.

Alm, J., & Torgler, B. (2011). Do Ethics Matter? Tax Compliance and Morality. *Journal of Business Ethics, 101*(4), 635-651.

Alm, J. & Vazquez, J. L. M. (2007). *Tax morale and tax evasion in Latin America.* Andrew Young School of Policy Studies.

Al-Mamun, A., Entebang, H., Mansor, S. A., Yasser, Q. R., Nathan, T. M., & Rahman, M. A. (2014). The impact of demographic factors on tax compliance attitude and behavior in Malaysia. *Journal of Finance, Accounting & Management*, *5*(1), 109-124.

Alon, A., & Hageman, A. M. (2013). The impact of corruption on firm tax compliance in transition economies: Whom do you trust? *Journal of Business Ethics, 116*(3), 479-494.

Alreck, P. L., & Settle, R. B. (1995). *The survey research handbook*. United States of America: Irwin.

277

Andrei, A., Comer, K. & Koehler, M. (2014). An agent-based model of network effects on tax compliance and evasion. *Journal of Economic Psychology, 40*, 119 – 133.

Andreoni, J., Erard, B. & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature, 36*(2)**,** 818-860.

Andriani, L. (2016). Tax morale and prosocial behaviour: evidence from a Palestinian survey. *Cambridge Journal of Economics, 40*(3), 821-841.

Anyaduba, J. O. (2006). A Critical Appraisal of the Nigerian Tax System: 1980-2002, *Finance India*, *20*(1), 133–143.

Armitage, C.J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta analytic review. *British Journal of Social Psychology*, *40,* 471-499.

Arnold, M.J. & Reynolds, K.E. (2003). Hedonic shopping motivation. *Journal of Retailing, 79*(2), 77-95.

Arregle, J. L., Hitt, M. A., Sirmon, D. G. & Very, P. (2007). The Development of Organizational Social Capital: Attributes of Family Firms. *Journal of management studies, 44* (1)**,** 73-95.

Ashir, I. & Hasanuzzaman, S. (2019). Examining Different Factors of Income Tax Non-Compliance in a Small Sample in Bangladesh. *Economics and Business, Sciendo, 33*(1), 35-49.

Asian Development Bank (ADB). (2020). *A Comparative Analysis of Tax Administration in Asia and the Pacific.* Manila.

Asian Development Bank. (2018). *A Comparative Analysis of Tax Administration in Asia and the Pacific.* Philippines.

ATO [Australian Taxation Office]. (2019). Compliance model. Retrieved from https://www.ato.gov.au/About-ATO/Managing-the-tax-and-super-

system/Strategic direction/How-we-help-and-influence-taxpayers/Compliance-model/

Awaludin, I. (2014). The influence of attitude, subjective norms, perceived behavior control and sanctions on taxpayers' noncompliance with intention as the intervening variable (survey on corporate taxpayers in Kendari Small Taxpayers Office). *International Journal of Economic Research*, *11*(3), 711-727.

Azmi, A. A., & Perumal, K. A. (2008). Tax fairness dimensions in an Asian context: The Malaysian perspective. *International Review of Business Research Paper*, *4*(5), 11-19.

Babbie, E. (2010). *The Practice of Social Research.* (12th ed.). Wadsworth: Cengage Learning

Baer, K. & Silvani, C. (1997). Designing a Tax Administration Reform Strategy: Experiences and Guidelines. *IMF Working Papers. 97.*

Baglin, J. (2014). Improving Your Exploratory Factor Analysis for Ordinal Data: A Demonstration Using FACTOR. *Practical Assessment, Research & Evaluation, 19*(5), 1-14.

Bagozzi, R.P., Yi, Y. & Phillips, L.W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, *36*(3), 421-458.

Bahiigwa, G., Ellis, F., Fjeldstad, O. H. & Iversen, V. (2004). Rural taxation in Uganda: Implications for growth, income distribution, local government revenue and poverty reduction. *EPRC Research Series No. 35 (January 2004).* Kampala: Economic Policy Research Centre.

Bajpai, N. (2014). Business Research Methods. (1st edn). Delhi: Pearson Education Inc.

Bame-Aldred, C. W., Cullen, J. B., Martin, K. D., & Parboteeah, K. P. (2013). National culture and firm-level tax evasion. *Journal of Business Research*, *66*(3), 390-396.

Bandalos, D. L., & Gerstner, J. J. (2016). Using factor analysis in test construction. In K. Schweizer & C. DiStefano (Eds.), *Principles and methods of test construction: Standards and recent advances* (pp. 26-51). Boston, MA: Hogrefe.

Bangladesh. Ministry of Finance. (2019). *Bangladesh Economic Review 2019*.

Bangladesh. Ministry of Finance. (2019). *Budget Speech*.

Bărbuţă-Mişu, N. (2011). A review of factors for tax compliance. *Economics and Applied Informatics*, *1*, 69-76.

Barone, G. & Mocetti, S. (2011). Tax morale and public spending inefficiency. *International Tax and Public Finance, 18*(6), 724-749.

Barrand, P., Harrison, G., & Ross, S. (2004). *Integrating tax and social security contribution collection within a unified revenue administration: The experience of central and eastern European countries.* IMF working paper, December.

Bates, R. H. & Lien, D. H. D. (1985). A note on taxation, development, and representative government. *Politics & Society. 14***, 53-70.

Bazart, C., & Bonein, A. (2014). Reciprocal relationships in tax compliance decisions. *Journal of Economic Psychology, 40*, 83-102.

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical Assessment, Research & Evaluation*, *18*(6), 1–13.

Beck, L., & Ajzen, I. (1991). Predicting Dishonest Actions Using the Theory of Planned Behavior. *Journal of Research in Personality, 25*(3), 285-301.

Becker, G. (1968). Crime and punishment: an economic approach. *Journal of Political Economy,* 76**,** 167-217.

Begum, F. A. (2017, January 08). Plugging holes in internal revenue mobilisation. *The Financial Express*. Retrieved from https://www.thefinancialexpress.com.bd/views/plugging-holes-in-internal-revenue-mobilisation

Bello, K. B. (2014). Evasion and Avoidance as Forms of Tax Non-Compliance: A Critical Review. *Sains Humanika*, *2*(3), 39-42.

Bello, K. B. & Danjuma, I. (2014). Review of Models/Theories Explaining Tax Compliance Behavior. *Sains Humanika*, *2*(3), 35-38.

Benk, S., Çakmak, A. F., & Budak, T. (2011). An investigation of tax compliance intention: A theory of planned behavior approach. *European Journal of Economics, Finance, and Administrative Sciences, 28*, 180–188.

Bernard, R. H. (2012). *Social research methods: Qualitative and quantitative approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Besley, T., & Persson, T. (2013). Taxation and development. In A. J. Auerbach, R. Chetty, M. Feldstein, & E. Saez (Eds.), Handbook of public economics (Vol. 5, pp. 51–110). Amsterdam: Elsevier

Bhuiyan, M. Z. H. (2012). Tax evasion and avoidance practices in some selected corporate firms of Bangladesh. *World Journal of Social Sciences, 2*(7), 150–156.

Biabani, S. & Ramezani, A. (2011). An investigation of the factors effective on the compliance behavior of the tax payers in the VAT system: A case study of

Qazvin tax affairs general department. *African Journal of Business Management, 5*(26), 10765-10768.

Bidin, Z., Samsudin, F. M., & Othman, Z. (2014). Using Theory of Reasoned Action to Explain Taxpayer Intention to Comply with Goods and Services Tax. *International Journal of Business and Social Science. 5*(1), 131–139.

Biesta, G. (2010). Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori & C. Teddlie, (Eds.). *Sage handbook of mixed methods in social & behavioral research* (2nd ed., pp. 95-117). Thousand Oaks, CA: Sage

Bilgin, C. (2014). Determinants of tax morale in Spain and Turkey: an empirical analysis. *European Journal of Government and Economics, 3*(1), 60-74.

Bird, R. M., & Zolt, E. M. (2005). Redistribution via taxation: The limited role of the personal income tax in developing countries. *Journal of Asian Economics. 16*(1), 928- 946.

Bloomquist, K. M. (2006). A Comparison of Agent-based Models of Income Tax Evasion. *Social Science Computer Review. 24*(4), 411– 425.

Bobek, D. D., Hageman, A. M., & Kelliher, C. F. (2013). Analyzing the role of social norms in tax compliance behavior. *Journal of Business Ethics*, *115*(3), 451–468.

Bobek, D. D. & Hatfield, R. C. (2003). An investigation of the theory of planned behavior and the role of moral obligation in tax compliance. *Behavioural Research in Accounting*, *15*, 13-38.

Bodea, C. & Lebas A. (2014). The Origins of Voluntary Compliance: Attitudes Toward Taxation in Urban Nigeria. *British Journal of Political Science*, *46*(01), 215-238.

Bornstein, M. H., Jager, J. & Putnick, D.L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. Developmental Review, *33*, 357–370.

Borrego, A. C., Lopes, C. M. & Ferreira, C.M. (2013). Tax Noncompliance in an International Perspective: a Literature Review. Portuguese Journal of Accounting and Management. *14*, 9-41.

Braithwaite, V. (2007). Responsive Regulation and Taxation: Introduction. *Law and Policy*, *29*(1), 3-10.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3* (2)**,** 77-101.

Braütigam, D. (2008). Introduction: taxation and state-building in developing countries. *In:* Braütigam, D., Fjeldstad, O.-H. & Moore, M. (eds.) *Taxation and state-building in developing countries.* Cambridge: Cambridge University Press.

Braütigam, D., Fjeldstad, O. H. & Moore, M. (2008). *Taxation and state-building in developing countries: Capacity and consent.* Cambridge University Press: Cambridge.

Bricki, N. & Green, J. (2007). *A guide to using qualitative research methodology.* London: London School of Hygiene and Tropical Medicine.

Brierley, J.A. (2017). The role of a pragmatist paradigm when adopting mixed methods in behavioural accounting research. *International Journal of Behavioural Accounting and Finance, 6*(2), 140-154.

Brink, W.D. & Porcano, T.M. (2016). The impact of culture and economic structure on tax morale and tax evasion: a country-level analysis using SEM. In Hasseldine, J. (Ed.), *Advances in Taxation, 23,* Emerald Group Publishing, Bingley, 87-123.

Brondolo, J., Silvani, C., Borgne E. L., & Bosch F. (2008). *Tax Administration Reform and Fiscal Adjustment: The Case of Indonesia (2001-07)*. IMF Working Papers: 1-70.

Brown, D. (2002). Canada's Conundrum: Tax and Spending, *Canadian Tax Journal*. *50*(4), 1322- 1332.

Brown, R.E. & Mazur, M.J. (2003). IRS's Comprehensive Approach to Compliance Measurement. *IRS White Paper*, Washington DC.

Brun J.F., & Diakité M. (2016). *Tax Potential and Tax Effort: An Empirical Estimation for Non-resource Tax Revenue and VAT's Revenue.* Working Paper, halshs-01332053, HAL.

Bryman, A. & Bell, E. (2011). *Business Research Methods* (3rd ed.). Oxford: OUP.

Buehn, A., & Schneider, F. (2012). Shadow economies around the world: Novel insights, accepted knowledge, and new estimates. *International Tax and Public Finance, 19*(1), 139–171.

Burns, A. C. & Bush, R. F. (2012). *Marketing Research.* (International / 7th edn). Pearson.

Burgess, R., & Stern, N. (1993). Taxation and Development. *Journal of Economic Literature, 31*(2), 762-830.

Bulmer, M. (2004). *Questionnaires, V.1.* Thousand Oaks, CA: Sage Publications

Casagrande, A., Cagno, D. D., Pandimiglio, A., & Spallone, M. (2015). The effect of competition on tax compliance: The role of audit rules and shame. *Journal of Behavioral and Experimental Economics, 59*, 96-110.

Castro, M. F., & Rizzo, I. (2014). Tax compliance under horizontal and vertical equity conditions: An experimental approach. *International Tax and Public Finance*, 21(4), 560-577.

Castro, L., & Scartascini, C. (2015). Tax compliance and enforcement in the pampas evidence from a field experiment. *Journal of Economic Behavior & Organization 116*, 65-82.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*(2), 245-276.

Cenfetelli, R., & Bassellier, G. (2009). Interpretation of formative measurement in information systems research. *MIS Quarterly*, *33*(4), 689-708.

Çevik, S. (2016). Tax morale and tax compliance in socio-political context. In Aydin, M. and Tan, S.S. (Eds), *Political Economy of Taxation*, IJOPEC Publication (pp. 37-57), Istanbul.

Chan, C.W., Troutman, C.T., & O'Bryan, D. (2000). An expanded model of taxpayer compliance: Empirical evidence from United States and Hong Kong. *Journal of International Accounting, Auditing and Taxation, 9*(2), 83 –103.

Chan, L. L. & Idris, N. (2017). Validity and Reliability of The Instrument Using Exploratory Factor Analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences, 7*(10), 400-410.

Chau, G. & Leung, P. (2009). A critical review of Fischer tax compliance model: A research synthesis. *Journal of Applied Accounting and Taxation, 1*(2), 34-40.

Chan, H.F., Supriyadi, M.W. & Torgler, B. (2018). Trust and tax morale. In Uslaner, E.M. (Ed.), *The Oxford Handbook of Social and Political Trust*. (pp. 1-71), New York, NY: Oxford University Press.

Chandarasorn, M. (2012). *Public Management as Citizen Compliance: A Case Study of Income Tax Compliance Behavior in Thailand.* PhD thesis. The Graduate Faculty of the University of Kansas.

Chiumya, C. (2006). *Counteracting tax evasion in Malawi: An analysis of the methods and a quest for improvement.* MPRA (Munich Personal RePEc Archive) Paper No. 9892.

Ching, S.P. (2013). *Determinants of tax non-compliance in Malaysia.* Master dissertation. UTAR.

Chow, C. Y. (2004). Gearing Up for the Self-Assessment Tax Regime for Individuals. *Tax National.* 2nd Quarter (2004), 20-23.

Chowdhury, M. M. & Hossain, S. Z. (2019). An Overview of Tax Reforms in Bangladesh: Corporate Perspective. *Global Journal of Management and Business Research (D), 19*(4).

Christian, R. C., & Alm, J. (2014). Empathy, sympathy, and tax compliance. *Journal of Economic Psychology, 40*, 62-82.

Churchill, G.A. Jr, (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*(1), 64-73.

Clotfelter, C. T. (1983). Tax evasion and tax rates: An analysis of individual returns. *The Review of Economics and Statistics*, 65(3), 363-373.

Cobham, A. (2005). Tax evasion, tax avoidance and development finance. *Queen Elisabeth House Working Paper No. 129.* Oxford: Oxford University.

Comrey, L.A. & Lee, H.B. (1992). *A first course in factor analysis* (2nd ed.). Hillside, NJ: Lawrence Erlbaum Associates.

Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation – Design & analysis issues for field settings.* Boston: Houghton Mifflin Company.

Costello, A.B., & Osborne, J.W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, *10*(7), 1-9.

Cowell, F. A. (1985). The economic analysis of tax evasion. *Bulletin for Economic Research. 37*(3), 164-193.

Cowell, F. A. & Gordon, J. P. F. (1988). Unwillingness to pay: Tax evasion and public good provision. *Journal of Public Economics,* 36**,** 305-321.

Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative research.* (4th edn). Boston: Pearson Education Inc.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*, (2nd ed.) Thousand Oaks: Sage.

Creswell, J.W., & Miller, D.L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice, 39,* 124-130.

Crisp, J. R., & Turner, R. N. (2007). *Essential social psychology.* London: Sage Publications.

Cuccia, A.D. (1994). The Effects of Increased Sanctions on Paid Tax Preparers: Integrating Economic and Psychological Factors. *The Journal of the American Taxation Association*, *16*(1), 41-67.

Cummings, R. G., Martinez-Vazquez, J., McKee, M. & Torgler, B. (2005). Effects on tax morale on compliance: Experimental and survey evidence. *CREMA Working Paper no 2005- 29.* Basel: Centre for Research in Economics, Management and the Arts.

Cyan, M. R., Koumpias, A. M., & Martinez-Vazquez, J. (2016). The determinants of tax morale in Pakistan. *Journal of Asian Economics*, *47*, 23-34.

D'Arcy, M. (2011). Why do citizens assent to pay tax? Legitimacy, taxation and the African state. *Afrobarometer Working Paper No. 126, 01-23.*

Damayanti, N. T., Sutrisno, T., Subekti, I., & Baridwan, Z. (2015). The Role of Taxpayer's Perception of the Government and Society to Improve Tax Compliance. *Accounting and Finance Research, 4*(1), 180 – 187.

Daoud, J. I. (2017). Multicollinearity and Regression Analysis. *Journal of Physics: Conference Series,* 949 012009.

Das, J., Holla, A. & Mohpal, A. (2014). The Fiscal Cost of Weak Governance: Evidence from Teacher Absence in India. *National Bureau of Economic Research Working Paper 20299.*

De Paepe, G., Hart, T. & Long, C. (2017). *Domestic resource mobilization and the transition to sustainable development: Synthesis of Asia case studies.* Synthesis Report, Overseas Development Institute, London.

Denscombe, M. (2008). Communities of practice: a research paradigm for the mixed methods approach. *Journal of Mixed Methods Research, 2*(3), 270-283.

Denscombe, M. (2010). *The good research guide: for small-scale social research projects.* Open University Press.

Devos, K. (2008). Tax evasion behavior and demographic factors: an exploratory study in Australia. *Revenue Law Journal*, *18*(1), 1-43.

Devos, K. (2012). A comparative study of compliant and non-compliant individual taxpayers in Australia. *Journal of Business and Policy Research*, 7 (2), 180-196.

Devos, K. (2014). *Factors Influencing Individual Taxpayer Compliance Behaviour.* (1[st] edn). Springer Netherlands.

Doerrenberg, P. & Peichl, A. (2010). Progressive taxation and tax morale. *IZA Discussion Paper No. 5378,* The Institute for the Study of Labor (IZA), Bonn.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P. & Rupert, D. J. (2007). Merging qualitative and quantitative data in mixed methods research: How to and why

not. *Ecological and Environmental Anthropology (University of Georgia)*, *3*(1), 18-28.

D'Souza, E. (2016). *A Theory of Tax Evasion in Developing Countries*. IIMA Working Papers WP2016-03-37, Indian Institute of Management Ahmedabad, Research and Publication Department.

Eisenhardt, K. M. & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of management journal, 50* (1), 25-32.

Elam, G. & Fenton, K. A. (2003). Researching sensitive issues and ethnicity: lessons from sexual health. *Ethnicity and Health*, *8*(1), 15-27.

Elffers, H., Robben, S.J., & Hessing, D.J. (1992). On measuring tax evasion. *Journal of Economic Psychology, 13*(4), 545–567.

Elffers, H., Weigel, R. H., & Hessing, D. J. (1987). The consequences of different strategies for measuring tax evasion behaviour. *Journal of Economic Behaviour, 8*(3), 311-337.

Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *Evolving Guidelines for Publication of qua-Litative Research Studies in Psychology and Related Fields, 38*, 215–229.

Elo, S. & Kyngäs, H. (2007). The qualitative content analysis process. *Journal of advanced nursing, 62* (1), 107-115.

Engel, E. M. R. A., & Hines, J. R., Jr. (1999). *Understanding tax evasion dynamics.* Working Paper No. 6903. National Bureau of Economic Research (NBER).

Erard, B. & Feinstein, J. S. (1994). Honesty and evasion in the tax compliance game. *The RAND Journal of Economics, 25*, 1-19.

Evans, C., Carlon, S., and Massey, D. (2005). Record keeping practices and tax compliance of SMEs. *eJournal of Tax Research*, 3(2)*,* 288-334.

Etikan, I., Musa, S. A. & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1-4

Eygu, H., & Gulluce, A. C. (2017). Determination of Customer Satisfaction in Conservative Concept Hotels by Ordinal Logistic Regression Analysis. *Journal of Financial Risk Management, 6*, 269-284

Faa, S. G. (2008). *Tax compliance behavior of individuals under self-assessment system*. PhD Thesis. Graduate School of Management, Universiti Putra Malaysia.

Fagbemi, T. O., Uadiale, O. M., Noah, A. O. (2010). The Ethics of Tax Evasion: Perceptual Evidence from Nigeria. *European Journal of Social Sciences, 17*(3), 360–371.

Fair Tax Monitor (2015). *FTM Report for Bangladesh*, Oxfam Novib, TJN-A, and SUPRO.

Falanni, Z. (2015). *Determinants of Corporate Taxpayer Compliance Behaviour: A Study Case at Duren Sawit Small Tax Office in Indonesia*. Master Thesis, International Institute of Social Studies, The Hague, Netherlands.

Falkinger, J. & Walther, H. (1991). Rewards Versus Penalties: on a New Policy against Tax Evasion. *Public Finance Review, 19*(1), 67–69.

Faridy, N., Copp, R., Freudenberg, B. & Sarker, T. (2016). The hidden compliance cost of VAT: An exploration of psychological and corruption costs of VAT in a developing country. *eJournal of Tax Research, 14*(1), 166-205.

Faridy, N., Copp, R., Freudenberg, B. & Sarker, T. (2014). Complexity, compliance costs and non-compliance with VAT by small and medium enterprises in Bangladesh: Is there a relationship? *Australian Tax Forum, 29* (2), 281–328.

Fauvelle-Aymar, C. (1999). The political and tax capacity of government in developing countries. *Kyklos*, *52*, 391-413.

Feld, L. P. & Frey, B. S. (2002). Trust breeds trust: how taxpayers are treated. *Economics of Governance, 3*(2), 87–99.

Feld, L. P. & Frey, B. S. (2006). Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation. *IEW - Working Papers 287,* Institute for Empirical Research in Economics - University of Zurich.

Feld, L.P. & Torgler, B. (2007). Tax morale after the reunification of Germany: results from a quasinatural experiment. *CESifo Working Paper No. 1921,* CESifo Group, Munich.

Fenochietto, R. & Pessino, C. (2013). *Understanding Countries' Tax Effort* (IMF Working Paper No. 13/244). Washington, D. C.: International Monetary Fund (IMF).

Ferranti, D., Perry, G. E., Ferreira, F. H. G., & Walton, M. (2004). *Inequality in Latin America: Breaking with History?* Washington, D.C.: World Bank.

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). LA: SAGE.

Fischer, C.M., Wartick, M., & Mark M. M. (1992). Detection Probability and Taxpayer Compliance: A Review of the Literature. *Journal of Accounting Literature*, *11*(1), 1-46.

Fischer, C. M. (1993). *Perceived detection probability and taxpayer compliance: A conceptual and empirical examination.* Ann Arbor: UMI.

Fisher, J. (2014). Fairer shores: Tax havens, tax avoidance, and corporate social responsibility. *Boston University Law Review*, *94*(1), 337-365.

Fisman, R & Wei, S. (2004). Tax Rates and Tax Evasion: Evidence from "Missing Imports" in China. *Journal of Political Economy, 112*(2), 471-496

Fjeldstad, O.H. (2004). What's trust got to do with It? Non-payment of service charges in local authorities in South Africa. *The Journal of Modern African Studies, 42***,** 539-562.

Fjeldstad, O. H., Schulz-Herzenberg, C. & Sjursen, I. H. (2012). *Peoples' Views of Taxation In Africa: A Review of Research on Determinants of Tax Compliance.* Chr. Michelsen Institute, Working Paper, 7.

Fjeldstad, O. H. & Semboja, J. (2001). Why people pay taxes: The case of the development levy in Tanzania. *World Development, 29***,** 2059-2074.

Forsythe, S., Liu, C., Shannon, D. & Gardner, L.C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing, 20*(2), 55-75.

Franzoni, L. (1998). Tax Evasion and Tax Compliance. *Encyclopedia of Law and Economics*.

Franzoni, L. A. (1999). Negotiated Enforcement and Credible Deterrence. *The Economic Journal, 109*(458), 509-535.

Freshwater, D. & Cahill, J. (2012). Why write? *Journal of Mixed Methods Research, 6*(3), 151-153.

Frey, B. S. (2003). Deterrence and Tax Morale in the European Union. *European Review*. *11*(3), 385- 406.

Frey, B. & Feld, L. (2002). Deterrence and morale in taxation: An empirical analysis. *Center for Economic Studies & Ifo Institute for Economic Research, CESifo*, Working Paper No. 760.

Fuest, C. & Riedel, N. (2009). Tax evasion, tax avoidance and tax expenditures in developing countries: A review of the literature. Report prepared for the UK Department for International Development. Oxford: Oxford University Centre for Business and Taxation.

Gallagher, M. (2005). Benchmarking Tax Systems. *Public Administration and Development 25*, 125-144.

Garg, R., Rahman, Z. & Qureshi, M.N. (2014). Measuring customer experience in banks: scale development and validation. *Journal of Modelling in Management, 9*(1), 87-117.

Gaskin, C. J., & Happell, B. (2014). On exploratory factor analysis: A review of recent evidence, an assessment of current practice, and recommendations for future use. *International Journal of Nursing Studies*, *51*(3), 511-521.

Gemmel, N. (2016). *An Allingham-Sandmo Tax Compliance Model with Imperfect Enforcement* (Victoria Business School Working Paper No. 09/2016).

Gerstenbluth, M., Melgar, N., Pagano, J.P. & Rossi, M. (2012). How do inequality affect tax morale in Latin America and Caribbean? *Revista de Economia del Rosario*, *15*(2), 123-135.

Ghasemi, A. & Zahediasl, S. (2012). Normality Tests for Statistical Analysis: A Guide for Non-Statisticians. *International Journal of Endocrinology Metabolism. 10*(2), 486-489.

Gilbert, N. (2008). *Researching social life.* Sage Publications.

Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report, 8*(4), 597-607.

Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems, 21*, 135–146.

Gorsuch, R.L. (1983). *Factor analysis (2nd ed.).* Hillside, NJ: Lawrence Erlbaum Associates.

Graetz, M. J. & Wilde, L. L. (1985). The economics of tax evasion: Fact or fantasy. *National Tax Journal, 38*, 355-363.

Grasmick, H. G. & Scott, W. J. (1982). Tax evasion and mechanisms of social control: A comparison with grand and petty theft. *Journal of Economic Psychology, 2***, 213-230.

Greene, J. C. & Hall, J. N. (2010). Dialectics and pragmatism: being of consequence. In A. Tashakkori & C. Teddlie (Eds.), *SAGE handbook of mixed methods in social and behavioral research* (2nd ed., pp. 119-143). Thousand Oaks CA: Sage.

Graneheim, U. H. & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today, 24* (2)**, 105-112.

Guest, G., Bunce, A. & Johnson, L. (2006). How many interviews are enough? *Field Methods, 18*, 59-82.

Gupta, P. (2015). Generating Larger Tax Revenue in South Asia. *MPRA Paper*, University Library of Munich, Germany.

Gupta, R., & McGee, R. W. (2010). A Comparative Study of New Zealanders' Opinion on the Ethics of Tax Evasion: Students vs Accountants. *New Zealand Journal of Taxation Law and Policy, 16*(1), 47-84.

Guba, E., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluence. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 191-215). Thousand Oaks, CA: Sage.

Hai, O. T, & See, L. M. (2011). Behavioral Intention of Tax Non-Compliance among Sole-Proprietors in Malaysia. *International Journal of Business and Social Science, 2*(6), 142-152.

Hair, J., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate data analysis (7th ed.)*. Upper Saddle River, New Jersey: Pearson Educational International.

Hallsworth, M., List, J. A., Metcalf, R. D. & Vlaev, I. (2017). The Behavioralist as Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance. *Journal of Public Economics, 148*, 14-31.

Hamid, S. A. (2013). *Tax Compliance Behaviour of Tax Agents: A Comparative Study of Malaysia and New Zealand.* PhD Thesis, University of Canterbury.

Hanno, D., & Violette, G. (1996). An Analysis of Moral and Social Influences on Taxpayer Behavior. *Behavioral Research in Accounting, 8*(Supplement), 57-75.

Haq, M. (2014). A comparative analysis of qualitative and quantitative research methods and a justification for use of mixed methods in social research. *Annual PhD Conference*, University of Bradford Business School of Management.

Haque, S. T. (2013). *Underground Economy of Bangladesh: An Econometric Analysis.* Finance Division Research Study Series 01, Ministry of Finance, Bangladesh.

Hardin, R. (2007). *Compliance, consent, and legitimacy.* In Boix, C. & Stokes, S.C. (eds) The Oxford Handbook of Comparative Politics. Oxford: Oxford University Press, 236–255.

Harris, T. D. (1989). *The effect of tax knowledge on individuals' perceptions of fairness and compliance with federal income tax system: An empirical study.* Unpublished PhD Thesis, University of South Carolina, South Carolina.

Hasan, R. (2014). The Tendency toward Tax Evasion in Bangladesh. *World Journal of Social Sciences*, *3*(3), 149–161.

Hasan, R. (2014$_a$). Tax Compliance Behavior among Prospective Tax Payers of Bangladesh. *Research Journal of Economics & Business Studies*, *3*(5), 90–97.

Hasan, R., Mohammad, N. & Alam, M. F. (2017). Tax Compliance in Bangladesh – A Structural Equation Modelling Approach. *American Journal of Trade and Policy, 4*(1), 15-22.

Hassan, M., & Prichard, W. (2016). The Political Economy of Domestic Tax Reform in Bangladesh: Political Settlements, Informal Institutions and the Negotiation of Reform. *The Journal of Development Studies, 52*(12), 1704-1721.

Hassan, M., & Prichard, W. (2013). *The Political Economy of Tax Reform in Bangladesh: Political Settlements, Informal Institutions and the Negotiation of Reform.* ICTD Working Paper No. 14. Institute of Development Studies, Brighton, UK.

Hashimzade, N., Myles, G. D., Page, F., & Rablen, M. D. (2014). Social networks and occupational choice: The endogenous formation of attitudes and beliefs about tax compliance. *Journal of Economic Psychology, 40*, 134-146.

Hasseldine, D. J. & Bebbington, K.J. (1991). Blending Economic Deterrence and Fiscal Psychology Models in the Design of Responses to Tax Evasion: The New Zealand Experience. *Journal of Economic Psychology, 12*(2), 299-324.

Hasseldine, J., and Li, Z. (1999). More tax evasion research required in new millennium. *Crime, Law and Social Change*, *31* (1), 91-104.

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evid Based Nurs. 18*(3), 66-67.

Hechter, M. (2013). *Alien Rule*. New York: Cambridge University Press

Helhel, Y. & Ahmed, Y. (2014). Factors Affecting Tax Attitudes and Tax Compliance: A Survey Study in Yemen. *European Journal of Business and Management*, *6*(22), 48-58.

Hellström, T. (2008). Transferability and naturalistic generalization: New generalizability concept for social science or old wine in new bottles? *Quality and Quantity*, *42*, 321–337.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research. *Educational and Psychological Measurement*, *66*, 393-416.

Hernandez, M., Jamison, J., Korczyc, E., Mazar, N. & Sormani, R. (2017). *Applying Behavioral Insights to Improve Tax Collection: Experimental Evidence from Poland.* Washington, DC: World Bank

Hernandez, M., Karver, J., Negre, M., & Perng, J. (2019). *Promoting Tax Compliance in Kosovo with Behavioral Insights.* Washington, DC: World Bank

Hessing, D. J., Kinsey, K. A., Elffers, H., & Weigel, R. H. (1988). Tax evasion research: Measurement strategies and theoretical models. In Van Raaij, W.F., van Veldhoven, G.M., & Wärneryd, K.E. (Ed.), *Handbook of Economic Psychology.* (pp. 517-536). New York, NY: Springer.

Ho, D., Ho, D. K., & Young, A. (2013). A study of the impact of culture on tax compliance in China. *International Tax Journal*, *39*(3), 33-44.

Ho J. K., Loo E. C., & Lim K. P. (2006). Perspective of non-taxpayers' perceptions on issues of ethics and equity in tax compliance. *Malaysian Accounting Review*, *5*(2), 47-59.

Hoelzle, J. B., & Meyer, G. J. (2013). Exploratory factor analysis: Basics and beyond. In I. B. Weiner, J. A. Schinka, & W. F. Velicer (Eds.), *Handbook of psychology: Research methods in psychology* (Vol. 2, 2nd ed., pp. 164-188). Hoboken, NJ: Wiley.

Hoque, J. M., Bhuiyan, M. Z. H., & Ahmad, A. (2011). Tax evasion and avoidance crimes - a study on some corporate firms of Bangladesh. Paper presented at 5th Asian Business Research Conference, 23-24 December, 2011, Bangladesh Institute of Administrative Management (BIAM) Foundation, Dhaka, Bangladesh.

Hokamp, S. & Pickhardt, M. (2010). Income Tax Evasion in a Society of Heterogeneous Agents - Evidence from an Agent-based Model. *International Economic Journal 24*(4), 541–553.

Hokamp, S. & Seibold, G. (2014). Tax Compliance and Public Goods Provision. An Agent-based Econophysics Approach. *Central European Journal of Economic Modelling and Econometrics. 6*(4), 217–236.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179-185.

Horodnic, I. A. (2018). Tax morale and institutional theory: a systematic review. *International Journal of Sociology and Social Policy, 38*(9/10), 868-886.

Horodnic, I.A. & Williams, C.C. (2016). An evaluation of the shadow economy in Baltic States: a tax morale perspective. *International Journal of Entrepreneurship and Small Business, 28*(2-3), 339-358.

Hosen, A. (2019). GDP Growth and Indirect Taxation in Bangladesh: Related Issues, Consequences and Expectation. *International Journal of Business and Economics Research, 8*(5), 286-296.

Ibrahim, M., Musah, A., & Abdul-Hanan, A. (2015). Beyond enforcement: what drives tax morale in Ghana? *Humanomics*, *31*(4), 399-414.

International Tax Compact (ITC). (2015). *Examples of Successful DRM Reforms and the Role of International Co-operation.* ITC Discussion Paper.

ITC [International Tax Compact]. (2010). *Addressing tax evasion and tax avoidance in developing countries*. Eschborn.

Isa, K. M. (2012). *Corporate Taxpayers' Compliance Variables under the Self-Assessment System in Malaysia.* PhD thesis. Curtin University

Ising, E. (1925). Beitrag zur Theorie des Ferromagnetismus. *Zeitschrift fur Physik. 31*(1), 253–258.

Israel, G. D. (1992). Determining sample size. *University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS.*

Izquierdo, I., Olea, J., & Abad, F. J. (2014). Exploratory factor analysis in validation studies: Uses and recommendations. *Psicothema*, *26*, 395-400.

Jackson, J., Bradford, B., Hough, M., Myhill, A., Quinton, P., & Tyler, T. R. (2012). Why do people obey the law? Legitimacy and the influence of legal institutions. *The British Journal of Criminology, 52*(6), 1051–1071.

Jackson, B. R., & Jones, S. M. (1985). Salience of Tax Evasion Penalties Versus Detection Risk. *The Journal of the American Taxation Association*, *6*(2), 7 –17.

Jackson, B. R., & Milliron, V. C. (1986). Tax compliance research: Findings, problems and prospects. *Journal of Accounting Literature. 5*, 125-161.

Jahnke, B. (2017). How does petty corruption affect tax morale in sub-Saharan Africa? An empirical analysis. *WIDER Working Paper, No. 2017/8*, United Nations University, World Institute for Development Economics Research (UNU-WIDER), Helsinki.

James, S., & Alley, C. (2002). Tax Compliance, self-assessment and tax administration. *Journal of Financial and Management in Public Services, 2*(2), 27-42.

Jayawardane, D. (2016). Taxpayer attitude and tax Compliance decision in Sri Lanka. *International Journal of Arts and Commerce*, *5*(2), 124-135.

Jimenez, P. & Iyer, G.S. (2016). Tax compliance in a social setting: The influence of social norms, trust in government, and perceived fairness on taxpayer compliance. *Advances in Accounting*, *34*, 17–26.

Jogulu, U. D. & Pansiri, J. (2011). Mixed methods: a research design for management doctoral dissertations. *Management research review, 34* (6)**,** 687-701.

Johnson, R. B., & Gray, R. (2010). A history of philosophical and theoretical issues for mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *SAGE handbook of mixed methods in social and behavioral research* (2nd ed., pp. 69-94). Thousand Oaks CA: Sage.

Johnson, R. B. & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26.

Jung, H., & Goldenson, D. R. (2007). The internal consistency and precedence of key process areas in the capability maturity model for software. *Empirical Software Engineering*, *13*(2), 125-146.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*,141-151.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31-36.

Kaldor, N. (1963). Will Underdeveloped Countries Learn To Tax? *Foreign Affairs. 41*,410-419.

Kanniainen, V. & Pääkkönen, J. (2010). Do the catholic and protestant countries differ by their tax morale? *Empirica, 37*(3), 271-290.

Kasipillai, J, Aripin, N & Amran, N. A. (2003). The Influences of Education on Tax Avoidance and Tax Evasion. *eJournal of Tax Research, 1*(2), 134-146.

Kasipillai, J., & Jabbar, H. A. (2006). Gender and ethnicity differences in tax compliance. *Asian Academy of Management Journal*, *11*(2), 73-88.

Kass, R. A., & Tinsley, H. E. A. (1979). Factor Analysis. *Journal of Leisure Research, 11*(2)*, 120–138.*

Kastlunger, B., Lozza, E., Kirchler, E. & Schabmann, A. (2013). Powerful authorities and trusting citizens: The Slippery Slope Framework and Tax Compliance in Italy. *Journal of Economic Psychology*, *34*, 36-45.

Kesselman, J.R. (1994). Compliance, enforcement and administrative factors in improving tax fairness. In Maslove, A.M. (Ed.), *Issues in the Taxation of the Individuals* (pp. 62-84). Queen' Printer Ontario.

Khan, T. I., Kamal, M., & Talukdar, F. (2019). *Potential of Personal Income Tax in Bangladesh: An Examination of Survey Data* (CPD Working Paper 126). Centre for Policy Dialogue (CPD), Bangladesh.

Khan, Z. A., Thornton, N. & Frazer, M. (2000). Experience of Financial Reforms in Bangladesh. *Public Administration and Development*, *20*(1), 33-42.

Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative dentistry & endodontics*, *38*(1), 52–54.

Kim, S., Kim, H., Her, M., & Kim, H. (2006). Does political intention affect tax evasion?. *Journal of Policy Modeling*, *30*(3), 401-415.

King, A. & Eckersley, R. (2019). *Statistics for Biomedical Engineers and Scientists: How to Analyze and Visualize Data.* Academic Press: Elsevier Ltd.

Kinsey, K. A. (1986). Theories and models of tax cheating. *Criminal Justice Abstracts,* 18, 403–425.

Kinsey, K. A. (1992). Deterrence and alienation effects of IRS enforcement: An analysis of survey data. In J. Slemrod (Ed.), *Why people pay taxes: Tax compliance and enforcement*.

Kiow T. S., Salleh, F. M., & Kassim, A. M. (2017). The Determinants of Individual Taxpayers' Tax Compliance Behaviour in Peninsular Malaysia. *International Business and Accounting Research Journal*, *1*(1), 26-43.

Kirchgässner, Gebhard. (2011). Tax Morale, Tax Evasion, and the Shadow Economy. In: *Handbook of the Shadow Economy*. 347-374.

Kirchler, E. (2007). *The economic psychology of tax behaviour.* Cambridge: Cambridge University Press.

Kirchler, E., Muehlbacher, S. & Schwarzenberger, H. (2011). Voluntary Versus Enforced Tax Compliance: Empirical Evidence for the Slippery Slope Framework. *European Journal of Law and Economics*. *32*, 89-97.

Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The "slippery slope" framework. *Journal of Economic Psychology*, *29*, 210-225.

Kiri, N. (2016). Factors affecting tax evasion. *International Journal of Economics, Commerce and Management*, *4*(2), 804–811.

Kiser, E. & Karceski, S. M. (2017). Political economy of taxation. *Annual Review of Political Science, 20*(1), 75–92.

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York, NY: The Guilford Press.

Kock, N. & Lynn, G. (2012). Lateral Collinearity and Misleading Results in Variance-Based SEM: An Illustration and Recommendations. *Journal of the Association of Information Systems, 13*(7), 546-580.

Kogler, C., Muehlbacher, S. & Kirchler, E. (2013). *Trust, Power, and Tax Compliance: Testing the 'Slippery Slope Framework' Among Self-Employed Taxpayers.* WU International Taxation Research Paper Series No. 2013 - 05.

Kolm, S. (1973). A note on optimum tax evasion. *The Journal of Public Economics, 2*, 265-270.

Kountouris, Y. & Remoundou, K. (2013), Is there a cultural component in tax morale? Evidence from immigrants in Europe. *Journal of Economic Behavior & Organization, 96,* 104-119.

Korobow, A., Johnson, C. and Axtell, R. (2007). An Agent-based Model of Tax Compliance with Social Networks. *National Tax Journal. 60*(3), 589-610.

Kraft, P., Rise, J., Sutton, S., & Roysamb, E. (2005). Perceived difficulty in the theory of planned behaviour: Perceived behavioural control or affective attitude? *British Journal of Social Psychology, 44*, 479-496.

Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *The American journal of occupational therapy, 45* (3)**,** 214-222.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30,* 607-610.

Kuhn, T.S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: The University of Chicago Press.

Kuzel, A. J. (1992). Sampling in qualitative inquiry. In: B. F. Crabtree & W. L. Miller (eds.), Doing qualitative research. *Research Methods for Primary Care.* Vol. 3. Newbury Park, CA: Sage, pp. 31–44.

Langford, B., & Ohlenburg, T. (2015). *Tax revenue potential and effort: an empirical investigation.* Working Paper, No. S-43202-UGA-1. International Growth Centre.

Langham, J. A. & Paulsen, N. (2015). Effective engagement: Building a relationship of cooperation and trust with the community. *eJournal of Tax Research, 13*(1), 378-402.

Langham, J., Paulsen, N., & Hartel, C. E. J. (2012). Improving tax compliance strategies: Can the theory of planned behaviour predict business compliance? *eJournal of Tax Research*, *10*(2), 345-363.

Le, T. M., Dodson, B. M. & Rojchaichanin, J. (2008). *Expanding Taxable Capacity and Revenue Potential: Cross Country Analysis.* WB Policy Research Working Paper 4559, PREM.

Leonardo, G. & Martinez-Vazquez, J. (2016). Politicians, bureaucrats, and tax morale: what shapes tax compliance attitudes? *International Studies Program Working Paper No. 16-08*, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA.

Levi, M. (1988). *Of rule and revenue*. University of California Press.

Lewis, A. (1982). *The Psychology of Taxation.* Oxford: Martin Robertson.

Lima, F. W. S. (2010). Analysing and Controlling the Tax Evasion Dynamics via Majority Vote Model. *Journal of Physics: Conference Series 246*, 1–12.

Lima, F. W. S. & Zaklan, G. (2008). A Multi-agent-based Approach to Tax Morale. *International Journal of Modern Physics C: Computational Physics and Physical Computation. 19*(12), 1797–1808.

Ling, M. L., Normala, S.O. & Meera, A.K. (2005). Towards electronic tax filing: Technology readiness and responses of Malaysian tax practitioners. *Tax Nasional*, First Quarter, 16-23.

Lisi, G. (2015). Tax morale, tax compliance and the optimal tax policy. *Economic Analysis and Policy, 45*, 27-32.

Liska, A. E. (1984). A critical examination of the causal structure of the Fishbein-Ajzen attitude-behaviour model. *Social Psychology Quarterly, 47*, 61-74.

Lloret, S., Ferreres, A., Hernandez, A., & Tomas, I. (2017). The exploratory factor analysis of items: Guided analysis based on empirical data and software. *Anales de Psicologia*, *33*, 417-432.

Loo, E.C. (2006). *The influence of the introduction on self-assessment on compliance behaviour of individual taxpayers in Malaysia*. PhD thesis. University of Sydney.

Loo, E. C., McKerchar, M., & Hansford, A. (2009). Understanding the compliance behaviour of Malaysian individual taxpayers using a mixed method approach. *Journal of the Australasian Tax Teachers Association 4*(1), 181-202.

Lozza, E., Kastlunger, B., Tagliabue, S. & Kirchler, E. (2013). The relationship between political ideology and attitudes toward tax compliance: The case of Italian taxpayers. *Journal of Social and Political Psychology*, *1*(1), 51–73.

Luttmer, E. F. P. & Singhal, M. (2014). Tax morale. *Journal of Economic Perspectives*, *American Economic Association, 28*(4), 149–168.

Lymer, A., & Oats, L. (2017). *Taxation: Policy and Practice* (24th ed)*. Birmingham: Fiscal Publications.

Malhotra, N. K. & Dash, S. (2016). *Marketing Research: An Applied Orientation*. (7th edn). Pearson: India.

Manaf, N. A. A., & Abdul-Jabbar, H. (2006). A survey of perception towards tax evasion as a crime. In M. Mckerchar & M. Walpole (Ed.), *Further Global Challenges in Tax Administration,* (pp. 183-199). Birmingham: Fiscal Publications.

Manstead, A. S. R. (2004). Attitudes and behaviour. *International Encyclopedia of the Social and Behavioural Sciences*, 909-913.

Mansur, A. H. (2020). *Bangladesh: Impediments to Enhanced Revenue Mobilization and Equitable and Efficient Spending.* CGD Policy Paper 167, Center for Global Development, Washington DC.

Mansur, A. H. (2015). *Fiscal Management and Revenue Mobilization.* Background Paper for the Seventh Five Year Plan, Policy Research Institute of Bangladesh.

Marandu, E. E., Mbekomize, C. J. & Ifezue, A. N. (2015). Determinants of Tax Compliance: A Review of Factors and Conceptualizations. *International Journal of Economics and Finance*, 7(9), 207–218.

Marriott, L. (2017). An investigation of attitudes towards tax evasion and welfare fraud in New Zealand. *Australian and New Zealand Journal of Criminology*, 50(1), 123-145.

Martin, I.W., Mahrotra, A.K. & Prasad M. (2009). *The New Fiscal Sociology: Taxation in Comparative and Historical Perspective.* Cambridge: Cambridge University Press.

Martinez-Vasquez, J. & Torgler, B. (2009). *The Evolution of Tax Morale in Modern Spain. Journal of Economic Issues, 43*(1), 1-28.

Martinez-Vazquez, J., Vulovic, V. & Liu, Y. (2011). Direct versus indirect taxation: trends, theory, and economic significance. In E. Albi & J. Martinez-Vazquez (Eds.), *The Elgar Guide to Tax Systems* (pp. 37-92). Edward Elgar Publishing.

Maruf, K. H. (2010). Efficiency in Tax Administration: A Case Study of Large Taxpayer Unit in Bangladesh. *The Cost and Management, January-February 2010*, 13-17.

Mascagni, G. (2018). From the lab to the field: A review of tax experiments. *Journal of Economic Surveys, 32*(2), 273-301.

Mason, R., & Calvin, L. D. (1984). A study of admitted income tax evasion. *Law and Society Review*, 13(fall), 73-89.

Mason, P. (2014). *Researching Tourism, Leisure and Hospitality for your Dissertation.* Woodeaton, Oxford: Goodfellow Publishers Limited.

Matsunaga, M. (2010). How to factor-analyse your data right: Do's dont's, and how-to's. *International Journal of Psychological Research*, *3*(1), 97–110.

Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In A. Tashakkori and C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 51–89). Thousand Oaks: Sage.

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach.* Vol. 41, Sage publications.

May, T. (2011). *Social Research: Issues, Methods and Research.* McGraw-Hill International.

McBarnet, D. (2001). *When compliance is not the solution but the problem: From changes in law to changes to attitude.* Canberra: Australian National University, Centre for Tax System Integrity.

McGee, R. W. (2014). Chinese views on the ethics of tax evasion. *International Journal of Business & Public Administration*, *11*(2), 84-97.

McGee, R. W., & Bernal, A. (2006, February). The ethics of tax evasion: A survey of business student in Poland. Paper presented at the Sixth Annual International Business Research Conference, Warsaw University, Florida.

McGee, R. W. & Bose, S. (2009). The Ethics of Tax Evasion: A Survey of Australian Opinion. In R. W. McGee (Ed.), *Readings in Business Ethics (pp. 143-166). Hyedrabad, India*: ICFAI University Press.

McGee, R. W., & Butt, Y. (2008, April). An empirical study of tax evasion ethics in Hong Kong. Paper presented at the meeting of the International Academy of Business and Public Administration Disciplines (IABPAD), Dallas.

McGee, R. W. and George, B. (2008). Tax Evasion and Ethics: A Survey of Indian Opinion. *Journal of Accounting, Ethics and Public Policy,* 9(3), 301-332.

McGee, R. W. & Noronha, C. (2008). The ethics of tax evasion: A comparative study of Guangzhou (Southern China) and Macau opinions. *Euro Asia Journal of Management*, *18*(2), 133-152.

McGee, R. W., & Preobragenskaya, G. (2008). A study of tax evasion ethics in Kazakhstan. In R. W. McGee (Ed.), *Taxation and public finance in transition and developing economies* (pp. 497-510). New York, NY: Springer.

McGee, R. W., & Rossi, M. (2008). A survey of Argentina on the ethics of tax evasion. In R. W. McGee (Ed.), *Taxation and public finance in transition and developing economies* (pp. 239-261). New York, NY: Springer.

McKerchar, M. A. (2002). The effects of complexity on unintentional non-compliance for personal taxpayers in Australia. *Australian Tax Forum, 17*, 3-25.

McKerchar, M. (2008). Philosophical paradigms, inquiry strategies and knowledge claims: Applying the principles of research design and conduct to taxation. *e-Journal of Tax Research, 6*(1), 5-22.

McKerchar, M. A., & Evans, C. (2009). Sustaining growth in developing economies through improved taxpayer compliance: Challenges for policy makers and revenue authorities. *eJournal of Tax Research, 7*, 171-201.

McNabb, K. (2016). *Tax Structures and economic growth: New evidence from the Government Revenue Dataset.* WIDER Working Paper 2016/148. The United Nations University World Institute for Development Economics Research.

Meder, Z. Z., Simonovits, A. & Vincze, J. (2012). Tax Morale and Tax Evasion: Social Preferences and Bounded Rationality. *Economic Analysis and Policy, 42*(2), 171 –188.

Medina, L., & Schneider, F. (2018). *Shadow Economies Around the World: What Did We Learn Over the Last 20 Years.* IMF Working Paper.

Metsola, L. (2015). *Reintegration as Recognition: Ex-combatant and veteran politics in Namibia.* PhD Dissertation, University of Helsinki.

Miaoulis, G., & Michener, R. D. (1976). An Introduction to Sampling. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Michel, J. (2014). *Trends in global development: Shaping the new development agenda.* Washington, DC: Creative Associates International.

Milliron, V.C. & Toy, T. R. (1988). Tax compliance: An investigation of key features. *Journal of the American Taxation Association, 10*, 84-104.

Mohamad Ali, A., Mustafa, H., & Asri, M. (2007). *The effects of knowledge on tax compliance behaviours among malaysian taxpayers.* International Conference on Business and Information July 11-13, Tokyo, Japan.

Mohani, A. (2001). *Personal income tax non-compliance in Malaysia.* PhD thesis. Victoria University: Melbourne, Australia.

Mohdali, R., Zakaria, W. N. W., Ali, N. A. M., & Salam, Z. A. (2019). Qualitative Investigation of Sensitive Topics in Tax Compliance Study in Malaysia. *International Journal Academic Research Business and Social Sciences, 9*(3), 1307– 1319.

Molero, J.C. & Pujol, F. (2012). Walking inside the potential tax evader's mind: tax morale does matter. *Journal of Business Ethics, 105*(2), 151-162.

Moore, M. (2004). Revenues, state formation, and the quality of governance in developing countries. *International Political Science Review. 25***,** 297-319.

Moore, M. (2008). Between coercion and contract: competing narratives around taxation and governance. *In:* Braütigam, D., Fjeldstad, O.-H. & Moore, M. (eds.) *Taxation and state-building in developing countries: Capacity and consent.* Cambridge: Cambridge university press.

Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*(1)*,* 48–76.

Morgan, K. J. & Prasad, M. (2009). The origins of tax systems: a French-American comparison. *American Journal of Sociology. 114*(5), 1350–1394.

Morse, J., (2000) Determining Sample Size. *Qualitative Health Research, 10*(3), 3-5.

Murphy, K. (2003). Examination of taxpayers' attitudes towards the Australian tax system: Findings from a survey of tax scheme investors. *Australian Tax Forum*, *18*, 208-241.

Murphy, K. (2005). Regulating More Effectively: The Relationship between Procedural

    Justice, Legitimacy, and Tax Non-compliance. *Journal of Law & Society*. *32*(4),

    562- 589.

Mustafa, M. H. (1997). *An evaluation of Malaysian tax administrative system and*

    taxpayers perceptions towards assessment system, tax law fairness and tax law

    complexity. (Unpublished doctoral thesis), Universiti Utara Malaysia.

Naibei, I.K., Momanyi, G. & Oginda, M.N. (2012). Relationship between Income Size,

    Inspection and VAT Compliance: Evidence from Private Firms in Kenya.

    African Research Review, 6(1), 1-17.

NBR [National Board of Revenue]. (2019).

Newby, R., Watson, J. & Woodliff, D. (2003). SME survey methodology: Response

    rates, data quality, and cost effectiveness. *Entrepreneurship Theory and*

    Practice, 28(2)**,** 163-172.

Nichita, R. (2012). *The Analysis of Taxpayers' Behavior under the impact of Fiscal*

    Policy Changes. PhD thesis. Babeș-Bolyai University, Romania.

Niesiobędzka, M. (2014). Relations between procedural fairness, tax morale,

    institutional trust and tax evasion. *Journal of Social Research & Policy, 5*(1),

    41-52.

Nobi, M. G., & Waheeduzzaman, A. S. M. (2016). Bangladesh: Managing tax

    administration reform program. Paper presented at the international conference

    on Managing Tax Administration Reforms, IMF's Fiscal Affairs Department

    (FAD), June 28-30, 2016. Accra, Ghana.

Nurunnabi, M. (2019). Tax Evasion and the Role of the Actor(s) in Bangladesh.

    International Journal of Public Administration, 42(10), 823-839.

Nurunnabi, M. (2017). The Myth of Tax Evasion in South Asia: The Case of a Lower-Middle Income Economy. *In* Parables, Myths and Risks (*Advances in Public Interest Accounting, Vol. 20*), 85 – 133.

Nurwanah, A., Sutrisno, T., Rosidi, R. & Roekhudin, R. (2018). Determinants of tax compliance: Theory of planned behavior and stakeholder theory perspective. *Problems and Perspectives in Management, 16*. 395-407.

Nyamwanza, T., Mavhiki, S., Mapetere, D., & Nyamwanza, L. (2014). An analysis of SMEs' attitudes and practices toward tax compliance in Zimbabwe. *SAGE Open*, *4*(3), 1-6.

Oberholzer, R. (2008). Attitudes of South African taxpayers towards taxation: a pilot study. *Accountancy Business and the Public Interest, 7*(1), 44-69.

Obid, S. N. S. (2004). The influence of penalties on taxpayers' compliance: A comparison of the theoretical models. *International Journal of Economics, Management and Accounting*, *12*(1), 1-31.

OECD [Organization for Economic Cooperation and Development] (2010). *Understanding and Influencing Taxpayers' Compliance Behaviour.* OECD, Centre for Tax Policy and Administration: Paris

OECD [Organization for Economic Cooperation and Development]. (2017). *Revenue Statistics in Asian Countries*. Centre for Tax Policy and Administration: Paris, p.40.

Olabisi, J. (2010). An Assessment of Tax Evasion and Tax avoidance in Lagos State. *Journal of Research in National Development*, 8(1).

Otusanya, O. J. (2011). The role of multinational companies in tax evasion and tax avoidance: The case of Nigeria. *Critical Perspectives on Accounting*, *22*(3), 316-332.

Padovano, F., & Galli, E. (2002). Comparing the Growth Effects of Marginal vs. Average Tax Rates and Progressivity. *European Journal of Political Economy. 18*, 529-544.

Palil, M.R. (2010). *Tax Knowledge and Tax Compliance Determinants in Self-Assessment System in Malaysia.* PhD Thesis, University of Birmingham, Birmingham.

Palil, M.R. & Mustapha, A.F. (2011). The Evolution and Concept of Tax Compliance in Asia and Europe. *Australian Journal of Basic and Applied Sciences*, *5*(11), 557-563.

Pallant, J. (2007). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows Version 15* (3rd ed.). Sydney: McGraw Hill.

Parker, Ian. (2004). Criteria for Qualitative Research in Psychology. *Qualitative Research in Psychology, 1*, 95-106.

Patyal, V.S. & Koilakuntla, M. (2015). Infrastructure and core quality practices in Indian manufacturing organizations: scale development and validation. *Journal of Advances in Management Research, 12*(2), 141-175.

Patton, M. Q. (1999). Enhancing the Quality and Credibility of Qualitative Analysis. *Health Services Research, 34*(5), 1189-1208.

Payne, G. & Williams, M. (2005). Generalization in qualitative research. *Sociology, 39*(2)**,** 295-314.

Pellizzari, P. & Rizzi, D. (2014). Citizenship and power in an agent based model of tax compliance with public expenditure. *Journal of Economic Psychology, 40*, 35 – 48.

Persson, A. (2008). *The institutional sources of statehood - Assimilation, multiculturalism and taxation in Sub-Saharan Africa.* Doctoral Thesis, Gothenburg University.

Pessino, C., & Fenochietto R. (2010). Determining Countries' Tax Effort. *Hacienda Pública Española/Revista de Economía Pública. 195*, 65–87.

Peter, K., Buttrick, S. & Duncan, D. (2010). Global reform of personal income taxation, 1981-2005: evidence from 189 countries. *National Tax Journal*, 63, 447-478.

Petrini, J., Dias, R. A. P., Pertile, S. F. N., Eler, J. P., Ferraz, J. B. S., & Mourão, G. B. (2012). Degree of multicollinearity and variables involved in linear dependence in additive-dominant models. *Pesquisa Agropecuária Brasileira*, *47*(12), 1743-1750.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research.* Thousand Oaks, Calif: Sage Pub.

Pickhardt, M., & Prinz, A. (2014). Behavioral dynamics of tax evasion - A survey. *Journal of Economic Psychology*, *40*, 1-19.

Pickhardt, M. & Seibold, G. (2014). Income Tax Evasion Dynamics: Evidence from an Agent-based Econophysics Model. *Journal of Economic Psychology. 40*, 147 – 160.

Picur, D. R., & Riahi-Belkaoui, A. (2006). The Impact of Bureaucracy, Corruption and Tax Compliance, *Review of Accounting and Finance*, *5*(2), 174–180.

Plogander, B. (2013, May 20). Nordic Countries Target Tax Evasion Ahead of EU Summit. *The Epoch Times,* Retrieved from https://stage.theepochtimes.com/nordic-countries-target-tax-evasion-ahead-of-eu-summit_64997.html

Poesoro, A. A. L. (2015). *Narrowing Tax Gap: Cross Countries Experience*. DDTC Working Paper No. 0915.

Press, N. (2005). Qualitative research: thoughts on how to do it; how to judge it; when to use it. *Genetics in Medicine, 7*(3)**,** 155-158.

Prichard, R. (2009). The politics of taxation and implications for accountability in Ghana 1981-2008. *IDS Working Paper 330.* Brighton: Institute of Development Studies.

Prichard, R. (2010). Taxation and state-building: towards a governance focused tax reform agenda. *IDS Working Paper 341*. Brighton: Institute of Development Studies.

Prinz, A., Muehlbacher, S., & Kirchler, E. (2014). The slippery slope framework on tax compliance: An attempt to formalization. *Journal of Economic Psychology,* 40, 20–34.

Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting and Management, 8*(3), 238-264.

Radtke, R. R. (2005). Role morality and accountants' ethically sensitive decisions. *Advances in Accounting Behavioral Research*, *8*, 113-138.

Rahman, A. K. M., & Yasmin, S. (2008). *Estimating revenue losses evolve from tax evasions in Bangladesh.* AIUB Business and Economics Working Paper Series, Bangladesh.

Rahman, A. K. M., Rahman, A. M., & Yasmin, S. (2010). Leakage of Tax Revenues in Bangladesh under Direct Taxation: A Study of Factor Detection and Monetary – Loss Estimation. *AIUB Journal of Business and Economics*, *9* (1), 35-68.

Rai, K. B. (2011). Design and data integration in mixed methods research: challenges and ways forward. *Research Nepal Journal of Development Studies, 1*(2), 131-149.

Rana, M. M., & Masukujjaman, S. (2017). Factors Affecting Evasion of Income Tax in Bangladesh: A Study on Individual Assesses in Bangladesh. *Journal of Business and Technology (Dhaka)*, *12* (2), 1-13.

Randlane, K. (2012). Tax compliance and tax attitudes: The case of Estonia. *Journal of Management & Change*, *29*(1), 89-103.

Razak, A. A., & Adafula, C. J. (2013). Evaluating taxpayers' attitude and its influence on tax compliance decisions in Tamale, Ghana. *Journal of Accounting and Taxation*, *5*(3), 48–57.

Reckers, P. M., Sanders, D. L., & Roark, S. J. (1994). The influence of ethical attitudes on taxpayers' compliance. *National Tax Journal*, *47*(4), 825-836.

Reddy, M. C., Balasubramanyam, P., & Subbarayudu, M. (2013). An Effective Approach to Resolve Multicollinearity in Agriculture Data. *International Journal of Research in Electronics and Computer Engineering, 1*(1), 27-30.

Reddy, O. C., & Alemayehu, E. (2015). Ordinal logistic regression analysis to assess the factors that affect health status of students in Ambo University: a case of natural and computational sciences college, Ambo University. *International Journal of Modern Chemistry and Applied Science, 2*(3), 153-163.

Rethi, G. (2012). Relation between Tax Evasion and Hofstede's Model. *European Journal of Management, 12*(1), 61.

Riahi-Belkaoui, A. (2004). Relationship between tax compliance internationally and selected determinants of tax morale. *Journal of International Accounting, Auditing and Taxation, 13*, 135-143.

Richardson, G. (2008). The Relationship between Culture and Tax Evasion across Countries: Additional Evidence and Extensions. *Journal of International Accounting, Auditing and Taxation, 17*(2), 67–78.

Richardson, M., & Sawyer, A. J. (2001). Taxonomy of the tax compliance literature: Further findings, problems and prospects. *Australian Tax Forum*, *16*(2), 137-320.

Richupan, S. (1987). Determinants of income tax evasion - Role of tax rates, shape of tax schedules and other factors. In Gandhi, P. (ed.). *International Monetary Fund*.

Ristovska, M., Mojsoska-Blazevski, N., & Nikolov, M. (2013). An alternative view to the tax evasion: The effect of tax morale on paying taxes in Macedonia and EU countries. *Serbian Journal of Management*, *8*(2), 169-183.

Ritsatos, T. (2014). Tax evasion and compliance; from the neo classical paradigm to behavioural economics, a review. *Journal of Accounting & Organizational Change*. *10*(2), 244-262.

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd ed.). New York: Holt Rinehart & Winston.

Ross, A. M., & McGee, R. W. (2011). Attitudes toward tax evasion: A demographic study of Malaysia. *Asian Journal of Law and Economics*, *2*(3), 1-51.

Ross, A. M., & McGee, R. W. (2012). Attitudes towards tax evasion: A demographic study of the Netherlands. *Journal of International Business Research, 11*(2), 1-44.

Ronan, N. J & Ramalefane, N. R. (2007). The Phenomenon of Tax Evasion. Retrieved from https://www.redbubble.com/people/fiateuro/journal/388894-the-phenomenon-of-tax-evasion.

Roth, J.A., Scholz, J.T. & Witte, A.D. (1989). *Taxpayer Compliance, Vol 1: An Agenda for Research.* University of Pennsylvania Press, Philadelphia.

Rowley, J. (2014). *Designing and using research questionnaires. Management Research Review*, *37*(3), 308-330.

Russo, F. F. (2010). *Tax Evasion and Community Effects in Italy.* CSEF Centre for Studies in Economics and Finance Working paper no. 254.

Russo, F.F. (2013). Tax morale and tax evasion reports. *Economics Letters, 121*(1), 110-114.

Sá, C., Martins A., & Gomes C. (2014). Tax morale, occupation and income Level: An analysis of Portuguese taxpayers. *Journal of Economics, Business and Management*, *2*(2), 112-116.

Saad, N. (2011). *Fairness Perceptions and Compliance Behaviour: Taxpayers' Judgments in Self-Assessment Environments.* PhD Thesis, University of Canterbury.

Saad, N. (2012). Tax Non-Compliance Behaviour: Taxpayers View. *Procedia-Social and Behavioral Sciences, 65*, 344-351.

Saad, N. (2014). Tax Knowledge, Tax Complexity and Tax Compliance: Taxpayers' View. *Procedia-Social and Behavioral Sciences, 109*, 1069-1075.

Saitta, P. (2017). Practices of subjectivity: the informal economies and the subaltern rebellion. *International Journal of Sociology and Social Policy,* 37(7-8), 400-416.

Saleheen, A.M. (2013). Reigning Tax Discretion: A Case Study of VAT in Bangladesh. *Asia-Pacific Journal of Taxation*, *16*(2), 77-91.

Saleheen, A. M., & Siddiquee, N. A. (2013). Tax innovation or excise duty in disguise? Deviations and distortions in VAT in Bangladesh. *International Journal of Public Administration, 36*(6), 381–396.

Sandmo, A. (2005). The theory of tax evasion: A retrospective view. *National Tax Journal,* 58**,** 643- 633.

Sapiei, N.S., Kasipillai, J. & Eze, U.C. (2014). Determinants of Tax Compliance Behaviour of Corporate Taxpayers in Malaysia. *eJournal of Tax Research*, *12*(2), 383-409.

Sarantakos, S. (2007). *A Toolkit for Quantitative Data Analysis.* New York: Palgrave MacMillan.

Sarkar, S., Nodee, M., Musleh, M., & Reza, S. M. S. (2015). VAT reform in Bangladesh: perspectives on Tax Morale. *International Journal of Business and Management Study, 2*(2), 289–293.

Sarker, T. K. (2006). Who Bears the Burden of Taxes in Developing Countries? A case of Income Taxation in Bangladesh. *Pakistan Economic and Social Review, 44* (2), 181–207.

Saunders, M.N.K. (2012). Choosing research participants'. In G. Symon and C. Cassell (eds.) *Qualitative Organizational Research: Core Methods and Current Challenges* (pp. 35-52).

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (5[th] Ed.). Edinbuegh Gate, Harlow: Pearson Education Limited.

Saw, S. (2019). An analysis of tax audit compliance factors and models. *Asia Pacific Journal of Advanced Business and Social Studies*, 5(1), 102-115.

Schafer, J. L. (1999). Multiple Imputation: A Primer. *Statistical Methods in Medical Research,* 8, 3-15.

Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, *8*(4), 350–353.

Schneider, F., & Enste, D. (2002). *The shadow economy: Theoretical approaches, empirical studies, and political implications.* Cambridge (UK): Cambridge University Press.

Scott, P.J. & Briggs, J.S. (2009). A pragmatist argument for mixed methodology in medical informatics. *Journal of Mixed Methods Research, 3*(3), 223-241.

Scotchmer, S. & Slemrod, J. (1989). Randomness in tax enforcement. *Journal of Public Economics, 38*, 17-32.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach* (7th ed.). West Sussex, UK: John Wiley & Sons Ltd.

Sekaran, U., & Bougie, R. (2015). *Research methods for business: A skill building approach* (6th ed.). West Sussex, UK: John Wiley & Sons Ltd.

Shafiq, M. N. (2015). Aspects of moral change in India, 1990 - 2006: Evidence from public attitudes toward tax evasion and bribery. *World Development*, *68*, 136-148.

Shah, S. K. & Corley, K. G. (2006). Building Better Theory by Bridging the Quantitative– Qualitative Divide. *Journal of Management Studies, 43*(8)**,** 1821-1835.

Shaheen, M. (2014). Implementation of Taxation Laws in Bangladesh: In Search of an Innovative and Effective Mechanism for Increasing the Number of Tax Payers. *The Chittagong University Law Journal. 19*.

Shakila, C. T. (2019). Tax Avoidance and Tax Evasion in Bangladesh: Methods, Causes, Consequences and Remedies. *IOSR Journal of Business and Management, 21*(11), 01-05.

Shil, N.C., Masud, Z. M., & Alam, M. F. (2019). *Bangladesh Income Tax: Theory and Practice* (13th ed.)*.* Dhaka, Bangladesh: Shams/AMS.

Shreffinn, S. M., & Triest, R. K. (1992). Can brute deterrence backfire?: Perceptions and attitudes in taxpayer compliance. In J. Slemrod (Ed.), *Why people pay taxes: Tax compliance and enforcement*.

Siddiquee, N. A., & Saleheen, A. M. (2020). Taxation and Governance in Bangladesh: A Study of the Value-added Tax. *International Journal of Public Administration, 2020,* 1–11.

Simser, J. (2008). Tax evasion and avoidance typologies. *Journal of Money Laundering Control*, *11*(2), 123 – 134.

Singh, V., (2003). *Malaysian Tax Administration* (6th ed.). Kuala Lumpur: Longman.

Singh, V., Chaudhuri, R. & Verma, S. (2019). Psychological antecedents of apparel-buying intention for young Indian online shoppers. *Journal of Modelling in Management*, 14(2), 286-311.

Sipos, A. (2015). Determining factors of tax-morale with special emphasis on the tax revenues of local self-governments. *Procedia Economics and Finance, 30,* 758-767.

Siqueira, M. & Ramos, F. (2005). The economics of tax evasion: theories and empirical evidences. *Revista de Economia Contemporânea. 9*(3), 555-581.

Skov, P.E. (2013). *Pay Now or Pay Later: Danish Evidence on Owed Taxes and the Impact of Small Penalties.* Working Paper, Rockwool Foundation Research Unit and University of Copenhagen.

Slemrod, J. (1992). *Why people pay taxes: Tax compliance and enforcement*. Michigan: University of Michigan Press.

Slemrod, J. (2003). Trust in public finance. *In:* Cnossen, S. & Sinn, H.-W. (eds.) *Public finance and public policy in the new century.* Cambridge, Mass.: MIT Press.

Slemrod, J. (2007). Cheating ourselves: The economics of tax evasion. *The Journal of Economic Perspectives*, *21*(1), 25-48.

Slemrod, J., Christian, C., London, C. & Parker, J.A. (1995). April 15 syndrome. *Economic Inquiry, 35,* 695-709.

Slemrod, J., & Yitzhaki, S. (2002). Tax avoidance, evasion and administration. In A. J. Auerbach & M. Feldstein (Eds.), *Handbook of Public Economics* (pp. 1423-1470). Amsterdam: Elsevier.

Slevitch, L. (2011). Qualitative and Quantitative Methodologies Compared: Ontological and Epistemological Perspectives. Journal of Quality Assurance in Hospitality & Tourism, *12*(1), 73-81.

Smart, M. (2012). *The Application of the Theory of Planned Behaviour and Structural Equation Modelling in Tax Compliance Behavior: A New Zealand Study.* Phd Thesis, University of Canterbury, Christchurch.

Smith, A. M. C., Islam, A., & Moniruzzaman, M. (2011). *Consumption Taxes in Developing Countries – The Case of the Bangladesh VAT*. Working Paper No. 82, Centre for Accounting, Governance and Taxation Research, Victoria University of Wellington, NEW ZEALAND.

Smith, K. W. (1992). Reciprocity and Fairness: Positive Incentives for Tax Compliance. In J. Slemrod (ed.). *Why People Pay Taxes. Tax Compliance and Enforcement.* Ann Arbor: University of Michigan Press: 223–258.

Snavely, K. (1990). Governmental policies to reduce tax evasion: coerced behavior versus services and values development. *Policy Sciences, 23***,** 57-72.

Song, Y., & Yarbrough, T. (1978). Tax ethics and taxpayer attitudes: A survey. *Public Administration Review*, *38*(5), 442-452.

Sour, L. (2004). An Economic Model of Tax Compliance with Individual Morality and Group Conformity. *Economía Mexicana* NUEVA ÉPOCA. *13*(1), 43-61.

Spearman, C. (1904). "General intelligence", objectively determined and measured. *American Journal of Psychology, 15*, 201-293.

Spicer, M. W. & Becker L. A. (1980). Fiscal Inequity and Tax Evasion: An Experimental Approach, *National Tax Journal, 33*, 171–175.

Spicer, M.W. & Lundstedt, S.B. (1976). Understanding tax evasion. *Public Finance*, *31*(2), 295-305.

Srinivason, T. (1973). Tax evasion: A model. *The Journal of Public Economics*, *2*, 339-346.

Steenekamp, T. J. (2007). Tax performance in South Africa: a Comparative Study. *Southern African Business Review. 11*(3), 1-16.

Streiner, D. L. (2003). Starting at the Beginning Alpha and Internal Consistency. *Journal of Personality Assessment, 80*(1), 99-103.

Strumpel, B. (1969). The contribution of survey research to public finance. In A. T. Peacock (Eds.), *Quantitative Analysis in Public Finance* (pp. 13-32)*. New York: Praeger.

Suter, W. N. (2012). *Introduction to educational research: A critical thinking approach* (2nd Ed.)*. Sage Publishing.

Sutinen, J. G., & Kuperan, K. (1999). A socio-economic theory of regulatory compliance. *International Journal of Social Economics*, *26*(1/2/3), 174-193.

Suyapto, M., & Lasmana, M. S. (2014). Analisis faktor-faktor yang mempengaruhi kepatuhan wajib pajak badan di Kantor Wilayah Direktorat Jenderal Pajak Jawa Timur I. *Jurnal Ekonomi dan Bisnis, XXIV*(2), 174-186.

Symonds, J, & Gorard, S. (2008). The death of mixed methods and the rebirth of research: research labels and their casualties. *British Educational Research Association Annual Conference*, Heriot Watt University, Edinburgh, 3–6 September 2008.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn & Bacon

Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Res Sci Educ. 48*, 1273-1296.

Tailor, G. R. (Ed.). (2005). *Integrating quantitative and qualitative methods in research.* Maryland: University Press of America Inc.

Tashakkori, A. & Creswell, J.W. (2007). The new era of mixed methods. *Journal of Mixed Methods Research, 1*(1), 3-7.

Tashakkori, A., & Teddlie, C. (2008). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks: Sage Publications.

Tavakol, M. & Dennik, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55.

Tayib, M. B. (1998). *The determinants of assessment tax collection: The Malaysian local authority experience.* Unpublished doctoral thesis, University of Glamorgan, United Kingdom.

Tayler, T. R. (2006). Psychological perspectives on legitimacy and legitimation. *Annual Review of Psychology*, *57*, 375-400.

Taylor, N. (2001). Understanding Taxpayer Attitudes through Understanding Taxpayer Identities. *Working Paper* No 14. Centre of Tax System Integrity: The Australian National University, Canberra, Australia.

Tedds, L.M. (2010). Keeping it Off the Books: An Empirical Investigation of Firms that Engage in Tax Evasion. *Applied Economics, 42*(19), 2459-2473.

Teijlingen, E. R. V., & Hundley, V. (2002). The importance of pilot studies. *Nursing standard: official newspaper of the Royal College of Nursing, 16*(40), 33-36.

Thompson, B. & Daniel, L.G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*, *56*(2),197-208.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications.* Washington, DC: American Psychological Association.

Thức, N. T. (2013). A Review of Factors impacting Tax Compliance. *Australian Journal of Basic and Applied Sciences, 7*(7), 476-479.

Tilly, C. (1992). *Coercion, capital and European states: AD 990-1992.* Blackwell Publishers Inc.: Massachusetts.

Timmons, J. F. (2005). The Fiscal Contract: States, Taxes et Public Services. *World Politics. 57*(4), 530-567.

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research & Applications, 5*, 147-158.

Torgler, B (2003). Beyond Punishment: A tax Compliance Experiment with Taxpayers in Costa Rica. *Revista de Analisis Economico, 18*(1), 27–56.

Torgler, B. (2005). Tax morale in Latin America. *Public Choice*, *122*(1/2), 133-157.

Torgler, B. (2006). The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior & Organization, 61*(1), 81-109.

Torgler, B. (2007). *Tax compliance and tax morale: a theoretical and empirical analysis.* Cheltenham, England: Edward Elgar.

Torgler, B. (2012). Tax morale, Eastern Europe and European enlargement. *Communist and Post-Communist Studies*, *45*, 11-25.

Torgler, B. (2013). Attitudes Toward Paying Taxes in the USA: An Empirical Analysis. *The Ethics of Tax Evasion: Perspectives in Theory and Practice.* 269-283.

Torgler, B., & Friedrich, S. (2005). Attitudes towards paying taxes in Austria: An empirical analysis. *Empirical*, *32*(2), 231-250.

Torgler, B., & Murphy, K. (2004). Tax morale in Australia: What shapes it and has it changed over time. *Journal of Australian Taxation*, *7*(2), 298-335.

Torgler, B., & Schneider, F. (2001). Attitudes towards paying taxes in Austria: An empirical analysis. *Empirica, 32*, 231-250.

Torgler, B., & Schneider, F. (2007). *Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel Analysis.* IZA Discussion Paper No. 2563, Germany.

Torgler, B., Demir, I.C., Macintyre, A. & Schaffner, M. (2008). Causes and consequences of tax morale: an empirical investigation. *Economic Analysis and Policy, 38*(2), 313-339.

Trüdinger, E. M. & Hildebrandt, A. (2013). Causes and contexts of tax morale: rational considerations, community orientations, and communist rule. *International Political Science Review, 34*(2), 191-209.

Trivedi, V. U., Shehata, M., & Mestelman, S. (2005). Attitudes, incentives, and tax compliance, *Journal of Economic Psychology*, *5*, 371–384.

Turner, C. S. (2010). Essays in Crime and Tax Evasion. *Economics Dissertation Paper, 64*, 1-163.

The Collins English Dictionary. (2019). *Tax avoidance*. Retrieved from https://www.collinsdictionary.com/dictionary/english/tax-avoidance

United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2018). *Economic and Social Survey of Asia and the Pacific 2018: Mobilizing finance for sustained, inclusive and sustainable economic growth.*

United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP) (2014). *Economic and Social Survey of Asia and the Pacific 2014: Regional Connectivity for Shared Prosperity.*

van Dijke, M., & Verboon, P. (2010). Trust in authorities as a boundary condition to procedural fairness effects on tax compliance. *Journal of Economic Psychology, 31*, 80-91.

Van Raaij, W.F., van Veldhoven, G.M., & Wärneryd, K.E. (1988). *Handbook of Economic Psychology.* Springer

Vatcheva, K. P., Lee, M., McCormick, J. B., & Rahbar, M. H. (2016). Multicollinearity in Regression Analyses Conducted in Epidemiologic Studies. *Epidemiology (Sunnyvale, Calif.), 6*(2), 227-246.

Vythelingum, P., Soondram, H. & Jugurnath, B. (2017). An assessment of tax morale among Mauritian taxpayers. *Journal of Accounting and Taxation, 9*(1), 1-10.

Walsh, K. (2012). Understanding Taxpayer Behaviour – New Opportunities for Tax Administration. *The Economic and Social Review, 43*(3), 451–475.

Wang, D. (2007). Convergence Tests on Tax Burden and Economic Growth among China, Taiwan and the OECD Countries. *Physica. 380*, 278-286.

Wärneryd, K.E., & Walerud, B. (1982). Taxes and economic behaviour: Some interview data on tax evasion in Sweden. *Journal of Economic Psychology*, *2*, 187-211.

Webley, P., Robben, H. S. J., Elffers, H. & Hessing, D. J. (1991). *Tax evasion: an experimental approach.* UK: Cambridge University Press.

Weigal, R., Hessing, D. J., & Elffers, H. (1987). Tax evasion research: A critical appraisal and theoretical model. *Journal of Economic Psychology*, *8*(2), 215-235.

Weigand, F. (2015). Investigating the Role of Legitimacy in the Political Order of Conflict-torn Spaces. An interdisciplinary investigation into the security gap. *Working Paper 04/15.* London School of Economics and Political Science.

Wenzel, M. (2002). The impact of outcome orientation and justice concerns on tax compliance: The role of taxpayers' identity. *Journal of applied psychology*, *87*(4), 629-645.

Weisberg, H. F. & Bowen, B. D. (1977). *An introduction to survey research and data analysis*. San Francisco: W.H. Freeman.

Whait, R. (2012). Developing risk management strategies in tax administration: The evolution of the Australian taxation office's compliance model. *eJournal of Tax Research, 10,* 436-464.

Williamson, V. S. (2017). *Read My Lips: Why Americans Are Proud to Pay Taxes.* Princeton, NJ: Princeton University Press.

Williams, B., Onsman, A & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Journal of Emergency Primary Health Care (JEPHC)*, *8*(3), 1-13.

Williams, C.C. & Horodnic, I.A. (2016). Tackling the undeclared economy in the European Union: an evaluation of the tax morale approach. *Industrial Relations Journal*, *47*(4), 322-340.

Williams, C.C. & Krasniqi, B. (2017). Evaluating the individual- and country-level variations in tax morale: evidence from 35 Eurasian countries. *Journal of Economic Studies, 44*(5), 816-832.

Williams, C.C. & Martinez, Á. (2014). Explaining cross-national variations in tax morality in the European Union: an exploratory analysis. *Studies of Transition States and Societies, 6*(1), 5-18.

Windebank, J. & Horodnic, I.A. (2016). Explaining participation in informal employment: a social contract perspective. *International Journal of Entrepreneurship and Small Business,* 28(2-3), 178-194.

Won, N. C., Wan, C. Y., & Sharif, M. Y. (2017). Effect of leadership styles, social capital, and social entrepreneurship on organizational effectiveness of social welfare organization in Malaysia: Data screening and preliminary analysis. *International Review of Management and Marketing*, *7*(2), 117– 122.

Wong, R. M. K., & Lo, A. W. Y. (2015). *Can education improve tax compliance? Evidence from different forms of tax education.* HKIBS Working Paper Series 074-1415.

World Bank Group & PwC. (2019). *Paying Taxes 2019.* Retrieved from https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2019.html

Wu, R. (2012). *A Study on the Appropriateness for Adopting 'Universal' Definitions for Tax Compliance and Non-Compliance: A New Zealand Case Study Approach.* Unpublished Masters Thesis, University of Canterbury, Christchurch.

Yalama, G, O., & Gumus, E. (2013). Determinants of Tax Evasion Behavior: Empirical Evidence from Survey Data. *International Business and Management*, *6*(2), 15-23.

Yamane, T. (1967). *Statistics, An Introductory Analysis.* (2nd Ed.), New York: Harper and Row.

Yitzhaki, S. (1974). Income tax evasion: A theoretical analysis. *Journal of Public Economics, 3*, 201-202.

Yong, A, G. & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology, 9*(2), 79–94.

Zaklan, G., Westerhoff, F. & Stauffer, D. (2009). Analysing Tax Evasion Dynamics via the Ising Model. *Journal of Economic Interaction and Coordination. 4*(1), 1–14.

Zaqeba, M. A. A., Hamid, S. A., & Muhammad, I. (2018). Tax Compliance of Individual Taxpayers: A Systematic Literature Review. *Proceeding of The IIER International Conference*, Istanbul, Turkey, 22nd-23rd April 2018, 42-52.

Appendices

Appendix – A

Krejcie and Morgan Table for Determining Sample Size

Population Size	Confidence = 95% Margin of Error				Confidence = 99% Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1000	278	440	606	906	399	575	727	943
1200	291	474	674	1067	427	636	827	1119
1500	306	515	759	1297	460	712	959	1376
2000	322	563	869	1655	498	808	1141	1785
2500	333	597	952	1984	524	879	1288	2173
3500	346	641	1068	2565	558	977	1510	2890
5000	357	678	1176	3288	586	1066	1734	3842
7500	365	710	1275	4211	610	1147	1960	5165
10000	370	727	1332	4899	622	1193	2098	6239
25000	378	760	1448	6939	646	1285	2399	9972
50000	381	772	1491	8056	655	1318	2520	12455
75000	382	776	1506	8514	658	1330	2563	13583
100000	383	778	1513	8762	659	1336	2585	14227
250000	384	782	1527	9248	662	1347	2626	15555
500000	384	783	1532	9423	663	1350	2640	16055
1000000	384	783	1534	9512	663	1352	2647	16317
2500000	384	784	1536	9567	663	1353	2651	16478
10000000	384	784	1536	9594	663	1354	2653	16560
100000000	384	784	1537	9603	663	1354	2654	16584
300000000	384	784	1537	9603	663	1354	2654	16586

Source: Krejcie and Morgan (1970)

Appendix B: Relevant SPSS outputs relating to EFA

Table – 1: Descriptive Statistics from SPSS EFA Output

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
Tax Rate	2.9504	1.17925	464
Penalty	3.7457	1.18667	464
Income Level	3.0862	1.16329	464
Benefits against Tax	2.3448	1.27514	464
Future Tax Costs	3.1401	1.12491	464
Audit Probability	2.7565	1.13408	464
No Unofficial Cost	3.4030	1.21513	464
Certainty	2.8642	1.19253	464
NBR Service	2.8233	1.08942	464
Complexity of IT Return	2.8815	1.11002	464
Assistance by Taxmen	3.1897	1.15281	464
Documentation	2.8642	1.08240	464
Lack of Tax Awareness	2.7953	1.13984	464
Tax Policy Reform	3.1358	1.05818	464
Attitude towards Tax	3.9418	1.04482	464
Opportunity to Evade	2.5280	1.23627	464
Religious Belief	3.6616	1.19020	464
Perceived Fairness of Tax System	2.7629	1.15338	464
Tax Morale	3.6250	1.13148	464
Perception on Government Spending	3.3664	1.28936	464
Social Culture and Norms	2.6034	1.16744	464
Personal Financial Condition	3.3190	1.17827	464
Tax Knowledge	3.1616	1.25124	464
Tax Planning	3.3815	1.08741	464
Probabilities of being Detected	3.1767	1.02402	464
Guilty Feeling	3.7737	1.02795	464
Public Governance Quality	1.9741	1.14376	464
Tax Law Simplicity	2.6638	1.12650	464

Table – 1: Communalities

	Initial	Extraction
Tax Rate	1.000	.667
Penalty	1.000	.549
Income Level	1.000	.638
Benefits against Tax	1.000	.507
Future Tax Costs	1.000	.487
Audit Probability	1.000	.344
No Unofficial Cost	1.000	.488
Certainty	1.000	.367
NBR Service	1.000	.587
Complexity of IT Return	1.000	.602
Assistance by Taxmen	1.000	.602
Documentation	1.000	.534
Lack of Tax Awareness	1.000	.454
Tax Policy Reform	1.000	.408
Attitude towards Tax	1.000	.517
Opportunity to Evade	1.000	.481
Religious Belief	1.000	.555
Perceived Fairness of Tax	1.000	.592
Tax Morale	1.000	.521
Perception on Government	1.000	.552
Social Culture and Norms	1.000	.505
Personal Financial Condition	1.000	.410
Tax Knowledge	1.000	.656
Tax Planning	1.000	.711
Probabilities of being Detected	1.000	.398
Guilty Feeling	1.000	.620
Public Governance Quality	1.000	.482
Tax Law Complexity	1.000	.562

Table 2: Cumulative Percentage of Variance and Eigen Value > 1 Rule (SPSS Output)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.820	20.786	20.786	5.820	20.786	20.786
2	2.067	7.384	28.169	2.067	7.384	28.169
3	1.653	5.904	34.073	1.653	5.904	34.073
4	1.545	5.518	39.591	1.545	5.518	39.591
5	1.444	5.156	44.748	1.444	5.156	44.748
6	1.154	4.122	48.870	1.154	4.122	48.870
7	1.112	3.971	52.841	1.112	3.971	52.841
8	1.020	3.643	56.483			
9	.948	3.385	59.868			
10	.929	3.317	63.186			
11	.818	2.921	66.106			
12	.807	2.882	68.988			
13	.757	2.703	71.692			
14	.740	2.643	74.335			
15	.718	2.563	76.898			
16	.661	2.362	79.260			
17	.635	2.268	81.528			
18	.600	2.142	83.670			
19	.555	1.984	85.653			
20	.546	1.948	87.602			
21	.524	1.873	89.475			
22	.478	1.709	91.184			
23	.466	1.666	92.849			
24	.446	1.594	94.443			
25	.418	1.492	95.935			
26	.414	1.477	97.412			
27	.373	1.331	98.743			
28	.352	1.257	100.000			

Note: EFA is done specifying the number of factors as 7, as per the findings from the Scree Plot.

Figure – 1: Scree Plot
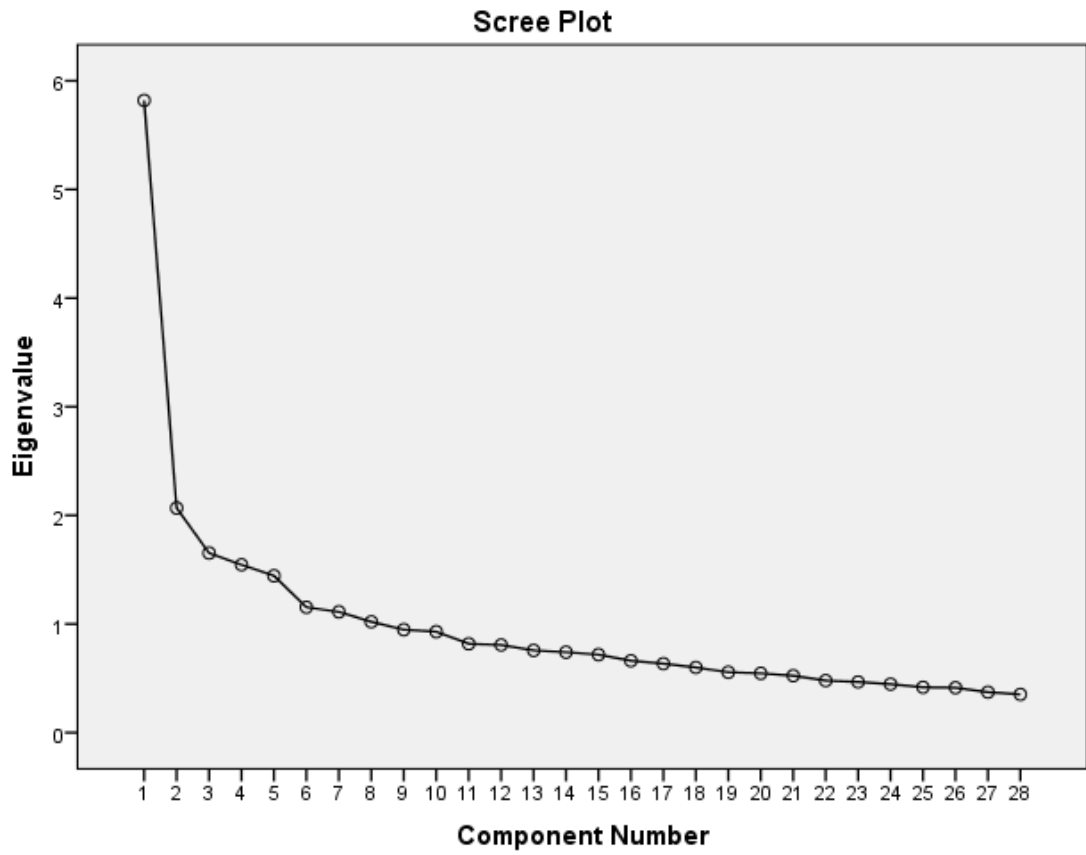
Scree Plot

Note: According to Scree Plot Number of factors extracted – 7

Pattern Matrix[a]							
	Component						
	1	2	3	4	5	6	7
Assistance by Taxmen	.853						
No Unofficial Cost	.721				-.308		
Complexity of IT Return	.709						
NBR Service	.655						
Certainty	.493						
Documentation	.435						
Opportunity to Evade		.763					
Social Culture and Norms		.663					
Lack of Tax Awareness		.501					
Perceived Fairness of Tax System		.469	.394				
Public Governance Quality		.458					
Tax Policy Reform							
Tax Rate			.908				
Income Level			.885				
Benefits against Tax		.415	.522				
Guilty Feeling				.734			
Tax Morale				.693			
Religious Belief				.666			
Attitude towards Tax				.567			
Personal Financial Condition				.407			
Tax Planning					.934		
Tax Knowledge					.829		
Tax Law Simplicity					.306		
Perception on Government Spending						.738	
Probabilities of being Detected						.617	
Audit Probability						.555	
Penalty			.342				-.723
Future Tax Costs		-.319	.386				.477
Extraction Method: Principal Component Analysis.							
Rotation Method: Promax with Kaiser Normalization.[a]							
a. Rotation converged in 10 iterations.							

Appendix C: Questionnaire [English Version]

Date:

Dear Sir/Madam:

<div align="center">Re: DBA Research on Tax Compliance Behavior in Bangladesh</div>

I am an associate professor of the American International University – Bangladesh (AIUB). Currently, I am pursuing my doctoral degree (Doctor of Business Administration) at the Institute of Business Administration (IBA), University of Dhaka under the supervision of Dr. Md. Mohiuddin.

I am particularly interested in investigating into the determinants of tax compliance behaviour of individual taxpayers' in Bangladesh. The study findings are expected to be useful for the policymakers to identify the reasons of poor tax compliance in Bangladesh and take relevant reform measures in this regard to enhance the level of tax compliance. This survey is an important part of the research and your valuable cooperation and participation in answering the questionnaire will be greatly appreciated.

I would, therefore, be most grateful if you could spare some of your valuable time to complete the enclosed questionnaire and return it in the enclosed envelope. I can assure you that your answers will be kept strictly confidential and will be used for academic research purposes only. I also assure that your information and responses in the questionnaire will not be identified with you personally. Results relating to any individual taxpayer will not be tabulated in the research report. Please note that a summary of the research findings will be despatched to all the participants in the study who wish to receive it. If you have any query, please do not hesitate to contact me at +8801819293179 and e-mail: mf.alam@aiub.edu or mfalamsumon@gmail.com.

Thank you for your kind cooperation.

Yours sincerely,

(Mohammad Faridul Alam)

Date:

<u>**To Whom It May Concern**</u>

Dear Sir/Madam:

<u>Re: DBA Research on Tax Compliance Behavior in Bangladesh</u>

This is to confirm that Mohammad Faridul Alam is enrolled as a student under Doctor of Business Administration Program (DBA) at the Institute of Business Administration (IBA), University of Dhaka under my supervision. The research he is undertaking for his DBA studies involves an empirical investigation of the determinants of tax compliance behaviour of individual taxpayers' in Bangladesh. The research he is undertaking is both highly relevant and topical and his findings will hopefully contribute to some major policy implications for the improvement of revenue mobilization through tax revenue in Bangladesh. I would therefore be extremely grateful if you could assist in this very important study by sparing a few moments of your valuable time in completing the attached questionnaire. I am very much hopeful that Mohammad Faridul Alam can count on your cooperation in this respect.

Yours sincerely,

Dr. Md. Mohiuddin
Associate Professor
Institute of Business Administration (IBA)
University of Dhaka
E-mail: mm@iba-du.edu
Phone: +88-02-9661900 Ext. 8380

Survey Questionnaire

DETERMINANTS OF TAX COMPLIANCE BEHAVIOR IN BANGLADESH: THE CASE OF INDIVIDUAL TAXPAYERS

Dear valued respondent,

Although you are an extremely busy person, please note that this questionnaire has been designed specifically so that it can be completed with minimum time and effort.

May I also take this opportunity of thanking you in advance for your contribution and cooperation by devoting a few moments of your valuable time in this interesting and contemporary piece of research on 'Determinants of tax compliance behavior in Bangladesh: The Case of Individual Taxpayers'. I hereby reassure that the details provided in the completed questionnaire will be kept strictly confidential and will be used for academic research purposes only. It should also be noted that findings of the study will be presented in an aggregate form and your information and responses in the questionnaire will not be identified with you personally. Your participation is, of course, voluntary and it would be greatly appreciated if you could answer all questions honestly so that the study is as complete as possible.

Thank you very much for your cooperation and participation in the study.

Yours sincerely,

Mohammad Faridul Alam
Doctor of Business Administration Student
Institute of Business Administration
University of Dhaka
E-mail: mfalamsumon@gmail.com
Phone: +8801819293179

under the supervision of:
Dr. Md. Mohiuddin
Associate Professor
Institute of Business Administration
University of Dhaka
E-mail: mm@iba-du.edu
Phone:+88-02-9661900 Ext. 8380

Section I: General Information

1. Have you attended/passed/completed any formal taxation course/training organized by NBR (National Board of Revenue) or university or any other institution?
    ☐Yes   ☐No

2. At what highest income tax rate you paid your income tax during last assessment year?
    ☐10%   ☐15%   ☐20%   ☐25%   ☐30%

3. How do you submit your income tax return?
    ☐Submit personally to the income tax office / fair
    ☐Submit through income tax lawyer / expert

4. Have you ever been sent any notice by the tax office to pay additional tax/for any other reason?
    ☐Yes   ☐No

5. Have you ever visited to your tax zone/circle office personally?
    ☐Yes   ☐No

6. What are your main sources of income shown in the income tax return?
    ☐Income from salary   ☐Income from house ☐Income from Agriculture
    ☐Income from Business and Profession   ☐Income from other sources

7. For how many years you have been submitting income tax returns?
    …………….years

8. Why do you pay taxes?
    ☐To avoid troubles (penalties, jail etc.) ☐In anticipation of public services
    ☐There is no opportunity to evade   ☐It is an obligation towards the govt.
    ☐Do not know   ☐Others, Please specify……………

Section II: Tax Compliance Behavior Determinants

*Please indicate the extent of your agreement or disagreement in a scale of 1 (**strongly disagree**) to 5 (**strongly agree**) with respect to the following statements. Kindly **TICK / CLICK** the most appropriate box that represents your response.*

Sl.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
A. Economic Determinants						
1	The current income tax rate in Bangladesh is reasonable for me	☐	☐	☐	☐	☐
2	I pay income tax because I don't want to be fined or penalized for not paying tax	☐	☐	☐	☐	☐
3	Income tax amount that I pay is justifiable to my current income level	☐	☐	☐	☐	☐
4	I receive fair benefits from the government in return for my income tax paid	☐	☐	☐	☐	☐
5	The total time and cost I need to spend for complying with the tax return submission process is reasonable	☐	☐	☐	☐	☐
6	I believe that future tax cost will not influence me to pay my income tax	☐	☐	☐	☐	☐
7	The tax incentives / rebate amount that I receive is adequate at the time of paying income tax	☐	☐	☐	☐	☐
B. Institutional Determinants						
8	I think that NBR will not audit my income tax return	☐	☐	☐	☐	☐
9	I have never paid any unofficial costs/bribe at the time of tax return submission	☐	☐	☐	☐	☐
10	In Bangladesh, taxpayers' are well informed about the time, mode and place of paying tax	☐	☐	☐	☐	☐
11	I am satisfied with the service, so far I have received from tax officers of NBR	☐	☐	☐	☐	☐
12	I do not face any problem with completing and filing the tax return forms	☐	☐	☐	☐	☐
13	Bangladesh income tax rules are clear and easy to understand	☐	☐	☐	☐	☐
14	I was never harassed by the tax offices	☐	☐	☐	☐	☐
15	I find it easy to maintain and collect all my relevant documents for the whole year for tax purposes	☐	☐	☐	☐	☐
16	NBR takes sufficient tax awareness programs to motivate the taxpayers	☐	☐	☐	☐	☐
17	NBR is capable of enforcing legal measures to the tax evaders	☐	☐	☐	☐	☐
18	The income tax administration in Bangladesh is updating tax policy on a consistent basis	☐	☐	☐	☐	☐

Sl.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
C. Socio-Psychological Determinants						
19	I have positive attitude towards paying taxes	☐	☐	☐	☐	☐
20	I don't feel any stress to avoid income tax	☐	☐	☐	☐	☐
21	I think in Bangladesh, it is tough to get the opportunity to hide taxable income and evade tax	☐	☐	☐	☐	☐
22	I believe that I pay my fair share of the tax burden under the current income tax system	☐	☐	☐	☐	☐
23	I am influenced to pay correct amount of income tax by my friends and family members	☐	☐	☐	☐	☐
24	I think tax evasion is a great sin	☐	☐	☐	☐	☐
25	I think the current tax system in Bangladesh is reasonably fair	☐	☐	☐	☐	☐
26	I think it is ethically and morally wrong if I exclude some amount of income in my income tax return	☐	☐	☐	☐	☐
27	It is fair not to pay tax if the government doesn't properly spends public money	☐	☐	☐	☐	☐
28	I think the social culture and norms in Bangladesh motivates the taxpayers in paying tax	☐	☐	☐	☐	☐
D. Individual Determinants						
29	I don't try to pay less taxes when I suffer from personal financial problems	☐	☐	☐	☐	☐
30	I have clear idea of calculating income tax, tax rebates and investment allowances	☐	☐	☐	☐	☐
31	I always do proper tax planning to take the full advantages of tax exemption and rebates to reduce my income tax	☐	☐	☐	☐	☐
32	The burden of multiple taxes does not influence me to hide some of my income	☐	☐	☐	☐	☐
33	I believe that the probabilities of being detected by the NBR for not declaring the exact income is low	☐	☐	☐	☐	☐
34	I will feel guilty If I excluded some of my income when completing my tax return	☐	☐	☐	☐	☐
E. Other Non-Economic Determinants						
35	I think government uses the public money properly	☐	☐	☐	☐	☐
36	I think it is my duty to pay tax without expectation of any direct return from the government	☐	☐	☐	☐	☐
37	Overall, I think I am reasonably complying with the Bangladesh Income tax law.	☐	☐	☐	☐	☐

Section III: Possible Ways to improve Individual Tax Compliance

*Please rate the measures that you think would most effectively contribute in improving individual tax compliance using the scale of **1 (least effective)** to **5 (most effective)** with respect to the following statements. Kindly **TICK / CLICK** the most appropriate box that represents your response.*

Sl.	Improvement measures	Least effective				Most effective
		1	2	3	4	5
1	NBR should ensure stiff punishment (fine / penalties / imprisonment) for evading tax.	☐	☐	☐	☐	☐
2	NBR should scrutinize the income tax return information through tax audit	☐	☐	☐	☐	☐
3	NBR should declare attractive rewards to the tax officers for detecting tax evasion cases.	☐	☐	☐	☐	☐
4	Increasing public governance quality by increasing transparency and providing information on how tax money is being utilized by the government.	☐	☐	☐	☐	☐
5	Introducing tax awareness programmes by NBR through arrangements of seminar, workshops, documentaries etc.	☐	☐	☐	☐	☐
6	Reducing the current income tax rate and increasing the number of income tax slabs	☐	☐	☐	☐	☐
7	Introducing compulsory tax courses in all higher academic levels to enhance tax education	☐	☐	☐	☐	☐
8	Reforming tax administration through simplifying tax laws and ensuring sufficient credible and knowledgeable tax officers.	☐	☐	☐	☐	☐
9	Introducing Taxpayer's Complain and Feedback Cell to get Taxpayer's suggestion and opinion.	☐	☐	☐	☐	☐
10	Government should put more efforts to strengthen the Anti- Corruption Commission.	☐	☐	☐	☐	☐

Section IV: Demographic Information

*Kindly **TICK / CLICK** the most appropriate box that represents your response.*

1. **Gender:** ☐Male   ☐Female

2. *Age***:**   ☐26-35   ☐36-45   ☐46-55 ☐56-65   ☐More than 65 yrs

3. *Highest educational or professional qualification*
   ☐Below SSC or equivalent   ☐SSC/equivalent   ☐HSC/equivalent
   ☐Graduate   ☐Post Graduate   ☐Others……

4. *Number of dependents? ……………………………...*

5. *Occupation……………………………………………….*
   ☐Government Service   ☐Private Service   ☐Business   ☐Others…………

6. *Average monthly income……………………………….*

Section V: Follow Up
Would you be willing to be communicated for any further participation (e.g. interview) in this research?

                (A) Yes   ☐   (B) No ☐

If   yes,   please   state   your   contact number(s):_____

Study Feedback
Would you like to receive a copy of the summary findings of this research?

                (A) Yes   ☐   (B) No ☐

If yes, please provide your contact address below:

Name	
Mailing Address	
Phone Number(s)	
E-mail Address(s)	

Researcher's Contacts:
                Mobile: +88-01819293179
                E-mail: mfalamsumon@gmail.com

<u>THANK YOU ONCE AGAIN FOR YOUR GENEROUS COOPERATION</u>

জরিপ প্রশ্নমালা [বাংলা সংস্করণ]

Section I: General Information [*প্রথম ভাগ: সাধারণ তথ্যাবলী*]

১. আপনি কি কখনো এনবিআর/বিশ্ববিদ্যালয়/অন্য যে কোন প্রতিষ্ঠান কর্তৃক আয়োজিত আয়কর বিষয়ক কোন রকম কোর্স/প্রশিৰণ এ অংশগ্রহণ করেছেন?

　　　　　☐ হাঁ　　　　　　　　☐ না

২. বিগত কর বর্ষে আপনি সর্বোচ্চ কত হারে আয়কর প্রদান করেছেন?

　　　　　☐ ১০%　　　☐ ১৫%　　　☐ ২০%　　　☐ ২৫%　　　☐ ৩০%

৩. আপনি সাধারনতঃ কিভাবে আপনার আয়কর রিটার্ন জমা দেন?

　　　　　　　☐ ব্যক্তিগতভাবে আয়কর অফিস / মেলায়

　　　　　　　☐ আয়কর আইনজীবি / বিশেষজ্ঞের মাধ্যমে

৪. কর অফিস কি কখনো আপনাকে অতিরিক্ত কর পরিশোধের জন্য / অন্য যে কোন কারনে কোন নোটিশ পাঠিয়েছে?

　　　　　☐ হাঁ　　　　　　　　☐ না

৫. আপনি কি কখনো ব্যক্তিগতভাবে আপনার কর অফিসে গিয়েছেন?

　　　　　☐ হাঁ　　　　　　　　☐ না

৬. আয়কর রিটার্নে প্রদর্শিত আপনার উলেৰখযোগ্য আয় / আয়সমূহ কি?

　☐ বেতন হইতে আয়　　☐ গৃহসম্পত্তি হতে আয়　　☐ কৃষি আয় ☐ ব্যবসা / পেশা হতে আয়　　☐ অন্যান্য উৎস

৭. আপনি কত বৎসর যাবৎ আয়কর রিটার্ন জমা দিয়ে আসছেন? ....বৎসর

৮. আপনি কেন আয়কর পরিশোধ করেন?

　☐ জেল / জরিমানা / শাস্তি এড়াতে　　　　☐ জনসেবায় / কল্যাণে অংশগ্রহণ করতে

　☐ কর ফাঁকির কোন সুযোগ নেই　　　　　☐ এটা সরকারের নির্দেশ

　☐ জানি না　　　　　　　　　　　　☐ অন্য কারণ (উলেৰখ করবন)......................

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Section II: Tax Compliance Behavior Determinants [*দ্বিতীয় ভাগ: কর সম্মতি আচরণ নিয়ামকসমূহ*]
অনুগ্রহপূর্বক নিম্নোক্ত মতামতযোগ্য বিষয়সমূহের উপর আপনার সম্মতি বা অসম্মতির মাত্রা নির্দেশক ঘরে [১ (দৃঢ়ভাবে অসম্মত) থেকে ৫ (দৃঢ়ভাবে সম্মত)] টিকচিহ্নের মাধ্যমে আপনার মতামত ব্যক্ত করবনঃ

নং	মতামতযোগ্য বিষয়	দৃঢ়ভাবে অসম্মত	অসম্মত	নিরপেক্ষ	সম্মত	দৃঢ়ভাবে সম্মত
		১	২	৩	৪	৫
A. Economic Determinants [*অর্থনৈতিক নিয়ামকসমূহ*]						
১	বাংলাদেশে প্রযোজ্য বর্তমান আয়কর হার আমার জন্য ন্যায্য	☐	☐	☐	☐	☐
২	আমি আয়কর প্রদান করি কারণ আমি কর ফাঁকির অভিযোগে শাস্তি বা জরিমানার মুখোমুখি হতে চাই না	☐	☐	☐	☐	☐
৩	আমার উপর প্রযোজ্য আয়কর আমার বর্তমান আয় অনুযায়ী যৌক্তিক	☐	☐	☐	☐	☐
৪	আমার পরিশোধিত আয়করের বিপরীতে সরকার আমাকে যথেষ্ট সুবিধা দেয়	☐	☐	☐	☐	☐
৫	আয়কর রিটার্ন প্রস্তুত এবং জমা দেয়ার জন্য আমার যে পরিমাণ সময় এবং টাকা খরচ হয় তা যৌক্তিক	☐	☐	☐	☐	☐
৬	ভবিষ্যতে আয়করের পরিমান কম/বেশী যাই হোক না কেন, তা আমার কর পরিশোধের সিদ্ধান্তে কোন প্রভাব ফেলবে না	☐	☐	☐	☐	☐
৭	কর পরিশোধের সময় যে প্রণোদনা / কর ছাড় আমি পেয়ে থাকি তা যথেষ্ট	☐	☐	☐	☐	☐
B. Institutional Determinants [*প্রাতিষ্ঠানিক নিয়ামকসমূহ*]						
৮	আমি মনে করি এনবিআর আমার জমাকৃত আয়কর রিটার্ন অডিট / নিরীক্ষা করবে না	☐	☐	☐	☐	☐
৯	আয়কর রিটার্ন জমা দেয়ার সময় আমাকে কখনোই কোন প্রকার উপরি / ঘুষ প্রদান করতে হয়নি	☐	☐	☐	☐	☐
১০	বাংলাদেশে করদাতাবৃন্দ আয়কর জমা দেয়ার সময়সীমা, মাধ্যম এবং স্থান সম্পর্কে যথেষ্ট ওয়াকিবহাল	☐	☐	☐	☐	☐
১১	এনবিআর / এর অফিসারদের নিকট হতে এ পর্যন্ত প্রাপ্ত সেবায় আমি সন্তুষ্ট	☐	☐	☐	☐	☐
১২	আয়কর রিটার্ন ফরম পূরণ ও প্রস্তুতের সময় আমি কোন সমস্যা বোধ করি না	☐	☐	☐	☐	☐
১৩	বাংলাদেশের বর্তমান আয়কর আইন স্বচ্ছ এবং সহজে বোধগম্য	☐	☐	☐	☐	☐
১৪	কর অফিস কর্তৃক আমি কখনোই হয়রানির স্বীকার হইনি	☐	☐	☐	☐	☐
১৫	কর নির্ধারণের সময় সারা বছরের জন্য প্রয়োজনীয় সকল তথ্য এবং প্রমানাদি সংগ্রহ এবং সংরক্ষণ করা আমার জন্য বেশ সহজ	☐	☐	☐	☐	☐
১৬	করদাতাদের অনুপ্রাণিত করা এবং সচেতনতা বাড়ানোর জন্য এনবিআর যথেষ্ট পরিমান পদক্ষেপ নিয়ে থাকে	☐	☐	☐	☐	☐
১৭	কর ফাঁকিবাজদের বিরুদ্ধে যথোপযুক্ত আইনি পদক্ষেপ নিতে এনবিআর সক্ষম	☐	☐	☐	☐	☐
১৮	বাংলাদেশের কর প্রশাসন নিয়মিতভাবে করসংক্রান্ত নীতিমালা পরিবর্তন, পরিবর্ধন ও পরিমার্জন করে থাকেন	☐	☐	☐	☐	☐
C. Socio-Psychological Determinants [*আর্থ-মানসিক নিয়ামকসমূহ*]						
১৯	কর প্রদানের ব্যাপারে আমার মানসিকতা ইতিবাচক	☐	☐	☐	☐	☐
২০	কর এড়ানোর ব্যাপারে আমি কোন মানসিক চাপ অনুভব করি না	☐	☐	☐	☐	☐
২১	করযোগ্য আয় গোপন এবং কর ফাঁকি দেয়া বাংলাদেশে অনেক কঠিন	☐	☐	☐	☐	☐

২২	আমি মনে করি বর্তমান কর ব্যবস্থায় আমি আমার উপর প্রযোজ্য আয়কর সঠিক পরিমানে দিয়ে থাকি	☐	☐	☐	☐	☐
২৩	সঠিক পরিমাণে কর প্রদানের জন্য আমার উপর শুভানুধ্যায়ী এবং পরিবারের সদস্যবৃন্দের চাপ আছে	☐	☐	☐	☐	☐
২৪	আমি মনে করি কর ফাঁকি দেয়া এক ধরণের বড় পাপ	☐	☐	☐	☐	☐
২৫	আমি মনে করি বাংলাদেশের বর্তমান কর ব্যবস্থা যথেষ্ট পরিমান স্বচ্ছ, ন্যায্য এবং যৌক্তিক	☐	☐	☐	☐	☐
২৬	আমি মনে করি আয়কর রিটার্নে কিছু আয় না দেখানোটা অনৈতিক	☐	☐	☐	☐	☐
২৭	সরকার জনগণের টাকা ঠিকমত খরচ না করলে কর না দেওয়াটা দোষের কিছু না	☐	☐	☐	☐	☐
২৮	বাংলাদেশের বর্তমান সামাজিক প্রেক্ষাপট এবং সংস্কৃতি জনগণকে কর প্রদানে উৎসাহিত করে	☐	☐	☐	☐	☐

D. Individual Determinants [*ব্যক্তিগত নিয়ামকসমূহ*]

২৯	ব্যক্তিগতভাবে টাকা পয়সার টানাটানিতে থাকলেও আমি কম কর দেওয়ার কথা চিন্তা করিনা	☐	☐	☐	☐	☐
৩০	আয়কর, বিনিয়োগ ভাতা ও কর রেয়াত কিভাবে হিসাব করতে হবে এ বিষয়ে আমার স্বচ্ছ ধারণা আছে	☐	☐	☐	☐	☐
৩১	কর প্রদানকালে আমি সবসময় সঠিক কর পরিকল্পনার মাধ্যমে সর্বোচ্চ পরিমান কর ছাড় এবং কর রেয়াতের সুবিধা নিয়ে থাকি	☐	☐	☐	☐	☐
৩২	সারাবছর বিভিন্ন রকম কর প্রদানের ধাক্কা আমাকে কিছু আয় গোপন করতে উৎসাহিত করে	☐	☐	☐	☐	☐
৩৩	আমি মনে করি কারো সঠিক আয় প্রদর্শন না করার বিষয়টি এনবিআর কর্তৃক উদঘাটিত হওয়ার সম্ভাবনা অনেক কম	☐	☐	☐	☐	☐
৩৪	আয়কর রিটার্নে কোন আয় না দেখালে বা গোপন করলে আমার নিজেকে অপরাধী মনে হয়	☐	☐	☐	☐	☐

E. Other Non-Economic Determinants [*অন্যান্য অ-অর্থনৈতিক নিয়ামকসমূহ*]

৩৫	আমি মনে করি সরকার জনগণের টাকা সুষ্ঠুভাবে ব্যবহার করে	☐	☐	☐	☐	☐
৩৬	আমি মনে করি সরাসরি কোনরূপ প্রতিদানের আশা না করিয়া সরকারকে কর প্রদান করা আমার নৈতিক দায়িত্ব ও কর্তব্য	☐	☐	☐	☐	☐
৩৭	সর্বোপরি, আমি মনে করি আমি বাংলাদেশের কর আইন সঠিকভাবে মেনে চলছি	☐	☐	☐	☐	☐

Section III: Possible Ways to improve Individual Tax Compliance [*তৃতীয় ধাপঃ ব্যক্তিক শ্রেণীর কর প্রদানের সার্বিক অবস্থার উন্নয়নের সম্ভাব্য উপায়সমূহ]*

অনুগ্রহপূর্বক ব্যক্তিক শ্রেণীর কর প্রদানের সার্বিক অবস্থার উন্নয়নকল্পে নিম্নোক্ত পদক্ষেপ সমূহ কতটুকু কার্যকর হবে তার মাত্রা নির্দেশক ঘরে [১ (কম কার্যকর) থেকে ৫ (বেশী কার্যকর)] টিকচিহ্নের মাধ্যমে আপনার মতামত ব্যক্ত করুন ঃ

নং	উন্নয়নকল্পে গৃহিত পদক্ষেপ সমূহ	কম কার্যকর				বেশী কার্যকর
		১	২	৩	8	৫
১	কর ফাঁকির বিরুদ্ধে এনবিআরের কঠোর শাস্তিমূলক (জেল / জরিমানা) ব্যবস্থা নেয়া উচিৎ	☐	☐	☐	☐	☐
২	আয়কর রিটার্ণে প্রদর্শিত তথ্যসমূহের সত্যতা যাচাইয়ের জন্য এনবিআর কর্তৃক অডিট / নিরীক্ষার ব্যবস্থা করা উচিৎ	☐	☐	☐	☐	☐
৩	কর ফাঁকির তথ্য উদঘাটনকারী এনবিআর কর্মকর্তাদের জন্য আকর্ষণীয় পুরস্কারের ব্যবস্থা করা উচিৎ	☐	☐	☐	☐	☐
4	জনগণের করের অর্থ স্বচ্ছতা এবং জবাবদিহিতার সাথে ব্যবহারের মাধ্যমে দেশ পরিচালনায় সরকারের গৃহিত পদক্ষেপসমূহের গুনগত মান নিশ্চিত করার মাধ্যমে	☐	☐	☐	☐	☐
৫	করদাতাদের সচেতনতা বাড়ানোর জন্যে এনবিআর কর্তৃক সেমিনার, কর্মশালা, তথ্যচিত্র ইত্যাদি আয়োজনের ব্যবস্থা করে	☐	☐	☐	☐	☐
৬	আয়করের বর্তমানে প্রযোজ্য করহার ও ধাপ আরও কমিয়ে	☐	☐	☐	☐	☐
৭	কর শিক্ষা প্রসারে উচ্চ শিক্ষার বিভিন্ন ধাপে বাধ্যতামূলক আয়কর বিষয়ক কোর্স চালু করে	☐	☐	☐	☐	☐
৮	প্রচলিত কর আইন সহজবোধ্য এবং প্রয়োজনীয় দক্ষ কর কর্মকর্তা নিয়োগের মাধ্যমে কর প্রশাসনে সংস্কার আনয়নের মাধ্যমে	☐	☐	☐	☐	☐
৯	করদাতাদের অভিযোগ নিষ্পত্তি, মতামত এবং পরামর্শ গ্রহণের জন্য আলাদা অফিস / সেল চালু করে	☐	☐	☐	☐	☐
১০	সরকার কর্তৃক দুর্নীতি দমন কমিশনের কার্যকারিতা, নিরপেক্ষতা ও সক্ষমতা বাড়ানোর জন্য প্রয়োজনীয় ব্যবস্থা নিয়ে	☐	☐	☐	☐	☐

Section IV: Demographic Information [*উত্তরদাতা সংক্রান্ত তথ্যাবলী*]

অনুগ্রহপূর্বক টিকচিহ্নের মাধ্যমে আপনার মতামত ব্যক্ত করবন ঃ

১. *লিঙ্গ :* ☐ পুরুষ ☐ মহিলা

২. *বয়স:* ☐ ২৬-৩৫ ☐ ৩৬-৪৫ ☐ ৪৬-৫৫ ☐ ৫৬-৬৫ ☐ ৬৫ উর্ধ্ব

৩. *সর্বোচ্চ শিক্ষাগত যোগ্যতা*
   ☐ নিম্ন-মাধ্যমিক / স্বশিক্ষিত ☐ মাধ্যমিক / সমমান ☐ উচ্চ-মাধ্যমিক / সমমান

   ☐ স্নাতক ☐ স্নাতকোত্তর ☐ অন্যান্য.................

৪. *আপনার আয়ের উপর নির্ভরশীল সদস্যসংখ্যা?* ....

৫. *পেশা ঃ*
   ☐ সরকারী চাকুরি ☐ বেসরকারী চাকুরি ☐ ব্যবসা ☐ অন্যান্য...........................

৬. *মাসিক গড় আয় ঃ*
   ☐ ২৫,০০০ টাকার কম ☐ ২৫,০০০ - ৫০,০০০ টাকা ☐ ৫০,০০০ - ৭৫,০০০ টাকা
   ☐ ৭৫,০০০ টাকার উর্ধ্বে

Section V: Follow Up *[পরবর্তী নির্দেশনা]*

আপনি কি পরবর্তীতে আবারও এই গবেষণার অংশ হিসাবে (যেমন, সাৰাৎকার) আমন্ত্রণ পেতে ইচ্ছুক?

☐ হাঁ   ☐ না

যদি   হাঁ   হয়   তবে   আপনার   সাথে   যোগাযোগের   টেলিফোন   নম্বরটি   উলেৰখ   করৱন

ঃ_____

গবেষনার চূড়ান্ত ফলাফল ঃ

আপনি কি এ গবেষনার চূড়ান্ত ফলাফলের একটি সংৰিপ্ত বিবরণী পেতে ইচ্ছুক?

☐ হাঁ   ☐ না

যদি হাঁ হয় তবে আপনার সাথে ডাক যোগাযোগের ঠিকানাটি নিম্নে উলেৰখ করৱনঃ

নাম	
ডাক যোগাযোগের ঠিকানা	
টেলিফোন নম্বর	
ই-মেইল	

গবেষকের সাথে যোগাযোগের জন্য ঃ

মোবাইল: **+৮৮-০১৮১৯২৯৩১৭৯**
ই-মেইল: mf.alam@aiub.edu
           mfalamsumon@gmail.com

আপনার অশেষ সহযোগিতা এবং মূল্যবান সময়ের জন্য আন্তরিকভাবে কৃতজ্ঞ

Appendix D: Interview Protocol

Dear Sir/Madam:

<div align="center">Re: DBA Research on Tax Compliance Behavior in Bangladesh</div>

I am a student of the Institute of Business Administration (IBA) in the University of Dhaka. Currently, I am pursuing my doctoral degree (Doctor of Business Administration) under the supervision of Dr. Md. Mohiuddin, Professor, IBA.

I am particularly interested in investigating into the determinants of tax compliance behaviour of individual taxpayers' in Bangladesh. The study findings are expected to be useful for the policymakers to identify the reasons of poor tax compliance of individual taxpayers in Bangladesh and to take relevant reform measures in this regard to enhance the level of tax compliance. This Interview Session is an important part of the research and your valuable cooperation and participation in the Interview Session will be greatly appreciated.

I would therefore, be most grateful if you could spare some of your valuable time for this interview that should take no longer than 45 minutes each. I can assure you that your answers will be kept strictly confidential and will be used for academic research purposes only. I also assure that your information and responses in the interview session will not be identified with you personally. Participants will be referred by number in any publication (e.g. participant no. 1, no. 2 etc.) to maintain confidentiality. The questions are related to your opinions, experience and suggestions relating to the tax compliance behaviour of an individual taxpayer in Bangladesh. In this regard, I would be grateful if you could provide examples and comments in your answers for better understanding. If you have any query, please do not hesitate to contact me at +8801819293179 or mfalamsumon@gmail.com.

Thank you for your kind cooperation.

Yours sincerely,

(Mohammad Faridul Alam)

Interview Questions

1. Could you please tell me a little bit of your academic and professional background?

   Age

   Years of paying taxes through submission of income tax return

2. In the budget speech, Bangladesh Finance Minister said that around 4 crore people are eligible to pay income tax whereas only 20 to 25 lac people pay income tax now. What do you think are the reasons why most of these people are not willing to pay income tax / submit their income tax return?

3. As you have been paying income tax for.........years, what factors actually influence the existing taxpayers to pay income tax / to comply with the Bangladesh income tax law?

4. Is there any factor that demotivate the existing taxpayers not to pay income tax or not to disclose some of their income for income tax purposes?

5. What are the weaknesses and strengths of current Bangladesh tax administration system?

6. What strategies you will suggest that may help make individual taxpayers more compliant.

7. Your overall comment about Bangladesh Individual Income Tax System.

THANK YOU ONCE AGAIN FOR YOUR GENEROUS COOPERATION